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**ESSAYS ON CORPORATE GOVERNANCE AND  
THE QUALITY OF DISCLOSED EARNINGS**

Across Transitional Europe

Helsinki 2009

# Essays on Corporate Governance and The Quality of Disclosed Earnings: Across Transitional Europe

Key words: ownership structure, corporate governance, earnings management, accruals, cash flows, discretionary accruals, value relevance, entrenchment effect, incentive alignment, Russia, Eastern Europe

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*To Maa ji*



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**PART 1**

THEORITICAL BACKGROUND AND CENTRAL FINDINGS



## 1 INTRODUCTION

With a vast variety of corporate governance mechanisms across countries and across firms, we should expect better governance to enable firms to access capital markets to raise funds on better terms. This generates two types of assumptions about the choice of corporate governance mechanisms for firms. First, we should expect, from firms with valuable growth opportunities and firms that plan to raise capital from outside sources, to adopt better corporate governance mechanisms. Second, we should expect from countries that plan to enhance the investors' perception about the future outcomes of their investments to levy better corporate governance mechanisms. Both of these assumptions have been comprehensively studied in the literature.

To analyze these assumptions, one should note that the prime need for corporate governance stems from the separation of the ownership from the control of the firm. There is no conflict when the owner is at the same time the entrepreneur, according to both classical and neo-classical economic theories<sup>1</sup>. In this case, when the owners act in their own interest, they in fact act in the interest of the firm. Thus, to get the maximum returns on personal investments, the owner designs an optimal corporate governance structure, which in turn optimizes the returns of the firm through profitability measures. The problem arises in large, publicly held companies when the owners or the suppliers of capital do not have much influence on the corporate decision making, as is well documented in the literature on capitalism (see e.g. Berle and Means, 1932; Jensen and Meckling, 1976). Either they are completely out of the decision-making or have little influence on decision making due to their relative share of ownership in the firm. In both cases, they do not influence management's decisions directly related to the valuation or future profitability of their investments. Therefore, they must either trust the decision makers to act in their interests or establish a mechanism (i.e. a corporate governance device) to ensure optimal decision making to maximize their wealth. This has essentially been the core issue of corporate governance research throughout its development. The design of such corporate governance mechanisms that can ensure both owners (suppliers of wealth) and managers (decision makers) profitable business activities for the return on their investments and their efforts, respectively, is the prime objective of the corporate governance literature (see e.g. Shleifer and Vishny, 1997).

Governance mechanisms that have been extensively studied can be broadly characterized as being either internal or external to the firm (Denis and McConnell, 2003). The internal mechanisms of primary interest are the board of directors and the ownership structure of a firm, whereas the external mechanisms are the external market for control such as the takeover market and the legal system.

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<sup>1</sup> Classical economic theory began with the publication in the year 1776 of Adam Smith's monumental work, *The Wealth of Nations*. In Smith's view, the ideal economy is a self-regulating market system that automatically satisfies the economic needs of the people. He described the market mechanism as an "invisible hand" that leads all individuals, in pursuit of their own self-interests, to produce the greatest benefit for society as a whole. According to neo-classical theory, originating from the work of Carl Menger (1871) "*The Principles of Economics*" in 1871, all human decision making is assumed to be driven by the pursuit of individual pleasure. This pleasure is defined as utility. Thus, the economic man is a utility maximizer. Market exchanges are defined as simple trades between equally powerless economic men trying to maximize their individual utility.

This thesis examines the impact of both internal and external mechanisms of corporate governance on the disclosure quality of firms. This is followed by discussion on several firm-level and country-level policy implications. As an external mechanism, the impact of corporate governance reforms on the quality of firm-level disclosed earnings is studied. As an internal mechanism, the quality of earnings in relation to corporate ownership structures within Russia and other transition European countries is studied where the major corporate governance indicator is the concentration of ownership and control. Finally, the thesis tests market reactions to discretionary accruals within a certain group of countries which have similarities in terms of transparency and disclosure rankings using Transparency International's (2007) Corruption Perception Index.

The thesis primarily studies the impact of corporate governance mechanisms on the earnings management practices within Eastern European countries. Due to historical background and scarce corporate governance rules, most Eastern European economies – especially Russia and ex-Soviet states – have concentrated corporate ownership structures<sup>2</sup>. The ownership of listed companies in these countries is typically in the hands of large shareholders. Pajuste (2003) reports that the median voting rights held by the largest owner in 9 Eastern European countries is 44%. Among them, the median voting rights of the largest owner is the highest at 53% in Romania and the lowest at 23.7% in Slovenia. Comparing the ownership concentration with Western European countries, Pajuste (2003) states that there seems not much difference between Eastern and Western European companies since many of the Western European countries have a higher or similar percentage of voting rights. Faccio and Lang (2002) report the ownership concentration and voting power held by the largest owner in Western European listed companies. They show that the median voting rights held by the single largest owner is 30% with the highest percentage (54.7%) in Austria and lowest (16.8%) in Ireland, followed by the Scandinavian countries of Sweden (24.9%), Norway (27.8%) and Finland (33.7%). The high concentration of ownership in Eastern European companies is achieved through complicated ownership arrangements, i.e. stock pyramids and cross-shareholdings<sup>3</sup>. This degree of ownership concentration affects the nature of contracting between principal (equity holders) and agent (managers). In the perspective of agency theory, in a highly concentrated ownership environment the conflicts of interest between outside shareholders and insiders (managers) transforms into conflicts between the controlling owner and minority shareholders.

La Porta *et al.* (1999) show that most firms outside the US are controlled by large shareholders who extract private benefits from the corporations they control. A number of recent papers modelling this extraction of private benefits include Johnson *et al.* (2000), Lombardo and Pagano (2002), La Porta *et al.* (2002), Shleifer and Wolfenzon (2002), Doidge *et al.* (2007), Durnev and Kim (2005) and Stulz (2005). All these studies assume that the costs of extracting private benefits are higher in countries where the rule of law and corporate transparency is higher. Many of the countries in Eastern Europe are low in corporate transparency rankings and disclosure quality, according to Standard and Poor's disclosure ranking and Transparency International's (2007) Corruption Perception Index.

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<sup>2</sup> See La Porta *et al.* (1999) for a detailed survey of corporate ownership around the world.

<sup>3</sup> A recent study by Chernykh (2008) shows that the control of most Russian listed companies is in the hands of the state or anonymous private owners (also referred to as "oligarchs" in this thesis). The state exercises its control through pyramids whereas private owners enjoy control through nominees and foreign offshore arrangements. These anonymous owners are typically insiders who work on behalf of their principal who exploit legal loopholes to mask their identities and holdings.



The introduction of accounting rules such as the international financial reporting standards (IFRS) may have increased the quantity of accounting information, but people still have reservations about the quality of the reported numbers. The nature of discretionary accruals gives ample opportunity for decision makers (majority shareholders in our case) to deceive small outside shareholders about the true economic performance of the company. According to Healy and Wahlen (1999) and Leuz *et al.* (2003), earnings management can be defined as the alteration of a firm's reported economic performance by insiders to either mislead some stakeholders or to influence contractual outcomes (for further details, see Healy, 1985; Holthausen *et al.*, 1995; Gul *et al.*, 2003; Chung *et al.*, 2004). Therefore, the relationship between ownership structure and earnings management (or quality of disclosure) becomes important to conjuncture the economic outcomes of future investments. This thesis tests the relationship between corporate governance and earnings management in an environment where both of these mechanisms persist, i.e. concentration of ownership and lower quality of disclosed earnings, and compares it with the economies in Scandinavia where corporate transparency is high and concentration of ownership is relatively lower than in Eastern Europe<sup>4</sup>.

The whole thesis supports the notion that the main role of parties in corporate governance, monitoring and enforcement authorities, including the state, should be to improve the transparency and quality of corporate earnings in transition economies. The rights of minority shareholders should be protected to improve market efficiency and investor confidence. The results of better corporate transparency in transition countries will then be reflected by improved stock market valuation of firms, which currently seems to lie well below the true intrinsic value<sup>5</sup>

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<sup>4</sup> See e.g. Faccio and Lang (2002) for a detailed analysis of ownership concentration in Western Europe.

<sup>5</sup> See Black *et al.* (2006) regarding firms' market valuation in emerging markets. Klapper and Love (2004) examined operating performance and firm-level corporate governance in 14 emerging markets, finding that firm-level corporate governance and performance is lower in countries with weak legal enforcement.

## 2 THEORIES OF CORPORATE GOVERNANCE

The fundamental theoretical concepts of corporate governance are found in agency theory and the theory of managerial capitalism. The prime assumption of these theories is that when managers have substantial freedom, i.e. unrestricted by internal control mechanisms or external market forces, they are more likely to act in ways that enhance their own interests and not necessarily those of the equity holders.

### 2.1. Agency Theory

According to the agency theory proposed by Coase (1937) and further elaborated by Jensen and Meckling (1976), a firm is a legal entity that serves as a nexus for a complex set of contracts between disparate individuals. The relationship among individuals is defined as a contract under which one or more individuals (principal) engage another person (agent) to perform some services on their behalf, which involves delegating some decision-making authority to the agent. The principal then must find a way to ensure that its funds are not expropriated or wasted on unattractive projects. This nexus is the so-called “agency problem” between principal and agent. All corporate governance literature revolves around this issue. This separation of management and finance – or in more standard terminology, of ownership and control – is the prime debate of interest among scholars. Jensen and Meckling (1976) state that there are both costs and benefits associated with the separation of ownership and control. When ownership and control are not fully aligned, there is potential for conflicts of interest. These conflicts of interest, combined with the inability to costlessly write perfect contracts and inefficient monitoring of controllers, ultimately reduce the value of the firm. The problem worsens if the firm is owned by several small shareholders who have minimal negotiating and monitoring abilities.

The two major problems associated with unaligned interests of both ownership and control are; *moral hazard* and *adverse selection*. *Moral hazard* is the lack of effort put forth by controllers or the misuse of firm resources to cater to the managers’ interests. This can be resolved by eliminating information asymmetries between ownership and control or with improved monitoring by external mechanisms (Grossman, 1979; Baiman, 1982; Simon, 1991). *Adverse selection* is the misrepresentation of the ability of the controllers. This is when controllers of finance misrepresent their private information to achieve personal or combined goals if majority owners are aligned with the managers of the firm. This problem can be resolved through information sharing, which reveals the private information of control groups, or by risk sharing, which minimizes the returns of misrepresenting controllers. This thesis concentrates on the issues of *moral hazard* and *adverse selection* in those countries where misrepresentation by majority or controlling shareholders is an important determinant of firm valuation. The general solution to mitigate the agency problem is to mitigate the private benefits of control by effective monitoring, contractual bonding and incentive mechanisms (for details, see Denis, 2001).

### 2.2. Managerial Capitalism Theory

The basic assumption behind the managerial capitalism theory is that managers have discretion and control of the firm because of the dispersion of stock ownership (Berle and Means, 1932). The threat lies where managers start maximizing their self-interests

at the expense of owners. Shleifer and Vishny (1997) show that the problem of managerial capitalism increases in widely dispersed ownership where managerial actions do not affect any individual shareholder's value through share prices due to an offset by the cost of that action. Hence, managers pursue maximization of their own utility through increased personal financial gains. Therefore, ownership structure (i.e. the identities of a firm's equity holders and the sizes of their positions) becomes an important element of corporate governance, with the aim of reducing the private benefits of managers' discretionary power. Jensen and Meckling (1976) state that a greater overlap between ownership and control (i.e. a higher ownership stake by controllers) should lead to reduction in conflicts of interest, and therefore, to higher firm value. A higher ownership stake gives a manager stronger voting and cash flow rights in the firm. Once the manager obtains effective control, it becomes more costly for her to expropriate wealth from the shareholders.

Moreover, shareholders other than management can also potentially influence the actions taken by management if they have a substantial ownership stake in the firm. Discretion or the control of the firm lies mainly in the hands of individuals who have the actual power to select the board of directors, either by the legal right to choose them or by exerting pressure to influence the selection through indirect means. Most Eastern European countries have a one share-one vote structure so the cash flow rights are similar to voting rights. One could argue that the controlling owners in these countries have alignment incentives against entrenchment, meaning their own value will be destroyed more if the market detects any manipulative actions, resulting in discounting of share prices. Nevertheless, it is difficult to detect pyramidal and cross-shareholdings of individual owners in these countries, so the actual shareholdings and controlling rights may already be higher than those observed.

### 3 CORPORATE GOVERNANCE MECHANISMS

#### 3.1. Internal Control Mechanisms

Internal control mechanisms that influence the degree to which management represents shareholders' interests are the board of directors, compensation plans for the management and the firm's ownership structure. Each of these mechanisms has been widely studied in the literature. This thesis concentrates on the control mechanism represented by ownership structure.

##### 3.1.1. Ownership structure

Ownership structure is the mechanism that has been studied the most extensively of all corporate governance mechanisms, especially in countries other than the US (see e.g. Prowse, 1992; Roe, 1994; Franks and Mayer, 2001; Kaplan and Minton, 1994; Barca, 1995; Xu and Wang, 1997; Faccio and Lang, 2002). Shleifer and Vishny (1997) state that concentrated ownership with large shareholdings and controlling ownership seem to predominate globally. Normally, a shareholder who holds 5% or more of a corporation's common stock is considered a majority shareholder or blockholder. The shareholding of an owner should be significant enough to provide for monitoring the actions of the management. The majority shareholder can be an individual, a domestic or foreign corporation, an institutional investor and/or the state.

The structure of ownership affects the degree to which corporate contracts are enforced. As mentioned earlier, individual stakes in firms affect the owners' abilities and incentives to enforce the property rights delineated by the contracts<sup>6</sup>. Firm value depends on how well the property rights are enforced (for details on property right enforcement and the determinants of concentrated ownership structure, see e.g. Coase, 1960; Demsetz, 1964; Cheung, 1970, 1983; Eggertsson, 1990). Fan and Wong (2002), in their study of ownership structure and informativeness of disclosed earnings in East Asia, state that concentrated ownership is observed in those countries where property rights are not well enforced. Shleifer and Vishny (1997) and La Porta *et al.* (1999), in investigating the determinants of concentrated ownership structures around the world, find that the benefits of concentrated ownership are relatively larger in countries generally less developed where property rights are not well defined or protected by law. Large shareholders seek both to increase firm value (through shared benefits of control) and to enjoy benefits that are not available to small shareholders (private benefits of control). These private benefits may come at the expense of other small shareholders who have minimal abilities to enforce and monitor corporate contracts.

Ownership concentration creates agency problems between the majority and minority shareholders when concentration reaches a level at which an owner obtains effective control of a firm, as is the case in Eastern European countries. The majority shareholders in this case may obtain benefits through entrenchment.

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<sup>6</sup> Corporate ownership can be viewed as a property right arrangement through which the owner of shares is entitled to three categories of property rights: First, the voting right to deploy corporate assets; second, the cash flow right to earn income on investments; and third, the transfer right through which an owner can transfer both voting and cash flow rights to another party.

### 3.1.1.1. *The entrenchment effect*

Entrenchment by the controlling owner is similar to the managerial entrenchment problem discussed by Morck *et al.* (1988). Gaining effective control through ownership enables the controlling owner to determine how profits are shared among shareholders - a job usually attributed to management. The minority shareholders having minimal cash flow rights face uncertainty whether or not the controlling owner may opportunistically deprive them of their rights. The controlling owners can entrench themselves by self-dealing transactions where they divert the resources of the company (i.e. profits) towards other companies under their control. There is a large volume of literature on the self-dealing problems of management and controllers. The controlling owner may also expropriate the rights of other small shareholders by creating information asymmetries such as hiding some profits or losses for private benefits.

### 3.1.1.2. *The incentive alignment effect*

Ownership concentration also has an incentive alignment effect. This is essentially an alternative explanation of the entrenchment effect described above. When the majority owner increases its ownership stake in the company to the level where it acquires effective control of the firm through voting rights, any further increase in cash flow rights means that it will cost more to divert the firm's resources for private benefits. Gomes (2000) reports that acquiring more ownership concentration can also serve as a credible commitment that the controlling owner is willing to build a reputation for not expropriating the minority shareholders. He further elaborates that this commitment is credible because minority shareholders know that if the controlling shareholder extracts private gains when he owns a substantial amount of shares, they will discount the stock price accordingly and the controlling owner's share value will be reduced. Hence, the controlling owner's expropriation is a trade-off between his private benefits and the cost of extraction. Thus, an increase in the share ownership of the controlling owner beyond a specific level needed for control improves the alignment of interests between the controlling and minority shareholders.

Even in a pyramidal and cross-holding structure, the controlling owner can still find opportunities to extract private benefits at lower costs. The controlling party gains control of the firm through his cross-holdings, while the low direct equity ownership provides only a low degree of incentive alignment between the controlling owner and the minority shareholders. The cost of expropriation in this case could be minimized. Moreover, the controlling owner may enjoy benefits of expropriation at the expense of the minority shareholder because he has a small equity stake affected by his actions<sup>7</sup>. This is also called divergence between ownership and control. The probability of expropriation increases with increases in this divergence.

## 3.2. External Control Mechanisms

The basic categories under the external mechanism of corporate governance, though not perfectly distinct are: the takeover market for control; the legal and regulatory environment; and product market competition. In this thesis, I concentrate more on

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<sup>7</sup> The minority shareholder may also be partially protected by free riding. If the minority shareholder buys shares after the acquisition of control by a majority owner, then they might be price protected because they already bought the shares discounted by control.

the legal and regulatory framework and, therefore, only briefly explain the other two categories for interested readers.

### **3.2.1. Takeover market**

There is an incentive for outside investors to take over the firm if an already-placed internal control mechanism fails to maximize the value of a listed firm. By acquiring control of the firm, an acquirer can improve the operations of the firm and realize a profit on the increased value of the shares. Changes in the control of firms always occur at a premium, thereby creating value for the target firms' shareholders. Furthermore, the threat of being acquired also works as an enforced measure for the management of a firm to keep the firm in profits. There is a vast literature on the effects of takeovers and acquisitions as a measure of corporate governance (see e.g. Holmström and Kaplan, 2001; Shleifer and Vishny, 1997, 1998).

### **3.2.2. Product market competition**

Jensen (1993) suggests that product market competition is at best a blunt instrument in the fight for effective corporate governance. The lack of good corporate governance creates opportunities for management (or controlling shareholders) to exploit the resources resulting in poor performance in product markets. The firm should sell its products at a competitive price to remain on the positive side of the market. Thus, product market competition becomes an effective tool of corporate governance.

### **3.2.3. Legal and regulatory framework**

The laws and regulations of a country that influence the contracting parties and their actions towards a more transparent and binding transaction are the basic pillars of corporate governance. La Porta *et al.* (1998, 2000) state that the extent to which a country's laws protect investor rights and the extent to which those laws are enforced are the most basic determinants of the ways in which corporate governance evolves in that country. They find that cross-country differences in ownership structures, capital markets, financing and dividend policies are all related to the degree to which investors are legally protected from expropriation by managers and controlling shareholders. For example, their empirical analysis found an inverse relationship between degree of investor protection and ownership concentration across the world. While talking about enforcement of laws, countries under German and Scandinavian laws have stronger measures of enforcement than countries under common law and French law. Hence, the differences in types of investor protection (i.e. corporate governance codes) and enforcement levels play an important role in determining the firm-level governance structure.

Better legal protection leads investors to demand lower expected rates of return, resulting in easier and more feasible access to external finance for firms (La Porta *et al.* 1997). There have been several studies in economic literature discussing legal systems and their effect on the firms' ability to access external finance (e.g. Wurgler, 2000; Demirguc-Kunt and Maksimovic, 2002; Himmelberg *et al.*, 2002; Johnson *et al.*, 2000; Dittmar *et al.*, 2003; Gul and Qiu, 2002). These studies relate country-level investor protection measures with firm performance, analyzing the impact of investor protection measures on the availability of external finance for the firm. The relationship

between country-level determinants and firm performance ultimately affects the economic growth of a country. Hence, the common finding of these studies is that strong legal protection and enforcement of property rights result in a positive economic development for a country.

La Porta *et al.* (2002) show that developed and economically strong countries have better corporate governance mechanisms in place. Hence, the improvement of general investor protection in a country through reforms, laws and enforcement affects firms in that particular country. This thesis tests this in economies that are in transition and have been continuously trying to develop economically through improvements in their legal systems. Disclosure, being an important determinant of firms' ability to access external finance, is, therefore, a pertinent factor for testing the impact of corporate governance reforms in countries in economic transition.

## 4 THE QUALITY OF CORPORATE EARNINGS

Corporate disclosure is used as a summary measure of the performance of a firm by a large variety of users. The quality of corporate disclosure is considered the degree of true and transparent reported performance of a firm's economic activities to the general public. Thus, assessing the quality of disclosure is pertinent for future and current investors and for contracting purposes (Schipper and Vincent, 2003). The main component of disclosure is earnings, representing the current and future outcome of investments by a firm. In an analysis of the quality of earnings across 31 countries, Leuz *et al.* (2003) found that firms in countries with developed equity markets, dispersed ownership structures, strong investor protection and enforcement have better quality of disclosed earnings than countries without developed equity markets. Quality of earnings is interpreted as the ability of reported earnings to predict future performance<sup>8</sup>. Schipper and Vincent (2003) define quality of earnings as the extent to which reported earnings faithfully represent Hicksian<sup>9</sup> income, where representational faithfulness is "correspondence or agreement between a measure or description and the phenomenon that it purports to represent". (FASB Concepts Statement No. 2, para.63) Good quality of earnings means the reported earnings are a transparent measure of a firm's future economic performance. Revsine *et al.* (1999) consider that earnings are of higher quality when they are sustainable. The following question then arises: Why then is the quality of corporate earnings better in some countries than in others?

Some researchers such as Penman and Zhang (2002) and White *et al.* (2003) argue that these differences may occur due to the choice of accounting standards used in a country. They claim that accounting conservatism<sup>10</sup> produced better quality of earnings in continental Europe until the late 1990s when most European countries switched to the then International Accounting Standards Board's international accounting standards (IAS) (IFRS since 2001). One explanation is that conservative accounting made accounting earnings less likely to be overstated. The practice of using cash flow-based local standards gave lesser power to managers to manipulate the true performance of a firm. Whereas accrual-based standards, such as US generally accepted accounting principles (GAAP) and IFRS, which are used in most Anglo-Saxon countries, give more discretion to management to over- or under-state the true financial performance of firms. Another possible explanation of these differences is that different readers use the information differently in countries with different accounting environments. That makes the definition of quality of earnings difficult to generalize in all settings. That is why there is no generally accepted approach to measure quality of earnings. Schipper and Vincent (2003) have discussed several constructs used to measure the quality of earnings in the accounting literature<sup>11</sup>.

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<sup>8</sup> The Financial Accounting Standards Board (FASB) defines quality of earnings in Statements of Financial Accounting Concepts (SFAC) No. 2 Glossary and Terms as "The quality of information that ensures that information is reasonably free from errors and biases and faithfully represents what it purports to represent".

<sup>9</sup> Hicksian income corresponds to the amount that can be consumed (paid out as dividends) during a period, while leaving the firm equally well off at the beginning and the end of the period (Hicks, 1939).

<sup>10</sup> Conservatism means the use of accounting methods that do not try to overstate reported earnings and revenues.

<sup>11</sup> There are generally four different categories of constructs of earnings quality: 1) constructs derived from time-series properties of earnings (persistence, predictability and variability); 2) constructs derived from the relationship between income, accruals and cash flows; 3) constructs derived from qualitative concepts



The prime function that financial statements serve is to convey insider information about the actual performance of a firm. If financial statements do not truly represent the information about the actual outcome of revenue and loss proceeds, then this may impact the value to outside investors. Much of the previous evidence on stock market consequences shows that investors discount prices as a result of these asymmetries, making it difficult to deceive investors about future cash flows. Healey and Wallen (1999), while reviewing the literature on earnings management, found that informed investors discount abnormal accruals relative to normal accruals, indicating that investors view abnormal accruals as reflecting earnings management. Here, the question arises as to why firms engage in earnings management practices. To find the answer, one should go back to the agency conflict between principal and agent. The core object of the literature on earnings management is to analyze this conflict and to find the costs and the benefits associated with earnings management practices. Insiders have the power to allocate resources and decide on future cash flows. This power gives them incentives to manipulate the true asset allocation to obtain private benefits before disclosure to outsiders. As discussed in previous sections on corporate governance, we refer to insiders as controlling owners and/or their appointed managers who have incentives to misrepresent firm performance through earnings management. Controlling owners can use their control over the firm to obtain benefits at the expense of other small shareholders, e.g. through self-dealing, where the controlling owner may transfer firm's assets to other firms that controlling owners or their families own. They can also, to some extent, alter the timing of actual recognition of revenues and expenses by using their discretion on provisions under the accrual accounting system.

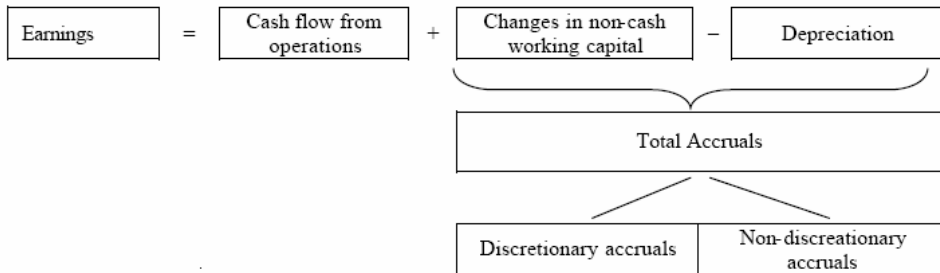
#### **4.1. Earnings Management**

Earnings literature primarily focuses on manipulation of accounting principles or accounting estimates to manage reported earnings. The editor Carol Loomis wrote in her article published in FORTUNE magazine published on August 2, 1999 that "earnings management is considered a rampant strategy by firms' insiders (management and controlling owners), who regard it as a tool to ensure that their firms meet earnings expectations". According to Healy and Wahlen (1999) and Leuz *et al.* (2003), earnings management is defined as the alteration of firms' reported earnings performance by insiders to either mislead some outsiders or influence contractual outcomes. The accrual-based earnings management measures devised by Jones (1991) and Dechow *et al.* (1995) assume that the earnings are divided into operating cash flows and total accruals. These measure further imply that the extent of discretionary part of accruals represent the extent of earnings management by insiders because it represent the part of total accruals that is not explained by the change in non-cash working capital of the firm. Figure (1) shows the breakdown of total earnings. The nature of discretionary power attributed to insiders (managers and controlling shareholders) is an issue worth discussing regarding the relationship between corporate governance and earnings management both at firm level and country level. The corporate governance mechanisms and their ability to monitor the activities of management to reduce information asymmetries and improve transparency have been studied extensively in recent years. Most of these studies focus on institutional ownership (see e.g. McConnell and Servaes, 1990; Smith, 1996; Hartzell and Starks, 2003), board of directors and CEO's characteristics (see e.g. Dunn, 1987; Brickley *et al.*, 1994; Subramanyan *et al.*, 1997; Yermack, 1996). There are, however, fewer studies

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in the FASB's conceptual framework; and 4) constructs derived from implementation decisions. See Schipper and Vincent (2003) for detailed explanations of all constructs.

analyzing ownership structure, entrenchment effect and performance (e.g. Claessens *et al.*, 2002; La Porta *et al.*, 2002; and Johnson *et al.*, 2000). Fan and Wong (2002) examined the relationship between earnings informativeness and ownership structure in seven East Asian economies. They found that controlling owners are perceived to report accounting information for self-interest purposes and that concentration of ownership is associated with low informativeness of earnings across East Asian countries.



**Figure 1 The breakdown of disclosed earnings implied by accrual based earnings management models**

Earnings management has resulted in some widely-known international accounting scandals such as Enron, Merck, WorldCom, Parmalat, Yukos etc. The analysis of earnings management often focuses on management's ability to use discretionary accruals. Sloan (1996) shows that the accrual component of earnings is less persistent than the cash flow component of earnings and attributes this difference to the greater subjectivity of accruals. The nature of accounting accruals gives managers discretion to determine the reported earnings by firms. This discretionary power allows managers to manipulate earnings to maximize their own interests. There are a number of studies testing earnings management and market efficiency (see e.g. Healy, 1985; Jones, 1991; Dechow *et al.*, 1995; Defond and Jiambalvo, 1994; Rees *et al.*, 1996, Teoh *et al.*, 1998a, 1998b; Kaznik, 1999), examining the ability of management to mislead users of financial information – i.e. the equity owners and capital market participants – about future firm performance<sup>12</sup>.

A significant body of academic research on earnings management has examined the extent to which earnings management occurs around specific corporate events in which this agency conflict is most likely to occur. Accounting accruals by nature give more liberties than cash flows for manipulation by managers. According to Ball and Brown (1968), Dechow (1994) and Cheng *et al.* (1996), accrual accounting provides a better performance measure for investors to assess future firm value than operating cash flows. However, accrual accounting may also allow managers to opportunistically manipulate the current true performance of the firm for personal gain by making the reported accounting statements less relevant in value assessment (Healy, 1985; DeAngelo, 1988; McNichols and Wilson, 1988). We need to understand both aspects of

<sup>12</sup> Capital markets use financial information to set security prices. Investors use financial information to decide whether to buy, sell or hold securities. Market efficiency is based upon the information flow to capital markets (Xie *et al.*, 2003). So when information is biased, it may not be possible for the markets to value securities correctly.

accrual accounting (IFRS, US GAAP) in order to measure the extent and determinants of earnings management under a particular corporate governance mechanism.

#### **4.1.1. Opportunistic earnings management hypothesis**

In the literature, earnings management is mostly considered a detriment to the quality of earnings. This strand of literature starting from Healy (1985) argues that the controllers of finance (management) have enormous power to opportunistically manage earnings to deceive other shareholders and outsiders to gain private benefits. These benefits may include the hiding of poor performance due to fears about job security (e.g. DeAngelo 1988), earnings management before exercise of executive stock options and other compensation plans<sup>13</sup> (e.g. Healy, 1985; Houlthausen *et al.*, 1995), bonus plans, earnings management through self-dealing, earnings management before and after initial public offerings (IPOs) and seasoned equity offerings (SEOs). Teoh *et al.* (1998a, 1998b) state that income-increasing discretionary accruals are used prior to IPOs and SEOs. There is high information asymmetry between issuers and investors at the time of these offerings. Similarly, controlling shareholders have incentives for opportunistically managing earnings such as inflating the performance to increase stock market value before disposing of a stake in ownership or deflating earnings to reduce taxes on capital gains - i.e. tax management is done to reduce tax burdens and/or to avoid high tax brackets when the controlling owner has significant equity stake. Firms close to their dividend payments also manage accruals to reduce the cash flows for dividends (Holthausen, 1981; Healy and Palepu, 1993; Guenther, 1994), earnings management also occurs in the incidents of mergers and takeovers. Erickson and Wang (1999) find that firms involved in stock-to-stock mergers inflate earnings prior to merger to inflate the stock price and reduce the cost of the merger. Easterwood (1997) finds that targets of hostile takeover attempts to inflate earnings prior to takeover attempts to restrict shareholders from supporting the takeover.

According to Guy *et al.* (1996), managers use discretionary accruals to smoothen earnings but only temporarily. For example, if the manager offsets a bad (good) shock when the shock is expected to be permanent or followed by another decline (increase). The manager's action is regarded as opportunistic earnings management when he/she seeks to undo the shock to the underlying earnings process. However, this would not be true if non-discretionary accruals overreact (i.e. earnings are expected to reverse in the next period), in which case the use of discretionary accruals would be consistent with the performance measure hypothesis. Hence, the market reaction to discretionary accruals under the opportunistic earnings management hypothesis would be opposite to the relationship between non-discretionary accruals and stock returns. For example, in the case of bad news, unless underlying earnings exhibit a future reversal, the manager potentially faces "accrual bankruptcy". There are limited opportunities for managers to prevent a reversal if earnings are forecast to exhibit a further decline in the future<sup>14</sup>. Therefore, discretionary accruals used to offset a shock to nondiscretionary accruals correlate with stock returns, the sign of the correlation depending on the direction of the sign of the shock.

<sup>13</sup> Many companies compensate their managers depending upon earnings' performance despite fixed salary schemes. These may include both direct (in terms of salary and bonuses) and indirect (in terms of prestige, future promotions and job security) compensation.

<sup>14</sup> The problem of "accrual bankruptcy" can be mitigated if a firm employing a conservative accounting policy in the past faces a bad shock in current earnings. On the other hand, in case of a positive shock to underlying earnings, the likelihood of the firm facing this problem is increased if the firm has already used a conservative accounting policy in past years.

#### **4.1.2. Performance measure hypothesis**

Under the performance measure hypothesis, discretionary accruals are considered to play a useful role to improve the reliability of earnings by managers. Earlier studies have shown that accruals anticipate future cash flows to produce a reliable and more timely measure of firm performance (see e.g. Watts and Zimmerman, 1986; Beaver, 1989; Dechow, 1994; Healy and Palepu, 1993; Dechow *et al.*, 1998). These studies argue that managers exercise discretion over earnings to enhance the information content of earnings. Subramanyam (1996) supports the notion empirically by examining the relationship between stock prices and discretionary accruals. His analysis suggests that the market attaches value to discretionary accruals based on the reasoning that the managerial discretion improves the ability of earnings to reflect the true economic value of the firm. Alternatively, use of discretionary accruals opportunistically making the value of accruals irrelevant but priced by an inefficient investor may also increase the stock price.

In an efficient market, capital market participants use all available information to form unbiased expectations of future cash flows in setting security prices. The earnings follow a random walk process similar to that of stock prices. Guy *et al.* (1996) argue that current accruals anticipate future cash flows to the same extent as that of the market prices, as the market prices would equal the present value of current earnings. They further purport that the estimated earnings coefficient in regression on future earnings is smaller because of the deviations from the random walk property of earnings. This happens when managers use discretionary accruals to offset as much of the impact of current economic shocks as possible into current reported earnings. Assume that current earnings over-react and thus successive non-discretionary accruals are negatively serially correlated. The performance measure hypothesis predicts that managers use discretionary accruals to eliminate the overreaction.

Discretionary accruals under the performance measure hypothesis are always perfectly (positively or negatively) correlated with stock returns, assuming a shock to the underlying earnings process. The sign of the correlation depends on whether nondiscretionary accruals include an over- or under-reaction to the economic shock. If they include an over-reaction, a discretionary accrual with an opposite sign offsets the shock and thus correlates negatively with the stock returns. On the other hand, if nondiscretionary accruals under-react to the shock, discretionary accruals with a positive sign offset the under-reaction.

#### **4.2. Determinants of Earnings Management**

Earnings management is primarily considered management's action to manipulate the true and actual performance of a company. According to Healy and Wahlen (1999) and Leuz *et al.* (2003), insiders alter the firm's reported performance to either mislead some stakeholders or to influence contractual outcomes. This implies that the true determinants of earnings management cannot be extracted without studying the behavioral aspects of agency theory. It is considered practically impossible to detect the intentions of the management of a company to extract the private benefits by hiding facts from the outsiders. However, this behavior can be tested with the help of different relative measures taken by the management. There are different characteristics, which may help to determine the extent and direction of earnings management. There are both external (investor protection, legalization and institutions) and internal (firm characteristics) determinants of the quality of the disclosed earnings.

Earlier literature has documented both firm-level and country-level determinants of earnings management and informativeness of disclosed earnings. Studies that examine the country-level determinants of the quality of reported earnings such as investor protection, legal institutions, transparency and corporate governance standards include Ball *et al.* (2000), Ali and Hwang (2000), Leuz *et al.* (2003), Bushman and Piotroski (2006), Klapper and Love (2004), Durnev and Kim (2005) and Dahya *et al.* (2008). Although the evidence regarding country-level characteristics and their effect on earnings management is mixed, they still provide useful information about the effects of firms' regulatory environment on the quality of disclosed earnings. Klapper and Love (2004), Durnev and Kim (2005) and Dahya *et al.* (2008) support the contention that firms benefit the most from adopting strong governance standards when the country's investor protection is weak. In contrast, Khanna *et al.* (2006) and Doidge *et al.* (2007) find little convergence of corporate governance mechanisms around the world and argue that country characteristics are crucial in explaining firm-level corporate governance structure and the benefits associated with it. Stulz (2005) finds that the effects of globalization of corporate governance are limited because of insiders who look after their own interests at the expense of outside investors.

Among firm-level determinants, firm size, leverage, growth opportunities, need for external finance, liquidity, ownership structure, board of directors and audit committees have been studied extensively (see e.g. Skinner and Sloan, 1999; Gabrielsen *et al.*, 2002; Yeo *et al.*, 2002; Park and Shin, 2004; Sanchez-Ballesta and Garcia-Meca, 2007). These studies provide useful insights into the characteristics of these firm-level determinants that may explain the differences in the quality of disclosed earnings across different types of companies.

Apart from firm-level economic determinants, corporate governance structures have also been studied. The most important corporate governance determinants in transition economies are the ownership structures of companies (Fan and Wong, 2002). This is because the ownership of companies in these economies is highly concentrated and the control of the companies generally lies in the hands of few owners who extract private benefits for self-interest. Most of the previous studies examine insiders' ownership as one of the determinants of the quality of disclosed earnings (such as Warfield *et al.*, 1995; Gabrielsen *et al.*, 2002; Yeo *et al.*, 2002). However, there are some studies on corporate governance dealing with ownership concentration and its relationship with the transparency and accuracy of disclosed earnings (e.g. McConnell and Servaes, 1990; Agarwal and Knoeber, 1996; Demsetz and Villalonga, 2001; De Bos and Donker, 2004; Boubarki *et al.*, 2005)<sup>15</sup>.

The most significant private benefit of ownership concentration and control is to conceal the firm's real economic performance from outsiders and to misrepresent the allocation of resources. Some value may be enjoyed solely by the controllers and not shared with small shareholders through earnings management. The controlling shareholder controls and manages the sources of companies to entrench themselves. Similarly, the majority shareholders may also join power to divert the resources and manipulate the reported earnings. This objective can easily be achieved with the help of the affiliated managers who are appointed by the majority shareholders. For example, managers can use their discretion to overstate earnings and conceal unfavorable earnings to mislead outsider interference. They can also use discretion to create reserves (accruals) for future periods by understating earnings in years of good

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<sup>15</sup> These studies show that increased ownership concentration is an effective control mechanism in monitoring the accounting decisions of management. Effective monitoring may improve the quality of managerial decisions and consequently firm value.

performance, effectively making reported earnings less variable than the firm's true economic performance. Thus, it is important to understand the role of ownership structure as a determinant of earnings management activities.

## 5 CONTRIBUTION OF THE THESIS AND SUMMARIES OF THE MAIN FINDINGS

The primary objective of this thesis is to study if corporate governance mechanisms affect the quality of the disclosed earnings and their value relevance. The quality of earnings is measured as the opposite of the discretionary accruals used to inflate or deflate the reported performance. Managers have powers to divert the actual performance of the firm through earnings management. Previous literature develops theories about when and where earnings management occurs. Earnings management that makes the firm look better than it really is may result in a disappointment for small investors and potentially leads to a welfare loss in the society if the resource allocation is distorted. The role of corporate governance is to reduce the divergence of resource allocation between controlling owners and small shareholders in economies where ownership is concentrated into few hands. La Porta *et al.* (1999) suggest that the research on corporate governance should focus on the incentives and capabilities of controlling shareholders to treat themselves preferentially at the expense of small shareholders.

Better corporate governance mechanisms – both internal and external – are likely to improve investors' perception of the reliability of a firm's performance as measured by the earnings. Among the several possible determinants of earnings management behavior in firms, this thesis focuses on external corporate governance mechanisms (corporate governance reforms and general transparency levels of a country) and internal corporate governance (ownership structures) that aim to influence the quality of reported performance and its value relevance. More specific knowledge of the occurrence and determinants of earnings management supposedly increase the awareness of the investor and thus lead to better investment decisions and increased welfare in the corporate world. This thesis contributes to the literature by increasing the knowledge as to when earnings management occurs and which are the important determinants in assessing the quality of reported earnings.

More specifically, essay (1) adds to existing research connecting earnings management to corporate governance reforms in an emerging market and increases knowledge by testing the impact of reforms on the quality of disclosed earnings in all listed firms in Russia as well as in different industrial sectors. This essay provides empirical evidence of the fact that the desired impact of reforms is not fully substantiated without proper enforcement. Reforms aimed to bring transparency do not correspond to desired results in economies where investor protection is lower and legal enforcement is weak (Leuz *et al.*, 2003). Instead, firm-level factors such as long-term capital investments, compliance with IFRS or USGAAP and industrial sectors determine the quality of the firm-level transparency. Essay (2) focuses on the relationship between the internal control mechanisms and the quality of disclosed earnings in an emerging market where concentration of ownership is one of the highest among all emerging markets. This essay contributes to the existing literature (e.g. Fan and Wong, 2003) by showing that ownership concentration is related to earnings informativeness. Finally, essay (3) provides useful evidence on the fact that both ownership structures and economic characteristics are important factors in determining the quality of disclosed earnings. This essay contributes to the literature by showing the differential importance of different types of determinants in different groups of countries. Evidence suggests that ownership structure is a more important determinant in developed and transparent countries, while economic determinants (such as size, leverage and growth) are

important determinants in developing and transition countries. The specific findings of each essay are presented below.

### **5.1. Essay 1: Measuring Quality of Earnings Response to Corporate Governance Reforms in Russia**

This essay investigates the earnings management response to Russian Corporate reforms during the year 2002 when Russian corporate codes were introduced. The purpose of this study was three-fold: firstly, to test the impact of reforms on the quality of disclosed earnings; secondly, to investigate the relationship between accounting standards compliance by Russian listed companies (IFRS/USGAAP or Russian accounting standards [RSA]) and their earnings management; and thirdly, to estimate the quality of earnings in four major industrial sectors of the Russian economy. Financial statement data of 91 Russian listed companies was extracted from UBS Brunswick Warburg Company Guides from 1998-2003. A modified version of the Jones (1991) accruals model was used to calculate the magnitude of the discretionary accruals used by Russian firms in both pre- and post-reform periods. We not only tested the impact of corporate governance reforms on the overall earnings management (measured as the absolute discretionary accruals) but also on the negative and positive discretionary accruals. The essay finds that significant earnings management practices persisted both before and after the corporate governance reforms of 2002. Hence, the most important of all objectives of these reforms, i.e. to bring corporate transparency in the market, was effectively not achieved during the initial two years. In fact, positive discretionary accruals (inflating earnings) that were used before the reforms were converted into negative accruals (deflating earnings). Significant effects of adoption of the international accounting standards were also seen in Russia, meaning that companies complying with IFRS or US GAAP had better quality of earnings than those complying with Russian standards. We found a significant impact of compliance with IFRS on the positive and negative discretionary accruals. Further, the analysis of major industrial sectors revealed interesting results. Ferrous metal and telecom sector companies had significant positive and negative discretionary accruals, respectively, whereas both the oil and gas, and power sector companies were better in terms of quality of earnings than all other sectors. This paper provides a base for further analysis on identifying the determinants of earnings management in Russia and other European countries in transition. Among the determinants of positive and negative discretionary accruals during the pre- and post reform period, we found that large capital investments during the pre-reform period overlapping the post-Russian crisis period were positively related to inflating discretionary accruals. However, this effect was not significant during the post-reform period. It means that Russian firms used earnings management as a tool to attract more outside financing for capital investments during the post-Russian crisis period. Adoption of international accounting standards significantly reduced both positive and negative discretionary accruals. Among the industrial sectors, the power sector had less earnings management (both in terms of positive and negative discretionary accruals) in both time periods. Hence, firm-specific determinants were proved to play a more significant role in determining the quality of disclosed earnings in Russia than the improvement in country-level corporate governance environment.



## **5.2. Essay 2: Corporate Ownership, Control and the Informativeness of Disclosed Earnings in Russian Listed Firms**

The second essay of this thesis investigates the determinants of earnings management in Russian listed firms. Ownership structure, control and informativeness of disclosed earnings (measured as an earnings-returns relationship) were examined using data of 98 listed companies over the period from 1999 to 2004. The informativeness of earnings was tested under two hypotheses of earnings management, i.e. the performance measure hypothesis and the opportunistic earnings management hypothesis.

The results suggest that the use of accrual management in Russia has resulted in a lower informativeness of earnings due to the use of discretionary accruals for opportunistic purposes. It seems that controlling owners enjoy short-term benefits of manipulating accounting performance. Further analyses showed that state-owned companies have a significantly better quality of earnings than oligarch-owned and foreign-owned companies. But this is only true if the state has absolute control of the company. The levels of ownership stakes without effective control do not show any impact on the quality of disclosed earnings. Similarly, the market reacts positively to the absolute discretionary accruals of firms controlled by the state and oligarchs. This positive reaction disappears if the state and oligarchs do not have controlling power. Hence, control seems to be a better tool for obtaining market benefits of earnings management than just ownership levels without control. Another important finding is the positive interaction between leverage and earnings informativeness. The market responds positively to discretionary accruals in highly-leveraged firms, meaning that having large creditors is significant in analyzing the informativeness of the disclosed earnings. The results are robust in other settings when the asymmetries in time series (i.e. year effects) and industrial sectors (i.e. industry effects) are controlled for. Moreover, the results also hold when we controlled for the effects of different accounting standards used by the companies in a particular year.

## **5.3. Essay 3: Determinants of the Quality of Disclosed Earnings and Informativeness across Transitional Europe**

The last essay in this thesis explores the determinants of earnings management across 10 European countries, namely, Finland, Sweden, Czech Republic, Estonia, Slovakia, Poland, Bulgaria, Romania, Ukraine and Croatia. All 10 countries were divided into 3 groups according to Transparency International's (2007) Corruption Perception Index and timing of inclusion in the European Union. The data used for this essay includes 8926 firm year observations for 2001 listed companies across 10 countries starting from the year 2001 to the year 2006. The relationship between the magnitude of discretionary accruals and firm-level characteristics, including both corporate governance (i.e. ownership structures and control) and economic variables (i.e. size, leverage and growth), was examined in different settings. Finally, the value relevance of disclosed earnings was tested under both performance measure and opportunistic earnings management hypotheses.

The analysis revealed some insights into the quality of earnings and its determinants across countries. Firm size was the only consistent determinant across all countries having a positive relationship with the quality of earnings. I found that of the corporate governance mechanisms, mainly the ownership structures were important determinants across the most transparent and developed countries, whereas other

economic determinants such as leverage and growth were more significant in transition countries. This suggests that corporate governance mechanisms work in developed but not in transition countries. The market reacted negatively to earnings management by controlled firms in most transparent countries, and positively in lesser transparent countries. This indicates that the benefits of control are much higher for the controlling owner in markets where more emphasis is needed to improve investor protection and minority shareholders rights.

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**PART 2**

THE ESSAYS



ESSAY # 1



## MEASURING QUALITY OF EARNINGS RESPONSE TO CORPORATE GOVERNANCE REFORMS IN RUSSIA

*Sheraz Ahmed<sup>φ</sup>*

### ABSTRACT

This paper investigates the quality of earnings response to the Russian corporate governance reforms of 2002. We study the effect of the governance reforms on the earnings management practices of Russian companies. The accrual-based Jones (1991) model is used to estimate the discretionary accrual part of total earnings. The quality of earnings, reflected by the absolute discretionary accruals in reverse order, is not affected by the introduction of the 2002 corporate governance reforms in Russia. Only the direction of earnings management is changed by the reforms, likely attributable to reversal of accruals or tax management. Among other determinants of the positive and negative discretionary accruals, we find that adoption of international accounting standards is a significant factor for reducing the discretion to inflate or deflate reported earnings during both the pre- and post-reform periods. Large capital investment during the pre-reform period is also associated with inflating accruals. We find the ferrous metal and telecom sector firms have lower quality of earnings than the power and oil and gas sector firms.

JEL Classification: G34, G38, M41

*Keywords:* Corporate governance, Earnings management, Disclosure, Discretionary Accruals, Russia

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## 1 INTRODUCTION

Recently, corporate governance has become a hot topic in both research and business practice around the world. It had largely been ignored as a matter of potential importance for the development of a nation's economy until the East Asian Financial crisis of 1997-98. This drew attention to the problems of capitalism, communism and their relationship to poor local corporate governance practices, and financial and ethical business scandals. Research in corporate governance has utilized various approaches and disciplines to highlight the threefold purpose of efficient corporate governance: (i) to facilitate and stimulate the performance of firms by creating and maintaining the incentives to motivate insiders to maximize firm performance; (ii) to limit insiders' abuse of power over corporate resources; and (iii) to provide the means for monitoring the behavior of managers and giving protection to investors. These are the central issues for consideration when designing the framework of a good corporate governance mechanism in an economy. Nevertheless how important is corporate governance for an economy is still an empirical question. For some, the quality of corporate legislation is the most important policy issue for achieving economic development and sustainability (e.g. LaPorta *et al.*, 1997, 1998; Shleifer and Vishny, 1997), while for others (e.g. Roe, 2003; Gourevitch, 2003) it is of secondary importance, especially in the case of emerging markets. Doidge *et al.* (2007) propose a reversed casualty approach, i.e. in countries with weaker economic development it is costly to improve governance mechanisms because the institutional infrastructure is lacking and political costs are higher. Notwithstanding, investor protection granted by the state, economic development, financial development and openness of the country are important determinants of a firm's governance, which in turn, improve the value of outside financing in the firms. Hence, firm-level corporate governance mechanisms are important for achieving country-level corporate development. Likewise, there may be more important factors in certain phases of economic development in one country than in others.

How then, can corporate governance reforms in a country matter for firms and shareholders? This is an important question that we attempt to address in this paper, while testing for the effect of corporate governance reforms on disclosure practices of Russian listed companies following the reforms of 2002. Corporate governance does matter for firms because it influences the costs that the firms incur in bonding themselves to ensure proper allocation of resources provided by owners or stakeholders. Adherence to good corporate governance practices increases investors' confidence, providing firms easier to access the capital market. Hence, better corporate governance affects firm value. But the real firm-level effects of corporate governance reforms initiated by the state are still an open question in many emerging economies. How do these reforms improve the general disclosure level and the quality of reported earnings? Is the expropriation of minority shareholders reduced after effective reforms? And what are the determinants of the quality of earnings before and after the reforms? This paper addresses these concerns in one of the world's largest transition economies, Russia.

The concept of corporate governance is new for transition economies. Governments have to take initiative to improve corporate governance by effective codes, regulations and through private agencies. The Organization for Economic Co-operation and Development (OECD) has laid down a framework of corporate governance principles for policy makers, investors, corporations and other stakeholders for member countries. These principles are intended to assist both OECD and non-OECD countries



in efforts to evaluate and improve their legal, institutional and regulatory framework of corporate governance.

Russia has made many substantial improvements in the corporate sector since former President Putin took office in 1999. Important recent progress includes the Corporate Governance Code (2002) and the revised Law on Joint Stock Companies (2002), issued by the Russian Institute of Directors, directing all listed firms to abide by the corporate governance mechanism established to improve general investor protection and corporate transparency. The Corporate Governance Code is an advisory without binding force on domestic corporations. However, when offering stock to the public or when issuing bonds, it is critical for Russian firms to comply with the code to achieve a certain level of confidence from the stock market. In spite of these steps, during the year 2003, the mega scandal of Yukos Oil again raised many questions as to the transparency and rights of investors of the Russian corporate sector. It became clear that unauthenticated use of discretionary powers to manage earnings had not been fully dealt with.

This paper investigates the quality of earnings response to Russian Corporate reforms during the year 2002, when the Corporate Governance Code was introduced in the country. The purpose of this study is three-fold: first to detect earnings management in Russia; second, to test whether corporate governance reforms which were supposed to bring transparency have in fact brought any change in the real sense by improving the quality of disclosed earnings; and, finally, to identify the determinants of the positive and negative discretionary accruals during both the pre- and post-reform periods. Financial statement data of 91 Russian listed companies is extracted from UBS Brunswick Warburg Company Guides. The accruals model of Jones (1991), modified by Dechow *et al.* (1995), where nondiscretionary accruals are a function of changes in revenues (adjusted for changes in receivables), gross property, plant and equipment, and operating cash flows, have been employed to detect the earnings management practices employed by Russian firms both before and after the introduction of corporate reforms such as the Corporate Governance Code in 2002. The period for our analysis is initially set as six years starting from 1998 to 2003 inclusive where the pre-reform period (period with scarce reforms and guidelines for the companies for disclosing earnings statements) is from 1998 to the end of 2001 and the post-reform period (the period after the introduction of major corporate reforms) is from 2002 till 2003<sup>1</sup>. We consider our event as the launch of the Corporate Governance Code and the revised Law on Joint Stock Companies in 2002.

The paper is structured as follows: Section 2 describes the earnings management and corporate governance aspect of Russian companies. Section 3 highlights the data characteristics and research design, hypothesis development and model specifications. Section 4 presents the results of the analysis and Section 5 concludes the paper.

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<sup>1</sup> Corporate Governance Codes were issued at the beginning of 2002, so annual statements for the years 2002 and 2003 were disclosed within the reform period. All listed companies were required to disclose annual financial statements by the end of September in the following year at the latest.

## **2 CORPORATE GOVERNANCE AND EARNINGS MANAGEMENT IN RUSSIA**

The development of corporate governance in Russia can be seen from many points of view, including the expropriation of minority shareholders' rights. Residual claims, legal disputes between shareholders and earnings management are common issues. Hence, the concept of corporate governance is currently understood by many Russian people and commonly used by popular newspapers and business magazines without special explanatory notes (see e.g. Iwasaki, 2007). First we discuss the major developments in corporate governance in Russia in recent years and second, sketch some incentives and factors leading managers and control groups to hide true financial performance.

### **2.1. Development of Corporate Governance in Russia**

Research on corporate governance in Russia is very active. More than 500 books and articles have been published in the last 10 years just in Russia. International agencies and scholars have produced even more work. Several researchers have suggested improvements to Russia's governance structure. For example, Buck (2003) discussed market-based governance and relational governance, and the constraints on Russia's choice of corporate governance reforms, explaining the theoretical difficulty of increasing the low level of foreign direct investment. The Russian economy has gone through various stages of transition after the introduction of the market economy during President Boris Yeltsin's term in power. The need for responsible corporate governance has existed since then. Initial measures to improve firm-level corporate governance were based on agency theory. However, the country's history of communism and central planning diverted the attention of the governments at the beginning of the transition stage in early 1990's. The situation worsened until the end of 20<sup>th</sup> century, when in 2000 the country was ranked last in among 25 emerging countries on responsible corporate governance criteria (Karmin, 2000).

With the creation of publicly-owned companies in the early stages of privatization, better corporate governance was needed to balance the interests of shareholders against those of potentially opportunistic managers. However, the managerial entrenchment aspect of agency theory (managers' personal objectives may dominate to the detriment of other shareholders) prevailed in Russia during the early stages of privatization. Hence, massive privatization by voucher auction in the 1990s could not revive the centrally-planned economy into a real dynamic and open market due to the lack of proper measures to deal with self dealing by managers and controlling shareholders. Instead, it accelerated the self dealing by selling the control of the biggest firms to state affiliates who used their money and energies only to corrupt the government and to block the process of positive reform in the country so their actions could not be checked. Controlling the Russian oligarchs from expropriating the rights of minority shareholders is necessary for developing better institutions of corporate governance. This is especially true when managers are majority or significant shareholders, and if not, have significant decision-making powers.

Corporate governance became a central element in Russia's attempts to become a full participant in the global business community from the beginning of the 21st century. Substantial progress in corporate governance was deemed essential for developing the potential of Russia and its markets to attract both local and foreign investment. A

prime indicator of the country's economic objectives was the goal, announced by President Putin in 2001, of achieving Russia's membership to the World Trade Organization (WTO). Putin continued his efforts to strengthen the corporate governance structure and attract outside investors through appropriate policies and legislation.

Signs of improvement in the corporate development in Russia can also be seen from the fact that the number of registered companies with private shareholdings rose from 15 in 1991 to an estimated 700,000 in early 2002 (Vardanian, 2002). Although only a few of these are publicly traded, this number is likely to increase as the corporate governance system improves. Most companies are smaller, with shares closely held by managers and sometimes by employees. In order to understand the uniqueness of the prevailing agency-theory model, one should appreciate that Russia is currently facing the same corporate conflict between shareholders and management that other countries have faced years before. Thus, the constant improvement in corporate governance is likely to bring the desired results achieved by other countries. The successful implementation of the corporate governance system by some public companies has sent a positive signal to others to follow them in order to minimize the conflicts and hence to improve the valuations. Some managers of state-owned companies have also taken the steps to implement and improve the corporate disclosure and transparency as instructed by the state. In an effort to improve the transparency in decision-making, in 2002 President Putin replaced the CEOs of 38% of government-based energy giants (Puffer and McCarthy, 2003).

For prospective investors in Russia, it is important to understand the evolving nature of the country's corporate governance system. Major corporate legislation and reforms backed by more effective control and monitoring by regulators have improved the corporate governance structure. Earlier reforms include the Law of Privatization of State and Municipal Enterprises (1992), the Law on Joint Stock Companies of 1996, and the Securities Market Law of 1997. These laws could only provide guidelines for privatizing state-owned firms and developing stock markets, but could not increase investor protection in the country. However, in 2002, two very important and effective steps were taken to improve the overall investment conditions of the country. First, a major amendment to the Law on Joint Stock Companies of 1996 was carried out, and secondly, the Corporate Governance Code (also called the Corporate Conduct Code) was introduced, which contained guidelines for effective corporate control and shareholder protection. Although not initially mandatory for public companies, the Corporate Governance Code was critical for companies to follow in order to gain investor confidence on the issuance of new equity or debt. Since 2004, it has been compulsory for all publicly listed companies to follow the guidelines in the Corporate Governance Code in order to be listed on the Russian Stock Exchange.

## **2.2. Earnings Management in Russia**

The Russian economy, as an economy in a transitional stage of maturity, provides a unique opportunity for researchers to investigate earnings management. Stickney and Brown (1999) define earnings management as follows: "*reported earnings represent a reasonably accurate measure of the economic value-added by a firm during a particular reporting period and economic value is likely to add in future periods*". Hence, earnings management can be evaluated by studying the quality of reported earnings in line with above assumption. There are various managerial incentives for manipulating the reported performance of a company that leads to an inappropriate

measurement of economic value-added. Cost-benefit analysis is needed to understand the reasons for these manipulations. Leuz *et al.* (2003) argue that managers use earnings management to hide actual firm performance from the outside world to protect their private control benefits. They do so at some costs,<sup>2</sup> which are usually lower than the benefits extracted from these activities. Kasznik (1999) tests for the management activity required to overcome earnings forecast errors by increasing or decreasing the reported earnings to minimize the cost of forecast error. Teoh *et al.* (1998b) show that firms who manage earnings prior to initial public equity offerings experience a poor stock return performance in the subsequent three years. There are various incentives such as influencing market participants by inflating earnings before equity offerings so that the investor's expectations about future performance can be improved. Dechow *et al.* (1995), and Teoh *et al.* (1998a) also support this incentive approach of managers to manipulate the reported earnings to influence the market for certain target achievements such as value enhancing and fulfillment of market expectations. Then there are contractual incentives for firms to manage earnings, particularly in management buyouts, as shown by Perry and Williams (1994), Dye (1988), Truman and Titman (1988) and Wu (1997). The quality of earnings in the Russian perspective is directly related to managers' use of power (incentive) to expropriate actual performance of firms. Separation of management and control is lacking. Hence, both groups usually combine power to manipulate the value for tax evasion. Desai *et al.* (2007) argue that Russia with extreme managerial diversion and tax evasion provides a natural experiment for testing the effects of increased tax enforcement and corporate governance. International monitoring authorities and investment companies also put more focus on the activities of these companies when more outside investors are coming in to invest.

Managers of Russian listed firms are often known for working for their own interest and for the interest of majority shareholders at the cost of minority shareholders who own only a small part of the firm. Russia's notorious voucher privatization has helped oligarchs and affiliates to gain more power and expropriate minority rights. Under communism, managers kept their affiliation with political personalities rather than the shareholders. Moreover, the problem of nondisclosure and non-transparency has made Russia one of the more risky countries in the world for investment. However, the state of Russia is taking significant steps to attract both foreign and local investment by improving the legal infrastructure and investor protection. A number of significant laws regarding disclosure and transparency were introduced during the 1990's, offering minority investors better protection from dilutive share issues, improving dividend rules and requiring increased corporate accountability.

The protection of the rights of minor shareholders is an important feature to control. Contractual incentives for managers to inflate or deflate earnings have been endemic in Russian companies. Large corporations in Russia have a more diverse ownership structure. They have more shareholders friendly and compliant with the Corporate Governance Code and other relevant laws. However, the mega scandal of the Yukos Oil Company strengthened the urge for large private firms to disclose as much information as possible to the outside world. The Yukos scandal highlighted the earnings management practices of large-scale private companies for tax avoidance and the weak monitoring policies by the government to curb expropriation of minority shareholders.

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<sup>2</sup> The costs of earnings manipulations include legal exposure, management's loss of reputation for accuracy, risks associated with analysts' forecast errors and information asymmetry costs.

The Russian economy provides a useful platform for research on corporate finance generally, and on earnings management specifically, as the economy is emerging towards an open-market scenario. Black *et al.* (2000) noted that managers could also make money by increasing the company's value rather than stealing, but opted for the easier and more rapid means of stealing to achieve personal targets. Obviously, running companies honestly would be the best long-run strategy, but they preferred current benefits instead of future profits due to uncertainty, since the current profit could easily be tucked away overseas<sup>3</sup>.

Another important factor to determine the transparency of disclosure is compliance with international accounting standards. To avoid confusion, hereafter, "international accounting standards" will refer to accounting standards in operation worldwide, including U.S. generally accepted accounting practice (USGAAP) and International Financial Reporting Standards (IFRS)<sup>4</sup>. The scarcity of standard adoption of international accounting standards in Russian firms makes it less secure for small shareholders. The Russian Accounting Standards (RAS) were designed to implement the Soviet centrally-planned system where the state strictly controlled the flow of information to the outside world. By design, the RAS do not give ample freedom to accountants and auditors to disclose all relevant information. For example, the state used to publish a book describing the life span of every tangible asset a firm may possess. However, it forbids accountants to set depreciation rates according to real wear and tear. McGee and Preobragenskaya (2003) discuss the problems of implementing international accounting standards in Russia. They argue that the same problems faced by other countries have slowed the progress of harmonization in Russia as well. The lack of knowledge and language skills to understand the true nature of international accounting standards, and the tendency to resist foreign guidelines have to be overcome to convert to appropriate standards. This process will take time because nobody knows how to implement them. Various strategies have been used to solve the problems resulting from the adoption of new accounting rules. Some have worked better than others. The then Russian Prime Minister Mikhail Kasyanov announced on July 25, 2002, that all Russian companies and banks must prepare their financial statements in accordance with the IFRS or US GAAP starting from January 01, 2004.

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<sup>3</sup> A recent and well-known example is that of Yukos Oil. The financial statements of Yukos Oil in 1996 showed revenue of \$8.60 per barrel, about \$4 per barrel less than it should have been. Mikhail Khodorkovski skimmed over 30 cents per dollar of revenue while stiffing his workers on wages, defaulting on tax payments, destroying the value of minority shareholders and not re-investing in Yukos' oil fields (Black *et al.* 2003).

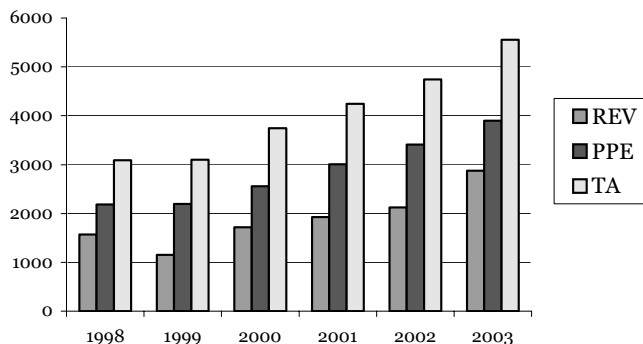
<sup>4</sup> IFRS are the accounting standards adopted by the International Accounting Standards Board and formerly known as International Accounting Standards (IAS).

### 3 DATA AND METHODOLOGY

The data included in this study contains the financial statement and balance sheet figures for 91 Russian companies for the period of 1998 to 2003 inclusive. The total number of listed companies on the Russian Stock Exchange varies yearly because of regular delisting and re-listing. Financial statement data is available for those years in which a company was listed at the end of the year. We obtained a list of 91 companies that were relatively stable and had financial statement data available for the whole period. Accounting data (revenues, property, plant and equipment and total assets) is taken from the Russian Equity Guides of Brunswick UBS Warburg Bank. Brunswick UBS Warburg Bank was the first investment company to construct a corporate governance index for Russian firms in 1999. The time period of our analysis is 6 years, from 1998 to 2003 inclusive, a period of rapid improvement in Russian corporate governance under the reforms of 2002.

The total time period includes two major legislative events in 2002: i.e. the introduction of the Corporate Governance Code; and the revision of the Law on Joint Stock Companies. The Law on Joint Stock Companies underlies the legal requirements for all joint stock companies in Russia and was implemented to improve transparency and also protect the rights of minor shareholders in all joint stock companies. For the purposes of this study, the first four years, i.e. 1998 to the end of 2001 are called the pre-reform period, and the period after 2001 till the end of 2003 is called the post-reform period.

Figure (1) highlights the average performance and size of Russian companies in 6 years starting from 1998 till 2003. Figure (1) shows a trend of growth over time; the size (measured as total assets) grew from 1999, mostly due to the growth in fixed assets (*PPE*). The financial crisis of 1998 affected the Russian economy, lasting till the end of 1999. However, following this period we see a pattern of continuous revenue growth. The values in the figure are averages of the accounting data: *REV* is average revenue; *PPE* is average fixed assets (property, plant and equipment); and *TA* is average total assets for each year.



**Figure 1** The average financial performance of 91 Russian listed firms for the period 1998-2003

Notes: REV represents average revenues, PPE reflects the average fixed assets (property, plant and equipment) and TA represents the average total assets for each year.

Table (1) shows the actual number of firm-years in the total period used for analysis as we need to calculate total accruals that reflect the change in certain financial variables, i.e. current assets, current liabilities, operating cash flow, short-term debt and fixed assets. In this case, the number of firm-years used in cross-sectional regression is 366 in total, consisting of 207 in the pre-reform period and 159 in the post-reform period. We have 155 firm-years for the companies complying with IFRS or US GAAP, and 211 firm-years during which the firms disclosed their financial statements according to RAS. The distribution of observations per industrial group is also presented in Table (1).

**Table 1 The number of firm-years available for analysis**

The table represents the number of firms according to years, industrial sector and accounting standards. The total presented in the last column of the table represents the number of firm-years across each industrial sector and accounting standard compliance.

Industry	Years					Total
	1999	2000	2001	2002	2003	
Aerospace	0	2	3	3	2	10
Automobile	4	4	4	5	2	19
Consumer Goods	3	4	5	5	4	21
Engineering	0	1	1	2	2	6
Ferrous Metal	10	12	15	16	14	67
Fertilizer	0	2	2	2	2	8
Media & Technology	0	0	0	1	1	2
Non-ferrous Metal	1	1	3	3	3	11
Oil and Gas	12	13	14	14	9	62
Petrochemicals	0	0	0	1	1	2
Power	15	19	20	20	18	92
Retail	2	2	2	2	0	8
Telecom	5	6	13	13	6	43
Transport	2	2	3	4	4	15
<b>Total</b>	<b>54</b>	<b>68</b>	<b>85</b>	<b>91</b>	<b>68</b>	<b>366</b>
<i>Accounting Standards</i>						
IAS/USGAAP	23	28	34	39	31	155
RSA	31	40	51	52	37	211
<b>Total</b>	<b>54</b>	<b>68</b>	<b>85</b>	<b>91</b>	<b>68</b>	<b>366</b>

To convert data into a continuous series of variables and to avoid potential outliers, we divide all data points with one period lagged total assets (Jones 1991). The whole time period is divided into two parts, i.e. the pre-reform period and the post-reform period.

Table (2) shows the descriptive statistics for all variables in each period and their difference-in-mean test statistics. The mean, median and standard deviation of each variable is calculated as a time series of scaled values in each period. For instance, current assets, scaled by one period lagged total assets, has a mean of 0.373, median of 0.343 and a standard deviation of 0.192 in the pre-reform period, whereas in the post-reform period these are 0.378, 0.319 and 0.242, respectively. The last column of table (2) represents the statistics of mean comparison test between two time periods. The short-term debt included in current liabilities (*STD*), depreciation expense (*Dep*) and total revenues (*Rev*) were significantly higher in post-reform period as compared to pre-reform period. The positive change in short-term debt increases the magnitude of total accruals and higher depreciation decreases the magnitude of total accruals. The significantly higher depreciation suggests that firms might have used depreciation to deflate the earnings during post-reform period. Higher depreciation without a significantly higher amount of fixed assets points out a possible use of discretionary powers to deflate the reported performance during post-reform period. There was a continuous trend of increase in production facilities (investing activities) among Russian companies, which started after the Russian financial crisis. However, average fixed assets (*PPE*) in Russian firms were not significantly higher during the post-reform period.

**Table 2 Descriptive statistics of financial variables used in the regression analysis**

The table represents the mean, median and standard deviation of the financial variables used to estimate the total accruals, discretionary and non-discretionary accruals for 366 firm-years during pre- and post-reform periods. The last column of the table shows the mean comparison test between pre- and post reform periods for all variables. The corresponding t-statistics are in parenthesis. The variables are current assets (*CA*), current liabilities (*CL*), cash and cash holdings (*Cash*), short-term debt (*STD*), depreciation expense (*Dep*), total revenues (*Rev*), short-term receivables (*Rec*), property, plant and equipment (*PPE*). All reported numbers are divided by one period lagged ( $TA_{t-1}$ ) total assets.

	Pre-reform period			Post-reform period			Pre – Post Difference in mean ( <i>t</i> -stat)
	Mean	Median	Std Dev	Mean	Median	Std Dev	
<i>CA</i>	0.373	0.343	0.192	0.378	0.319	0.242	-0.005 (-0.22)
<i>CL</i>	0.304	0.255	0.184	0.279	0.227	0.192	0.025 (1.25)
<i>Cash</i>	0.088	0.068	0.140	0.090	0.082	0.123	-0.002 (-0.15)
<i>STD</i>	0.074	0.040	0.091	0.103	0.064	0.126	-0.029** (-2.60)
<i>Dep</i>	0.049	0.040	0.036	0.056	0.047	0.035	-0.007* (-1.84)
<i>Rev</i>	0.860	0.738	0.511	0.963	0.835	0.501	-0.103* (-1.92)
<i>Rec</i>	0.158	0.138	0.103	0.159	0.127	0.107	-0.001 (-0.08)
<i>PPE</i>	0.683	0.637	0.294	0.718	0.675	0.277	-0.035 (-1.16)

\* significant at 10% level of significance

\*\* significant at 1% level of significance



### 3.1. Measurement of Discretionary Accruals

Consistent with the earlier studies by Healy (1985), Jones (1991) and Dechow *et al.* (1995), total accruals ( $TAC_{i,t}$ ) scaled by lagged total assets ( $A_{i,t-1}$ ) are calculated as

$$TAC_{i,t} = \frac{(\Delta CA_{i,t} - \Delta CL_{i,t} - \Delta Cash_{i,t} + \Delta STD_{i,t} - Dep_{i,t})}{A_{i,t-1}}, \quad (1)$$

where

$\Delta CA_{i,t}$  = change in current assets for firm  $i$  in year  $t$ ,

$\Delta CL_{i,t}$  = change in current liabilities for firm  $i$  in year  $t$ ,

$\Delta Cash_{i,t}$  = change in cash and cash holdings for firm  $i$  in year  $t$ ,

$\Delta STD_{i,t}$  = change in debt included in current liabilities for firm  $i$  in year  $t$ ,

$Dep_{i,t}$  = depreciation expense for firm  $i$  in year  $t$ , and

$A_{i,t-1}$  = one period lagged ( $t-1$ ) total assets.

After the first step to calculate the total accruals, we then decompose the total accruals into non-discretionary and discretionary accruals. The Jones (1991) model requires at least one component to be estimated. The remaining component then can be calculated by subtracting the estimated component from the total accruals. The Jones (1991) model attempts to control for the effect of changes in a firm's economic circumstances on discretionary accruals. Thus, to estimate the non-discretionary component of total accruals for each industry and year, the model is estimated by regressing the total accruals calculated above on  $1/A_{i,t-1}$ , on the change in revenues ( $\Delta REV_{i,t}$ ) scaled by lagged total assets ( $A_{i,t-1}$ ) and the level of gross property, plant and equipment ( $PPE_{i,t}$ ), scaled by lagged total assets,

$$TAC_{i,t} = \alpha_1 \frac{1}{A_{i,t-1}} + \alpha_2 \Delta REV_{i,t} + \alpha_3 PPE_{i,t} + \varepsilon_{i,t}. \quad (2)$$

The Jones model implicitly assumes that the revenues are non-discretionary. Hence, if earnings are managed through discretionary revenues then the Jones model ignores that part of discretionary revenues from the discretionary accruals causing the estimate of the discretionary accruals to be biased towards zero (Jones, 1991, footnote 31). Dechow *et al.* (1995) proposed a modification to the original model to address the issue of ignoring the tendency of measuring discretionary accruals with error when discretion is exercised over credit sales. Using the modified version of the original Jones (1991) model we then estimate the non-discretionary accrual ( $NDA$ ) for each firm by adjusting the change in revenues by the change in accounts receivable ( $\Delta REC_{i,t}$ ) scaled by lagged total assets to control for discretion used over credit sales by a firm.

$$TAC_{i,t} = \alpha_1 \left( \frac{1}{A_{i,t-1}} \right) + \alpha_2 (\Delta REV_{i,t} - \Delta REC_{i,t}) + \alpha_3 (PPE_{i,t}) + \varepsilon_{i,t}. \quad (3)$$

Guy *et al.*, (1996) report that the modified version of the Jones model can better detect earnings management because it already assumes that changes in credit sales result

from earnings management in the period where a systematic earnings management is expected. Therefore, we need to control for exercise of discretion over recognition of credit sales. This modification, if persistent, reduces the probability of occurrence of a type-I error when discretion is exercised over credit sales, something that seems much easier for managers to do - i.e. to inflate revenues without any actual cash flows. We then define the discretionary accruals proxy ( $DAP_{i,t}$ ) as the difference between firm  $i$ 's total accruals ( $TAC_{i,t}$ ) and the non-discretionary accruals ( $NDA_{i,t}$ ) at year  $t$ ,

$$DA_{i,t} = TAC_{i,t} - NDA_{i,t}. \quad (4)$$

The residual approach suggested by Warfield *et al.* (1995) and Gabrielsen *et al.* (2002) is also used to measure the earnings management proxy from equation (3). The explained component from equation (3) is then called the non-discretionary component of the total accruals. The remainder of the accruals (the residual) is referred as the discretionary accrual part, which could be used as a proxy for our earnings management measure because that part of accrual remains unexplained by the firm characteristics. The above model is estimated on the basis of each industrial-year to capture the effects of a particular industrial sector and/or time on the firm-level discretionary accrual proxy. The industry classification is based on the UBS Brunswick equity guide. Due to the vast number of industrial groups with few observations, we combine all industrial sectors with fewer than 6 firms in a year into one group.

### 3.2. Research Design

In the first phase of the study we apply the above model to detect earnings management in Russia and to test the power by Z-statistics used in the model. Earlier research used accrual-based tests for earnings management. However, potential misspecifications and the problem of a biased impact on the results of the tests has been a major concern. The accrual-based test of earnings management deals with the discretionary part of accruals in a linear model as follows

$$DA_{i,t} = \alpha + \beta PRD_{i,t} + \sum_{k=1}^K \delta_k X_{k,t} + \varepsilon_{i,t}, \quad (5)$$

where

$DA$  = discretionary accruals scaled by lagged total assets,

$PRD$  = dummy variable for periods, dividing the data into two groups, according to the hypothesis<sup>5</sup>,

$X_k$  = other relevant variables that affect  $DA$ , and

$\varepsilon$  = IID error term.

It is highly unlikely that the relevant variable ( $X$ ) is properly identified using Model 5, so we conduct our analyses using a proxy for the discretionary accruals. No accurate

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<sup>5</sup> As in typical earnings management research, the partitioning variable "PRD" is here set equal to 1 for all firm-years from the period where a systematic earnings management is hypothesized (Post-reform period), and 0 to all from the period during which no earnings management is hypothesized (Pre-reform period).

variable for discretionary accruals is observable in the absence of other relevant variables. A proxy for discretionary accruals ( $DAP_{i,t}$ ) is then measured as  $DA_{i,t}$  with error  $\eta$  as under:

$$DAP_{i,t} = DA_{i,t} + \eta_{i,t}. \quad (6)$$

Then the actual model can be specified as

$$DAP_{i,t} = a + bPRD_{i,t} + \theta_{i,t} + e_{i,t}, \quad (7)$$

where  $\theta$  is defined as the combined effect of the relevant variables that cannot be measured. The model also captures the error in estimation by using a proxy. In the case of omitted variables, the best possible regression model based on a proxy is presented as below, with a misspecification effect on the dummy variable. The “ $b$ ” is then estimated as the closest and most reliable proxy for  $\beta$  in Equation 5.

$$DAP_{i,t} = a + bPRD_{i,t} + e_{i,t}. \quad (8)$$

However, the above model of detecting earnings management has some biased properties that can lead to three statistical misspecifications in data analysis. First, the probability of the type-I error increases when  $PRD$  is correlated with  $\theta$  whereas the true parameter on  $PRD$  is zero (i.e. no earnings management in the hypothesized period). This will increase the chances of the estimated coefficient on  $PRD$  to be away from zero. Second, the probability of a type-II error when the actual coefficient on  $PRD$  is non-zero but the correlation between  $PRD$  and omitted variables is in the opposite direction of the true sign of  $PRD$ . This will cause estimated coefficient to be biased away from zero. Third, the exclusion of the relevant variable leads to an inflated standard error for the estimated coefficient on  $PRD$  when there is no actual correlation between  $PRD$  and the relevant variables. In this case the estimate will not be biased but still has probability of a type-II error.

We also include more variables in the above model to test the earnings management relative to the accounting standards. ( $ASD_{i,t}$ ), another dummy variable, is included to test the effect of relative compliance with international accounting standards. The variable ( $ASD_{i,t}$ ) takes the value of 1 if the particular firm-year is from a company that prepares its accounts according to IFRS or US GAAP and zero if it follows RAS:

$$DAP_{i,t} = a + b_1PRD_{i,t} + b_2ASD_{i,t} + e_{i,t}. \quad (9)$$

Earlier research in earnings management has documented that the reliability of the disclosed earnings of a firm is significantly affected by the overall disclosure practices in the industrial sector to which it belongs (see e.g. Healy, 1985; Jones, 1991; Dechow *et al.*, 1995). Hence, we include a third variable to control for any effects related to a particular industrial sector ( $IND_{i,t}$ ). To test the relative impact of each industrial sector in our analysis, a variable takes the value of 1 if the observation is from a particular industry and zero for all others. The four major industrial sectors tested are i) ferrous metal, ii) oil and gas iii) power and iv) telecommunications.

$$DAP_{i,t} = a + b_1PRD_{i,t} + b_2ASD_{i,t} + b_3IND_{i,t} + e_{i,t}. \quad (10)$$

The coefficients  $b_1$ ,  $b_2$  and  $b_3$  provide relatively reliable measures and also help to minimize the problem of non-identification of other relevant variables omitted from the original Equation 5. We try to provide better testing estimates of earnings management in the presence of two other potentially relevant control variables that can cause rather unbiased estimation. The industry effect and accounting practices effect have been the reason for differential earnings management in other parts of the world. We expect an insignificant coefficient for period ( $PRD_{i,t}$ ) after controlling for accounting standards and industrial effects.

To address the issue of misspecification and firm-specific omitted variables addressed above, we also used the panel data model developed by Swamy (1970) called as the “Swamy Random Coefficient Model” along with cross-sectional regression. One could argue that there is a tendency of the problem of other correlated omitted variables and also firm-specific characteristics that may affect the accruals. We discuss this problem by using a firm-specific analysis approach where parameters of Equation 10 are estimated. At least 4 years of data is required for each firm to estimate the firm-specific parameters, hence, reducing the total number of firm-year observations to 305 for 66 firms during the whole time period.

### **3.2.1. Absolute discretionary accruals as an earnings management measure**

Earnings management is measured by the extent of discretionary accruals in absolute terms, considering the fact that the earnings management can be positive (income inflating) and negative (income deflating). Hence, it is important to detect both directions of earnings management. This absolute measure of earnings management is used by several other studies (see e.g. Warfield *et al.*, 1995; Bartov *et al.*, 2001; Klein, 2002; Gabrielsen, *et al.*; 2002; Jiraporn *et al.*, 2008) as a proxy for the combined effect of a positive and negative earnings management. The absolute value of discretionary accruals represents the inverse of the quality of the disclosed earnings. A higher value of absolute DA means more use of discretion over the reported earnings and thus lowers the quality of the disclosed earnings and vice versa. Leuz *et al.* (2003) and Francis *et al.* (2005) argue that using absolute measure is beneficial where archival data is limited, such as in international settings or when using hand-collected data, or while estimating the broader consequences associated with greater likelihood of managing earnings.

This analysis helps us in identifying the difference in mean between two periods as well as among major industrial groups. Earnings management can be used to manage earnings both upward and downward. Total level of earnings management is represented by the absolute value of discretionary accruals ( $|DAP_{i,t}|$ ). The Jones (1991) model detects the earnings management as a result of a relative event. The sign of the coefficient on the partitioning variable ( $PRD$  in our case) shows the direction of earnings management. Hence, finding a significant and negative coefficient on our partitioning variable tests our null hypothesis of “no earnings management after the reforms”. Furthermore, using absolute values of discretionary accruals as exogenous variables helps us to identify the determinants of the earnings management across two time periods.

## 4 RESULTS

The results presented in this section describe the estimated parameters of the models discussed in the previous section. The parameters of Equation 3 are shown in Table 3, Panel B. We measured the non-discretionary accruals using these estimated parameters to find out how the discretionary accruals behave in the whole time period, i.e. the pre-reform period and post-reform period. During the pre-reform period the explanatory variables do not have a strong correlation (8.9%, 1.3% and -10.3%, respectively) with total accruals. However, correlation of firm characteristics with the accruals increases in the post-reform period (32.6%, 48.2% and -31.1%). The one period lagged total assets, change in revenues minus change in receivables and fixed assets do not explain the non-discretionary part of accruals in the pre-reform period. The estimated coefficients in the post-reform period show that change in firm characteristics explain total accruals and non-discretionary accruals significantly. Relatively high correlation between firm characteristics and non-discretionary accruals in the post-reform period may also explain the use of systematic accounting practices and better disclosure. We know that compliance with IFRS and US GAAP increased substantially during the post-reform period. Thus, firm characteristics should have a higher impact on non-discretionary accruals. The non-discretionary part of accruals was not captured by firm characteristics during the pre-reform period. This does not infer that all accruals in the pre-reform period were discretionary but raises the possibility that unobservable factors may have more explanatory power during the pre-reform period than firm characteristics. Factors such as compliance with international accounting standards and industrial sector may have deterministic characteristics during the pre-reform period. We test for these factors affecting the magnitude of earnings management during both periods. We base our estimates on period-specific parameters in the Jones model, putting all firm-years in one period into one group and then comparing it with the group of firm-years in the second period. This further strengthens the hypothesis of lower quality of earnings before reforms. We also tested the firm-level characteristics affecting the quality of earnings while checking for robustness where we do not segregate the firms into two periods. We calculated the firm-specific parameters of Equation (3) in a cross-sectional model.

Figure (2) shows discretionary and absolute discretionary accruals of Russian companies from 1999 to 2003, showing both yearly averages and negative discretionary accruals in 2002 and 2003. Positive (income enhancing) discretionary accruals in the pre-reform period turn into negative (income decreasing) discretionary accruals in the post-reform period. However, in absolute terms, there is no significant change in the values between the periods, indicating consistent earnings management practices throughout the whole sample period. The quality of disclosed earnings is worst in 1999, most of it driven by inflating earnings management. The change in the direction of earnings management after corporate governance reforms raises more questions regarding the determinants of earnings management during both periods. We try to test the determinants of positive earnings management during the pre-reform period and negative earnings management during the post-reform period in the next section of the paper.

**Table 3 Descriptive statistics of variable in regression and estimates in both pre-reform and post-reform period as well as total period**

The table shows the descriptive statistics (Panel A) of variables used to estimate the modified Jones model discretionary and non-discretionary accruals and estimated panel regression coefficients (Panel B) of each variable in pre-reform, post-reform and total periods. The dependent variable is Total Accruals (*TAC*) and the explanatory variables are one-period lagged total assets scaled to one ( $1/A_{t-1}$ ), change in total revenues minus change in short-term accounts receivables ( $\Delta REV\_AREC$ ), property, plant and equipment (*PPE*). Both ( $\Delta REV\_AREC$ ) and (*PPE*) are divided by one period lagged ( $t-1$ ) total assets. Pre-reform period starts from the year 1999 and end at the year 2001 and post-reform period starts from the year 2002 and ends at the year 2003. Panel A shows the mean, median, standard deviation, spearman rank correlation coefficients ( $\rho_{xy}$ ) between dependant variable (*TAC*) and individual explanatory variable (*X*) and *t*-test for difference in mean between pre-reform and post-reform periods. Panel B shows the mean coefficients, standard error and corresponding z-statistics of panel data regressions with year and industry fixed effects for pre-reform, post-reform and total periods.

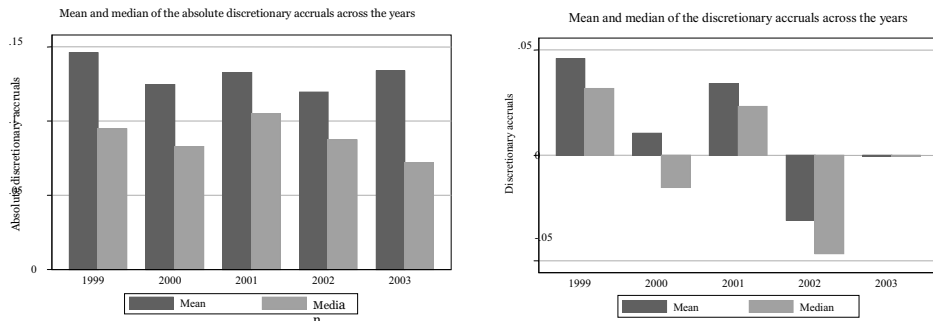
Panel A	Pre-reform Period				Post-reform Period				Total Period				
	Mean (Median)	Std Dev	Correlation ( $\rho_{xy}$ )	Mean (Median)	Std Dev	Correlation ( $\rho_{xy}$ )	Pre - Post Mean (t-stat)	Mean (Median)	Std Dev	Correlation ( $\rho_{xy}$ )	Mean (Median)	Std Dev	Correlation ( $\rho_{xy}$ )
<i>Dependent Variable (Y)</i>													
TAC	0.007 (-0.016)	0.182		-0.036 (-0.060)	0.206		0.043** (2.12)	-0.011 (-0.037)	0.194				
<i>Explanatory Variables (X)</i>													
$1/A_{t-1}$	0.004 (0.002)	0.009	0.089	0.004 (0.002)	0.006	0.326***	0.001 (1.08)	0.004 (0.002)	0.008	0.174***			
$\Delta REV\_AREC$	0.047 (0.075)	0.353	0.003	0.145 (0.117)	0.248	0.375***	-0.099*** (-3.01)	0.089 (0.105)	0.315	0.169***			
PPE	0.683 (0.637)	0.294	-0.103	0.718 (0.674)	0.277	-0.311***	-0.035 (-1.16)	0.698 (0.661)	0.287	-0.201***			
<i>Regression estimates</i>													
$TA_t = a_1(1/A_{t-1}) + a_2(\Delta REV\_AREC_t) + a_3(PPE_t) + \epsilon_t$													
Panel B	Mean	Std. error	z-stat	Mean	Std. error	z-stat	Mean	Std. error	z-stat	Mean	Std. error	z-stat	
$1/A_{t-1}$	2.420	1.450	1.669*	7.147	2.212	3.232***	5.372	1.228	4.375***				
$\Delta REV\_AREC$	0.024	0.037	0.660	0.354	0.049	7.211***	0.134	0.030	4.503***				
PPE	-0.017	0.020	-0.852	-0.173	0.020	-8.457***	-0.079	0.015	-5.322***				

\* significant at 10% level of significance

\*\* significant at 5% level of significance

\*\*\* significant at 1% level of significance

However, there is no indication of a better quality of earnings after the corporate governance reforms in absolute terms. The listed firms in Russia had inflated performance after the Russian financial crisis of 1998, meaning companies needed more capital investment to build production facilities after the worst impact of the crisis. Companies tended to increase operating performance to be in a better position to raise financing for investment purposes. The negative discretionary accruals in the post-reform period may have been caused by the reversal of accruals (so-called earnings smoothing) after the economic shock was over or may also be attributed to active tax management.



**Figure 2 Mean and median of the discretionary accruals (DA) and absolute discretionary accruals (ADA) by Russian companies**

Table (4) shows the results of both cross-sectional and panel data models discussed in the previous section. The data in the table represents the impact of our partitioning variable (*PRD*), compliance with international accounting standards (*ASD*) and industrial sectors (*IND*) on the absolute value of the discretionary accruals. The coefficient on the period partitioning dummy variable is insignificant as it shows there is no statistical difference between the two periods in terms of the magnitude of the discretionary accruals. This strengthens the alternative hypothesis of no improvements in the quality of earnings with the introduction of the Corporate Governance Code in 2002. A consistent and significant variable that improves the quality of disclosed earnings is compliance with international accounting standards (*ASD*). This finding is consistent with earlier studies that show better quality of earnings for firms who use IFRS or US GAAP to report consolidated annual financial statements. Our findings indicate that Russian listed companies complying with IFRS or US GAAP manage less in terms of discretionary accruals and hence disclose relatively better and greater transparent operating performance than those complying with RSA. The structure of international accounting standards, which leaves little space for managers to manipulate earnings through accruals, has an impact on the quality of earnings in Russia similar to other countries. Moreover, two industrial groups, i.e. oil and gas, and power have shown a significant reduction in absolute mean values of abnormal discretionary accruals. The difference in mean for the ferrous metal and telecommunications sectors is statistically equal to zero, meaning no improvement in the quality of earnings as compared to other industrial sectors. The last column in Table (4) shows the results obtained by the Swamy (1970) Random Coefficient Panel data model using absolute discretionary accruals as a dependent variable.

**Table 4 Estimation of linear regression models using absolute discretionary accruals**

$$|DAP_{i,t}| = \hat{\alpha}_i + \hat{\beta}_1 PRD_{i,t} + \varepsilon_{i,t} \quad (\text{Model 1})$$

$$|DAP_{i,t}| = \hat{\alpha}_i + \hat{\beta}_1 PRD_{i,t} + \hat{\beta}_2 ASD_{i,t} + \varepsilon_{i,t} \quad (\text{Model 2})$$

$$|DAP_{i,t}| = \hat{\alpha}_i + \hat{\beta}_1 PRD_{i,t} + \hat{\beta}_2 ASD_{i,t} + \hat{\beta}_3 \sum_{j=1}^4 IND_{i,t} + \varepsilon_{i,t} \quad (\text{Model 3})$$

The table presents the estimates of regression analysis based on above models. The dependent variable  $|DAP_{i,t}|$  is the absolute value of discretionary accruals measured as modified Jones (1991) model. The period partitioning variable is  $PRD$ . The value of  $PRD$  takes the value of 0 if the observation is from pre-reform period during which a systematic earnings management is hypothesized and 1 if it is from post-reform period when no earnings management is hypothesized because of corporate reforms. The compliance with International Accounting Standards is captured by a dummy variable ( $ASD$ ), the value of  $ASD$  is 1 if the firm follows IAS/USGAAP while making the accounting statements and zero if it adopts RSA. Particular industrial sector is represented by  $IND$ , a dummy for industry as it takes value 1 if the firm belongs to a particular industrial sector and zero otherwise.

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4 (Panel data)</b>
PRD	-0.008 (-0.58) <sup>§</sup>	-0.006 (-0.49)	-0.009 (-0.68)	-0.016 (-1.10)
ASD		-0.052*** (-3.32)	-0.060*** (-3.67)	-0.062*** (-3.75)
IND-FM			-0.023 (-0.99)	-0.009 (-0.41)
IND-O&G			-0.054** (-2.34)	-0.052*** (-2.49)
IND-PWR			-0.055** (-2.57)	-0.052*** (-2.32)
IND-TEL			-0.028 (-1.09)	0.000 (0.005)
Intercept	0.133*** (13.34)	0.155*** (13.32)	0.190*** (10.57)	0.188*** (10.53)
<i>N</i>	366	366	366	305
<i>Adj. R</i> <sup>2</sup>	0.010	0.040	0.069	0.078

<sup>§</sup> Robust t-statistics are in parenthesis.

\* significant at 10% level of significance

\*\* significant at 5% level of significance

\*\*\* significant at 1% level of significance

The results support the previous research on earnings management such as Dechow *et al.* (1995) and Jones (1991). There is no evidence of improvement in the quality of disclosed earnings of Russian listed companies after the implementation of corporate governance reforms. Instead, it is evident that adoption of international accounting standards by Russian companies plays a part in reducing the use of discretionary powers of managers to manipulate reported earnings. This result corroborates with the



international evidence of an inverse relationship between earnings management practices and compliance with international accounting standards, the same as in Russia, where company reporting of financial statements in compliance with IFRS or US GAAP is negatively related to managers' discretion over the firms' resources.

To test the direction of earnings management during the post-reform period in various industrial sectors, we tested the model (Equation 10) with signed discretionary accruals as prescribed by Dechow *et al.* (1995). The results presented in Table (5) show that the partitioning variable (*PRD*) is significant (i.e. rejects the hypothesis of no earnings management in the post-reform period) and negative (i.e. shows the direction of earnings management during the post-reform period). The mean effect of the whole time period represented by an intercept is positive and significant for the first two models and positive but insignificant for Model 3. This positiveness is due to the weight of the pre-reform period that has significant positive discretionary accruals (income inflating earnings management). However, an insignificant intercept in the case of Model 3 emphasizes the potential effect of an industry variable. Addition of other variables in traditional earnings management models clearly increases the explanatory power of estimation. The mean intercept of Model 3 is much lower and insignificant due to inclusion of more potentially related variables like accounting standards and industry dummies. The problem of misspecification in the original Jones model (Model 1) is addressed in Models 2 and 3. The adjusted R-squares are 0.017, 0.019 and 0.058 respectively for all models, showing an increase in explanatory power of the models while addressing the effect of accounting standards and industrial sectors on overall quality of disclosed earnings. However, this does not offset the problem of misspecification completely.

The coefficient for international accounting standards (*ASD*) is insignificant, meaning that the model does not detect significant earnings management in those companies which report their annual financial statements according to IFRS or US GAAP. The analysis of four major industrial sectors shows quite interesting estimates of the relative parameters ( $\beta_3$ ). Ferrous metal companies are generally involved in inflating (positive) earnings management practices as compared to the telecommunications sector where managers significantly deflate (negative) earnings, possibly in order to avoid high dividends to shareholders and/or avoid higher tax rates. Moreover, we do not find any statistically significant evidence of the use of discretionary accruals in the power, or oil and gas sector, perhaps due to their international exposure and compliance with IFRS or US GAAP. Oil and gas companies including a few of the biggest and most influential including Gazprom, Lukoil and Yukos use IFRS or US GAAP. Therefore, their annual financial statements show much more transparent operating performance. The managers of the power sector firms, which are mostly controlled by regional governments, may have lower incentives of managing earnings since managers are appointed by the state and therefore tend to concentrate more on improving their reputation by being more loyal to the state. Another important factor is that these companies have better access to state funds for investment purposes than private companies in other sectors. However, we do not test the relationship between ownership structure and earnings management in this paper. This remains a topic for future research. The last column of Table (5) represents the results obtained by panel data analysis using Swamy Random Coefficient estimates where only 66 firms were used to fulfill the requirement of a minimum number of firm-years, i.e. 4. Panel data analysis was performed to check for the robustness of original models.

**Table 5 Estimation of linear regression models using discretionary accruals as exogenous variable**

$$DAP_{i,t} = \hat{\alpha}_i + \hat{\beta}_1 PRD_{i,t} + \varepsilon_{i,t} \quad (\text{Model 1})$$

$$DAP_{i,t} = \hat{\alpha}_i + \hat{\beta}_1 PRD_{i,t} + \hat{\beta}_2 ASD_{i,t} + \varepsilon_{i,t} \quad (\text{Model 2})$$

$$DAP_{i,t} = \hat{\alpha}_i + \hat{\beta}_1 PRD_{i,t} + \hat{\beta}_2 ASD_{i,t} + \hat{\beta}_3 \sum_{i=1}^4 IND_{i,t} + \varepsilon_{i,t} \quad (\text{Model 3})$$

The table presents the estimates of regression analysis based on above models. The dependent variable  $DAP_{i,t}$  is the discretionary accruals proxy measured as modified Jones (1991) model. The period partitioning variable is  $PRD$ . The value of  $PRD$  takes the value of 0 if the observation is from pre-reform period during which a systematic earnings management is hypothesized and 1 if it is from post-reform period when no earnings management is hypothesized because of corporate reforms. The compliance with International Accounting Standards is captured by a dummy variable ( $ASD$ ), the value of  $ASD$  is 1 if the firm follows IAS/USGAAP while making the accounting statements and zero if it adopts RSA. Particular industrial sector is represented by  $IND$ , a dummy for industry as it takes value 1 if the firm belongs to a particular industrial sector and zero otherwise.

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4 (Panel data)</b>
PRD	-0.052*** (-2.68) <sup>§</sup>	-0.051*** (-2.65)	-0.052*** (-2.76)	-0.058*** (-2.78)
ASD		-0.025 (-1.30)	-0.001 (-0.05)	-0.023 (-1.00)
IND-FM			0.047* (1.64)	0.072** (2.23)
IND-O&G			-0.018 (-0.61)	0.01 (0.35)
IND-PWR			0.019 (0.72)	-0.02 (-0.65)
IND-TEL			-0.104*** (-3.20)	-0.065 (-1.62)
Intercept	0.031** (2.48)	0.042*** (2.79)	0.034 (1.47)	0.031 (1.25)
<i>N</i>	366	366	366	305
<i>Adj. R</i> <sup>2</sup>	0.017	0.019	0.058	0.075

<sup>§</sup> Robust t-statistics are in parenthesis.

\* significant at 10% level of significance

\*\* significant at 5% level of significance

\*\*\* significant at 1% level of significance

#### 4.1. Determinants of Earnings Management

The results obtained in the previous section have raised more questions. One important finding in the previous section is that the direction of earnings management switched from positive (income inflating) to negative (income deflating) after 2001. We try to answer the following questions in this section: 1) What are the determinants of positive

and negative earnings management in Russia? 2) What is the reason for the switch of direction between the two time periods? The fact that our pre-reform period coincides with the post-Russian financial crisis period, may have an impact on the disclosure practices of Russian listed companies during our pre-reform period. Most of the companies had poor financial structures during the post-crisis period. During this time, companies struggled to obtain financing for long-term capital investment.

**Table 6 Determinants of positive and negative earnings management during whole period**

The table presents the estimates from regression analysis between negative ( $DA < 0$ ) and positive ( $DA > 0$ ) discretionary accruals and firm characteristics. *CAPEX* is the long-term capital investments scaled by lagged total assets. *PRD* is partitioning variable. The value of *PRD* takes the value of 0 if the observation is from pre-reform period during which a systematic earnings management is hypothesized and 1 if it is from post-reform period when no earnings management is hypothesized because of corporate reforms. The compliance with International Accounting Standards is captured by a dummy variable (*ASD*), the value of *ASD* is 1 if the firm follows IAS/USGAAP while making the accounting statements and zero if it adopts RSA. Particular industrial sector is represented by *IND*, a dummy for industry as it takes value 1 if the firm belongs to a particular industrial sector and zero otherwise.

	DA < 0	DA > 0
CAPEX	-0.045 (-0.78) <sup>§</sup>	0.252** (2.10)
PRD	-0.017 (-1.03)	-0.043* (-1.90)
ASD	0.042** (2.46)	-0.092*** (-3.70)
IND-FM	0.023 (0.86)	-0.044 (-1.37)
IND-O&G	0.024 (0.89)	-0.096*** (-3.00)
IND-PWR	0.044* (1.84)	-0.087*** (-2.71)
IND-TEL	0.006 (0.23)	-0.092 (-1.47)
Intercept	-0.141*** (-7.46)	0.232*** (7.68)
N	187	179
Adj. R <sup>2</sup>	0.049	0.153

<sup>§</sup> Robust t-statistics are in parenthesis.

\* significant at 10% level of significance

\*\* significant at 5% level of significance

\*\*\* significant at 1% level of significance

One possible reason of positive earnings management during the pre-reform period is that companies increased accruals to obtain internal financing for capital investment as well as external financing by showing inflated performance. Hence, companies with higher capital expenditures should have inflated their reported performance. This means we should expect a direct relationship between capital expenditure and positive discretionary accruals. Table (6) presents the results of our analysis where we test the

relationship between capital investment and positive and negative discretionary accruals. We also try to find other determinants of positive and negative discretionary accruals separately during the whole time period. It turns out that positive earnings management (i.e. where discretionary accruals are higher than zero) is explained by capital investments. *CAPEX*, which is capital expenditure divided by lagged total assets, shows a positive and significant coefficient in the cross-sectional regression analysis in relation to positive discretionary accruals.

Other factors that significantly determined positive earnings management are accounting standards and industry sector, i.e. the oil and gas, and power sectors. These significantly reduced the magnitude of positive earnings management by having a negative sign of the corresponding coefficient. In the case of negative earnings management, adoption of international accounting standards and power sector companies reduced the magnitude of the negative discretionary accruals by having an opposite (positive here) sign. This is consistent with our results discussed in the previous section. The adoption of international accounting standards proved to be an important determinant for improving the quality of reported earnings. It has a reverse effect on both types (positive and negative) of earnings management, thus reducing the magnitude of discretionary accruals. The corporate governance reform variable affected positive but not negative earnings management, but the effect is statistically very weak (significant only at the 10% confidence level).

To drill down the effects of these determinants of earnings management during both time periods, we analyzed these factors within each time period for both positive and negative discretionary accruals. Table (7) summarizes the results obtained from period-specific regression analyses. *CAPEX* had a positive relationship with income-inflating earnings management only in the pre-reform period and not in the post-reform period. In fact, none of our determinants could explain the positive or negative discretionary accruals except the power sector during the post-reform period. Surprisingly, the accounting standards compliance dummy (*ASD*) also remained an insignificant factor during the post-reform period. Almost half of the firm-year observations during post-reform period (45%) had IAS/US GAAP dummy but the results show that compliance dummy does not significantly explain the positive or negative discretionary accruals. However, the signs of the estimated coefficient of (*ASD*) are in the predicted direction for both positive and negative accruals during post-reform period. It is possible that there were other unobservable factors that triggered the use of negative discretionary accruals during post-reform period. One possible factor could be tax evasion. Although the Russian corporate tax rate was reduced from 35% to 24% effective from January 2002, the problem of tax evasion still remained pervasive (Rabushka, 2003).

Another factor behind the switch from positive to negative earnings management could be the reverting behavior of accruals. Discretionary accruals tend to reverse in future periods (Healy and Wahlen, 1999; Jiraporn, 2008). For example, understating the bad debt allowance results into more discretionary accruals that ultimately increases the current earnings. When the firm eventually recognizes the bad debts, the discretionary accruals reverse, thereby decreasing future earnings. Thus, the income-increasing effect of the discretionary accruals is later offset by the income-decreasing effect of the reversal. Leuz *et al.* (2003) call this managerial earnings smoothing when managers try to hide the current poor performance if future earnings are expected to grow. Similarly, inflated earnings from previous years should be gradually smoothed to bring the actual earnings to a normal and consistent level. We therefore, cannot make any explicit assumption about the direction of discretionary accruals during the post-reform period.

**Table 7 Determinants of positive and negative earnings management during pre-reform and post-reform periods**

The table presents the estimates from regression analysis between negative ( $DA < 0$ ) and positive ( $DA > 0$ ) discretionary accruals and firm characteristics during each time period. *CAPEX* is the long-term capital investments scaled by lagged total assets. The compliance with International Accounting Standards is captured by a dummy variable (*ASD*), the value of *ASD* is 1 if the firm follows IAS/USGAAP while making the accounting statements and zero if it adopts RSA. Particular industrial sector is represented by *IND*, a dummy for industry as it takes value 1 if the firm belongs to a particular industrial sector and zero otherwise.

	Pre-reform		Post-reform	
	DA < 0	DA > 0	DA < 0	DA > 0
CAPEX	-0.072 (-0.82) <sup>§</sup>	0.346** (2.17)	-0.053 (-0.69)	0.127 (0.66)
ASD	0.052** (2.20)	-0.119*** (-3.81)	0.031 (1.19)	-0.062 (-1.49)
IND-FM	0.039 (1.13)	-0.091** (-2.20)	-0.001 (-0.02)	0.019 (0.39)
IND-O&G	0.013 (0.41)	-0.106** (-2.55)	0.058 (1.25)	-0.076 (-1.46)
IND-PWR	0.105*** (2.94)	-0.080** (-2.12)	0.003 (0.08)	-0.141** (-2.31)
IND-TEL	0.019 (0.61)	-0.092 (-1.51)	-0.011 (-0.31)	NIL
Intercept	-0.154*** (-6.91)	0.244*** (6.82)	-0.137*** (-4.75)	0.174*** (3.78)
<i>N</i>	97	110	90	69
<i>Adj. R</i> <sup>2</sup>	0.128	0.202	0.039	0.166

<sup>§</sup> Robust t-statistics are in parenthesis.

\*\* significant at 5% level of significance

\*\*\* significant at 1% level of significance

## 5 CONCLUSION

The study of earnings management and corporate governance reforms in Russia reveals some interesting facts about managerial discretionary powers to misrepresent the actual performance of firms. The corporate governance reforms of 2002 including introduction of the Corporate Governance Code 2002 and the revised Law on Joint Stock Companies 2002 were meant to bring corporate transparency and accuracy into earnings disclosures. These reforms, however, failed to bring about improvement in the quality of disclosed earnings in Russian listed firms. Using well-known and reliable accrual-based models to detect earnings management, this paper provides evidence that the quality of disclosed earnings reflected by the inverse of the absolute value of the discretionary accruals was not affected by the introduction of corporate governance reforms in Russia. Instead, there are various other factors such as compliance with international accounting standards, long-term capital investment and industrial sectors which played a role in determining the quality of earnings before and after the reforms.

Firms that prepare their financial statements according to international standards have better quality of earnings than those using RSA. This trend is consistent for both sides of earnings management, i.e. positive and negative. The effect of international accounting standards is much more significant in the pre-reform period than the post-reform period. Although there were fewer firms in pre-reform period adopting IAS or US GAAP, this jumped to almost 45% of all listed firms during post-reform period. There is no particular preference among the type of firms for adopting either IFRS or US GAAP. Most oil firms use US GAAP while IFRS is popular among state-owned firms in the oil and gas, and telecommunications sectors. A decision by the “Duma” announced by Ex-President Vladimir Putin on July 25, 2002, for all Russian listed firms to report their financial statements in accordance with IFRS from the start of the year 2004 was a positive step towards an improved disclosure environment and less expropriation.

The period of analysis of this paper includes the post-crisis period in Russia which affected the whole economy, especially the corporate sector. During this time, listed firms in Russia struggled to get external financing to run their operations and expand their existing business facilities. It was quite difficult for small and privately-owned firms to raise money for their operations. Hence, this study shows that firms which had high long-term capital investment had inflated their earnings during the pre-reform period. This relationship was non-existent in the post-reform period. Earlier literature shows that firms tended to manage their earnings upward before issuing debt or equity. Firms did this not only to attract the market but also to be able to negotiate better terms with suppliers of finance. It may also be the case that firms, which were spending more on fixed assets to expand their production facilities had more depreciation to accrue during our pre-reform period.

This study shows that the ferrous metal and telecommunications sector firms have worse quality of earnings than the other industrial sector firms. The ferrous metal sector has positive (income enhancing) and telecommunications sector negative (income decreasing) discretionary accruals. However, ferrous metal firms had lower discretionary accruals among those who had positive discretionary accruals during the pre-reform period. The telecommunications is the sector with the worst quality of earnings both in terms of positive and negative discretionary accruals. It did not show any impact within either of the two time periods. Telecommunications is the sector with the highest rate of growth after the Russian crisis of 1998. Most Russian

telecommunications companies are now widely owned by private investors and international companies, who want to avoid heavy taxes and dividends to shareholders. These companies are growing rapidly and need more financing for long-term investment projects including new setup and expansion of existing networks and facilities for future business.

On the other hand, firms belonging to the power, and oil and gas sectors had better quality of earnings than firms of the other sectors, power sector firms being the better of the two in having lower discretionary accruals (both positive and negative). It is evident, however, that the significantly better quality of earnings was only in the pre-reform period and not in the post-reform period. Oil and gas firms who managed earnings upward (positive accruals) during the pre-reform period have lower discretionary accruals. There is no significantly different pattern of quality of earnings of the oil and gas sector firms in the post-reform period. Firms belonging to the oil and gas, and power sectors are the biggest in size and are monitored well by the analysts, leaving fewer opportunities for managing earnings. Compliance with IFRS or US GAAP by these companies may also restrict them from over- or under-representation of actual performance.

Corporate governance influences business culture, which cannot change overnight. This is particularly relevant in Russia, since it has only several years to catch up with countries that have been traveling down the same road for centuries. Progress in corporate governance can be made through the pooled efforts of companies interested in increasing their effectiveness and in forming a civilized market, as well as of the business community and government agencies. Our study highlights the greater importance of internal power to control cash flow, to seize the initiative in management strategies and to prevent state's involvement. Recent revision of OECD Principles of Corporate Governance and Guidelines of corporate governance for state-owned enterprises should have an impact. Future research in this area is needed after a reasonable time has passed, when all the existing reforms along with those newly-introduced have been implemented and have taken effect.

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ESSAY # 2



## CORPORATE OWNERSHIP, CONTROL, AND THE INFORMATIVENESS OF DISCLOSED EARNINGS IN RUSSIAN LISTED FIRMS

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### ABSTRACT

Many problems of corporate governance in Russia are beyond the scope of classical agency theory because of the highly concentrated ownership structures. Using an ownership and financial dataset from UBS Brunswick, we show that the use of accrual-based accounting in Russia has resulted in lower informativeness of earnings. The opportunistic earnings management hypothesis holds where majority shareholders (controllers) enjoy short-term benefits of manipulating accounting numbers. Interestingly, the returns (net of market) increase when the use of discretionary accruals to manage earnings increases in firms controlled by either the state or oligarchs. However, such a relationship does not exist when ownership is accumulated without control. We also found that state-owned companies use less discretionary accruals than other controlling groups. We do not find any evidence supporting the performance measure hypothesis where firms manage earnings by discretionary accruals to offset the over- or under-reaction of economic shock. Highly-leveraged firms tend to have a positive relationship between earnings management and returns, size and growth reflecting negative informativeness of earnings. The findings reveal the nature of the concentrated ownership structure in Russia, where controlling owners not only achieve personal targets by over- or understatement of disclosed earnings, but also obtain a positive response from the market. However, this market benefit can only be achieved with effective control.

*JEL Codes:* G30, G32, M41

*Keywords:* Ownership structure, earnings management, accruals, disclosure quality, Russia, corporate governance

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## 1 INTRODUCTION

Accounting earnings that according to the value relevance theorem reflect the true economic performance of a company should be priced systematically into the market value of equity. Dechow (1994) emphasizes the importance of disclosed earnings as a summary measure of the performance of a firm used by a wide variety of users. Unexpected high earnings increase stock market returns and abnormally low performance decreases returns. This reported performance should be priced accurately and timely, resulting in a direct relationship between accounting performance and market returns. There are alternative views as to why this relationship does not hold. First, conflicts between shareholders (providers of financing) and managers (users of financing) in an agency theory perspective have an effect on the quality of disclosed earnings. Managers may extract private benefits by manipulating the actual performance of a firm and thus may expropriate firm value (see e.g. Berle and Means, 1932; Jensen and Meckling, 1976). This owner-manager conflict in a diffused ownership environment transforms into a conflict between the majority shareholder (controlling group) and minority shareholders (see e.g. Fan and Wong, 2002) in a concentrated ownership environment. Managers in this case combine their incentives of manipulation with the majority shareholder to extract private benefits of control. There are, however, costs associated with earnings management, such as the stock price market reaction and legal threat from monitoring agencies. This cost-benefit analysis and the extent of ownership concentration determine the extent of earnings management.

Controlling owners may commit to a low equity investment while maintaining tight control of the firm, creating a separation of control and ownership. Burkart *et al.* (1997) model entrenchment as an agency cost of separation of ownership and control if there is a separation between voting and cash flow rights, i.e. when voting rights and cash flow rights diverge. The lower cash flow rights may then fail to provide sufficient incentives alignment to mitigate the entrenchment effect. Consequently, earnings become less informative for stock prices when control exceeds ownership. Therefore, the type of controlling shareholder and the extent of control (voting rights) also explains the variations in cross-sectional firm performance, and in the relevance of disclosed performance indicators (see e.g. La Porta *et al.*, 1999; Claessens *et al.*, 2000), thus explaining the quality of earnings.

The agency problem may also exist among large shareholders, since the interests of the controlling owner may divert from the interests of the other large owners. This problem is likely to be more severe when voting rights differ from cash flow rights. Hence, not only the control but levels of ownership by other large shareholders are also a useful tool for detecting earnings management.

A second aspect of low quality of earnings relates to the institutional and legal framework of a country, affecting firm-level quality of disclosures. According to Fan and Wong (2002), globalization and harmonization of international accounting standards may have increased the quantity of accounting information, but investors still have reservations about the quality of that reported information. It is commonly believed that rapid transition and globalization have had an adverse effect on the quality of earnings. However, recent studies by Ball *et al.* (2000), and Ali and Hwang (2000) argue that in addition to accounting standards, features of the institutional environment such as corporate governance and legal systems can also explain differences in the quality of accounting information across countries.

The purpose of our study is threefold: First, to differentiate earnings management with respect to different controlling groups; second, to test the value relevance of disclosed earnings in line with both the performance measure and the opportunistic earnings management hypotheses; and finally, to test the hypotheses on the incentives for different controlling groups in managing the company's reported earnings. This study also tries to understand the causes and circumstances of the significant undervaluation of Russian firms in line with the value relevance theorem, which predicts a direct relationship between a firm's performance and its stock market return. The study contributes in a number of ways: First, it provides evidence on a link between earnings management and corporate control in Russia. Second, it provides evidence of the adverse effects of inefficient measures of privatization undertaken in Russia. Finally, the results support the role of government and its enforcement agencies to protect the rights of minority shareholders and to improve investor confidence.

We recognize the benefit associated with earnings management when there is no divergence between cash and voting rights. Gaining effective control of a firm enables the controlling owner to entrench itself by diverting resources for private benefits. Once the effective control is obtained, any increase in voting rights does not further entrench the controlling owner. Moreover, higher cash flow rights in the firm cost more to divert the firm's cash flows for private gain. Gomes (2000) argues that high ownership concentration can also serve as a credible commitment that the controlling owner is willing to build a reputation for not expropriating minority shareholders. The entrenchment effect of the controlling owner is mitigated by the alignment effect. The market reacts to earnings announcements and the information is often incorporated prior to actual disclosure. Hence, investors form their portfolios on the basis of available information. Managers then try to meet those expectations in order to gain the investors' confidence. As a result, the value of the investment increases. Cohen *et al.* (2008) provide some insights into the positive aspects of earnings management. However, they also find earnings management during implementation of the Sarbanes Oxley Act and after, relating it to dramatic increases in the portion of compensation derived from executive stock options.

In the Russian case, the most significant issue to explore is the extent of earnings management in a pyramidal and cross-holding structure. Keeping in view the entrenchment and alignment effects of concentrated ownership in Russia, earnings management in Russian listed firms is a means of extracting private benefits. The scandal of Yukos Oil Company has encouraged big private firms to disclose as much information as possible to the outside world more than ever before (see e.g. Black *et al.*, 2006). The Yukos scandal highlighted the earnings management practices of large-scale private companies in Russia for tax evasion and the lack of effectiveness of government policies to prevent or stop such expropriation<sup>1</sup>. There may be many factors driving managerial practices, like value-enhancing measures before initial public offering (IPOs) and CEOs, private benefits extraction including management entrenchment plans, performance based wages, insider trading and other compensation plans which are beyond the scope of this paper.

We present the explanations for differential informativeness of earnings on stock market returns. Our results show that state-owned companies have a relatively better

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<sup>1</sup> The financial statements of Yukos Oil Company in 1996 showed a revenue of US\$8.60 per barrel, about US\$4 per barrel less than it should have been. CEO of Yukos, Mikhail Khodorkovski, skimmed over 30 cents per U.S. dollar of revenue while stiffing his workers on wages, defaulting on tax payments, destroying the value of minority shareholders and not re-investing in Yukos' oil fields (see Black *et al.* 2006 for more details).

quality of earnings. The hypothesis on entrenchment (short- and long-term goals of oligarchs and the state for extracting benefits) from the direct analysis of earnings management and ownership structure is supported, whereas, we do not find support for the alignment effect to minimize the entrenchment effect. We further show that the opportunistic earnings management hypothesis is supported for Russian listed firms. The negative correlation of discretionary accruals with stock returns shows that companies are involved in earnings management where the controlling shareholder manages accruals generally to hide poor performance or to postpone a portion of unusually good current earnings to future years in line with Healy (1985), DeAngelo (1986) and Guy *et al.* (1996). Companies do not use discretionary accruals to offset the over-reaction of non-discretionary accruals, as we do not find any significant positive or negative relationship between non-discretionary accruals and stock returns. Finally, pooled regression analyses show that given the type of controlling owner, the earnings correlate positively with market-adjusted returns, whereas the levels of cash flow rights of oligarch and foreign corporations decrease stock returns at a given level of earnings management. We do not find any evidence supporting the alignment effect hypothesis since the divergence between cash flow rights and voting rights does not show any significant relationship with stock returns at any level of earnings management.

This paper continues as follows: Section 2 presents the motivations and bases for our hypotheses according to the literature. Section 3 describes the emergence of the concentrated ownership environment in Russia and how a few controlling groups obtained power over major Russian companies during privatization. Section 4 describes the data and methodology used in the study. Section 5 presents the results of our analysis. The paper concludes with Section 6.



## 2 MOTIVATION AND HYPOTHESES

Russia provides a testing ground for the impact of weak shareholder protection on the value relevance of reported earnings. The strong affiliations between large owners and managers persist in Russia. The expropriation of minority rights by large shareholders has been common. They can divert the resources of the firm for private benefits and hence dilute the value of shares held by outside minority shareholders. This section discusses the factors that helped shape the concentrated ownership structure in Russia and how this ownership structure may employ entrenchment and incentive alignment mechanisms to manipulate reported performance (see e.g. Morck *et al.*, 1988). Furthermore, we discuss the second hypothesis on earnings informativeness of stock market returns including both the performance measure and the opportunistic earnings management hypotheses on the earnings process. Finally, we discuss the hypothesis on the relationship between ownership structure and earnings informativeness.

### 2.1. Hypothesis on Ownership Concentration and Earnings Management

In economies where the state does not effectively enforce property rights, enforcement by individual owners plays a relatively more important role in determining share value. The bulk of property rights literature provides a general framework for analyzing the determinants of corporate share ownership structure. This strand of literature emphasizes the roles of customs, and social and legal systems in determining the property rights structure and governance systems in Russia (see e.g. Coase, 1960; Demsetz, 1964; Cheung, 1970, 1983; and Eggertsson, 1990). The owner of shares is entitled to three categories of property rights: (i) voting rights, i.e. the owner has the decision right over the utilization of corporate assets; (ii) cash flow rights, i.e. the owner has a right to earn income; and (iii) transfer rights, i.e. the owner has a right to transfer shares to another party. The effective enforcement of these property rights determines the value of shares. Shleifer and Vishny (1997) and LaPorta *et al.* (1999) argue that investors' rights attached to the security they are buying are important for the valuation of their shares, especially when managers (a controlling group) act in their own interests.

Fan and Wong (2002) report that in economies where the state does not effectively enforce property rights, the enforcement by individual owners plays a relatively more important role. Shleifer and Vishny (1997) further elaborate that the benefits from concentrated ownership are relatively greater in countries that are generally less developed, where property rights are neither well defined nor protected. Benefits include incentives of control, contracting and entrenchment activities.

Berle and Means (1932), and Jensen and Meckling (1976) argue that insiders do not have full cash flow rights but significant controlling rights of the firm. These rights intensify the need to analyze the ownership structure with respect to earnings management and valuation to measure the extent of the agency problem. This conflict of interest between outside shareholders and managers who own a small portion of equity in a diffused ownership environment - as in the U.S., U.K. and other Western economies - is shifted between the controlling owner (who possesses more than 50% of the voting rights) and the minority shareholders in a concentrated ownership environment like Russia. In this case, the controlling shareholder controls and manages the resources of companies to achieve both entrenchment and alignment incentives by

depriving the rights of minority shareholders. The controlling group joins power with the management of the company to divert the resources and manipulate the reported earnings, further leading to significant undervaluation of companies. Thus, it is important to understand the effect of concentrated ownership on earnings management activities before making direct assessment of earnings informativeness.

In line with previous research, we attempt to investigate earnings management in a highly concentrated ownership environment where few controlling groups prevail in the market. We test the entrenchment effect of control by analyzing the correlations of controlling owner type and discretionary accruals. Additionally, we look into the alignment effect of control, i.e. whether the divergence between voting and cash-flow rights is associated with earnings management. One possible factor to minimize the entrenchment effect of the majority shareholder is to obtain sufficient voting rights. Once the controlling owner obtains effective control (more than 50% voting rights) of the firm, any further increase in the voting rights does not further entrench the controlling owner. However, the controlling owner's higher cash flow rights in the firm mean that it will cost more to divert the firm's cash flows for private gain. Hence, we hypothesize that both levels and types of controlling owner explain the earnings management practices of companies.

In Russia, there are three main controlling ownership types in 90% of Russian listed companies: the state, oligarchs and foreign corporations. Managers in Russia are associated with the controlling shareholder so we expect the managers' stake in ownership to have the same relationship with the quality of earnings as that of the controlling shareholder. The state in Russia owns many of the oil and gas, power and energy firms and has long-term goals to enhance the value of those companies. State-owned companies tend to be involved in positive (income enhancing) earnings management because state-owned companies have incentives to increase the share valuation to get maximum pay offs in the case of subsequent privatization. Most of the state-owned companies are potential targets for privatization; hence the state has incentives to do positive earnings management. On the other hand, oligarchs who already control the firm are expected to have a lower fear of being taken over, so they go for short-term goals of tax management. Therefore, we expect oligarch-owned companies to be involved in negative (income decreasing) earnings management. Companies owned by foreigners may exhibit similar short-term earnings management for tax evasion or self-dealing through their holding companies.

The same arguments hold for the levels of cash flow rights of these majority shareholders. The entrenchment effect decreases with the increase in the level of the ownership stake beyond the minimum level needed for effective control. This implies that there are lower private benefits from diverting company resources when cash flow rights increase.

## **2.2. Hypothesis on Earnings Management and Stock Returns**

In an external corporate governance context, the legal system and corporate governance mechanisms of a country also play a significant role in determining the value of the companies, especially in emerging markets. La Porta *et al.* (2002) argue that the absence of strong legal protection and other external governance mechanisms in many emerging economies increases the problem of agency conflicts between insiders and outsiders. Similarly, Hung (2001) shows that the use of accrual-based accounting negatively affects the value relevance of financial statements. However, this

negative effect does not exist in countries with strong shareholder protection. Hence, it is important to understand the causes and circumstances of significant undervaluation of firms in line with the value relevance theorem in transition markets. In this section, we discuss the two different value relevance hypotheses of disclosed earnings: the performance measure hypothesis and the opportunistic earnings management hypothesis. Accounting earnings that according to the value relevance theorem reflect the true economic performance of a company should be priced systematically into the market value of equity. Unexpected higher earnings increase stock market returns and vice versa. The performance measure hypothesis states that reported performance is priced accurately and timely, resulting into a direct relationship between accounting performance and market returns. Managers use discretionary accruals as part of the total earnings to produce a reliable and more timely measure of firm performance than cash flows (e.g., Watts, 1977; Watts and Zimmerman, 1986; Beaver, 1989; Dechow, 1994; Dechow *et al.*, 1998). The opportunistic earnings management hypothesis states that managers use discretionary accruals opportunistically to hide poor performance or postpone a portion of abnormally good performance for future periods (e.g. Healy, 1985; DeAngelo, 1986).

In an efficient market, capital market participants use all available information to form unbiased expectations of future cash flows in setting security prices. The disclosed earnings contain accruals and cash flows. The earnings would also follow a random walk process similar to that of prices if current accruals anticipate future cash flows to the same extent as the market and prices equal the present value of the current earnings. Guy *et al.* (1996) argue that the estimated earnings coefficient in regression with future earnings is smaller because of the deviations from the random walk property and because of the market's anticipation of future earnings beyond the information in the past time series of earnings.

To develop predictions under the performance measure hypothesis, we assume that discretionary and nondiscretionary accruals anticipate future cash flows to the same extent as the capital market. Accruals, those are discretionary from the standpoint of the application of U.S. Generally Accepted Accounting Principles (GAAP) is also hypothesized to anticipate future cash flows because of the influence of efficient contracting and control mechanisms. According to the performance measure hypothesis, managers employ discretionary accruals to include as much of the impact of current economic events into current reported earnings as possible. Assume that current earnings over-react and thus successive nondiscretionary earnings changes are negatively serially correlated. The performance measure hypothesis predicts that managers use discretionary accruals to eliminate the overreaction. Reported earnings include the shock's net effect in the current period. Reported earnings then follow a random walk and reflect long-term earnings expectations. Discretionary accruals under the performance measure hypothesis, assuming a shock to the underlying earnings process, are always perfectly (positively or negatively) correlated with the shock and stock returns. So, we expect discretionary accruals to correlate with stock returns. The sign of the correlation under the performance measure hypothesis depends on whether nondiscretionary earnings include an over- or under-reaction to the economic shock. If they include an over-reaction, a discretionary accrual with an opposite sign offsets the shock and the discretionary accrual correlates negatively with the shock and stock return. On the other hand, if nondiscretionary earnings under-react to the shock, the discretionary accrual magnifies that under-reaction. Thus the discretionary accrual correlates positively with the shock and stock return.

According to the opportunistic earnings management hypothesis, the discretionary accrual is expected to reverse in future periods, and nondiscretionary earnings are also expected to decline. This produces a negative serial correlation in successive earnings changes. The opportunistic discretionary accrual seeks to undo the shock to the underlying earnings process. The opportunistic accruals smoothen earnings temporarily. For example, in the case of a bad news shock, unless underlying earnings exhibit a reversal in the future, the manager potentially faces “accrual bankruptcy” and low future earnings. This outcome is likely because the current period’s opportunistic accruals must reverse and there are limited opportunities for the manager to prevent a reversal, particularly if earnings are forecasted to exhibit a further decline. The problem is, however, mitigated in the case of a bad news shock if the firm has employed conservative accounting policies in the past. On the other hand, if the current shock is good, and the firm has pursued conservative accounting policies in the past, the likelihood of facing “accrual bankruptcy” is exacerbated.

If nondiscretionary earnings overreact - i.e. earnings in the next period are expected to reverse - then the discretionary accrual that partially offsets the shock is also consistent with the performance measure hypothesis. Thus, in the case of earnings overreaction to economic shocks, the performance measure and the opportunism hypotheses cannot be discriminated. According to the opportunistic earnings management hypothesis, the discretionary accrual offsets the shock to nondiscretionary earnings. Therefore, it correlates negatively with stock returns.

### **2.3. Ownership Structure and Earnings Informativeness**

To develop a hypothesis on ownership structure and informativeness of reported earnings, we discuss some arguments in line with entrenchment alignment and information effects. The controlling entrenched owner not only controls the firm but also operates its reporting policies, reducing the credibility of the reports. The credibility of reports is expected to be even lower with increase in the difference between cash flow rights and voting rights (Fan and Wong, 2002). The outside investors do not trust reported earnings because the tendency of the majority or controlling owner to manipulate performance is directly related to the extent of their ownership stake. The controlling owner may manipulate earnings for expropriation purposes. Gaining effective control of a firm enables the controlling owner to entrench themselves by diverting the resources for private benefits. The level of cash flow rights with or without effective control reduces the reputation of the disclosed information. The entrenchment effect of the controlling owner is mitigated by the alignment effect. Once effective control is obtained, any further increase in voting rights does not further entrench the controlling owner. Moreover, higher cash flow rights in the firm cost more to divert the firm’s cash flows for private gain. Thus effective control and the type of controlling owner are associated with the informativeness of disclosed earnings. In line with Gomes (2000), we expect that the controlling owner is willing to build a reputation for not expropriating minority shareholders. If the controlling owner unexpectedly extracts more private benefits when holding a substantial number of shares, the minority shareholders knowing this will discount the stock price accordingly and the majority owner’s share value will be reduced. Thus, controlling owners have an incentive to hold only a minimum level of voting rights required for effective control.

We expect the earnings informativeness to be reduced with higher levels of ownership in line with the entrenchment effect and that the type of effective controller (i.e. the simple majority of voting rights obtained by a controlling group) enhances the

informativeness of reported earnings. Furthermore, we expect the divergence between voting rights and cash flow rights to have both entrenchment and alignment effects. When the controlling owner is entrenched by his/her voting power and there is a large separation of the voting and cash flow rights, the credibility of the accounting information will be reduced.

### **3 DEVELOPMENT OF CONCENTRATED OWNERSHIP IN RUSSIA**

The ownership of listed companies in Russia is concentrated in a few groups who own most of the shares. This concentration has arisen through poor management of privatization by the state during the earlier years of the transition after the fall of communism. Privatization modes included voucher privatization and share-for-loan schemes, which triggered the economy towards a massive but inefficient privatization of previously state-owned corporations.

In the late 1990s the control over many of the Russian companies was transferred away from the state to big private industrial groups, which were mostly domestic with a few exceptions. The notorious share-for-loan schemes giving loans to the government in exchange for shares was not well-managed and none of the loans were ever paid back to investors (industrial groups). This resulted in acquisition of ultimate ownership of the companies by these few groups, creating many oligarchs in Russia which now control a significant stake in the largest Russian companies in all sectors, especially in the oil, power and ferrous metal sectors. This unequal distribution of assets has resulted in big scandals like Yukos and Gazprom. However, the state itself has remained the most influential controlling group in Russia along with the oligarchs.

The gap between the oligarchs and the state widened during President Putin's tenure starting in 1999 because of the extra incentives extracted by strategic owners. These investors then tried to manipulate the actual performance of the companies in order to hide information from the state authorities. Consequently, the state appointed state representatives on the boards of most of the privatized companies so that the actual firm performance could be monitored. However, this did not work effectively because of the incentive constraints of the state nominees and their own personal benefits. Even another phase of re-Statization of many privatized firms in earlier stages did not bring about the desired results. In fact, it allowed even state-owned companies to hide and manipulate significant accounting information from the general and minority shareholders.

Various control measures included imposing restriction on acquiring more than 20% of a particular company on the open market. State approval is required to gain more than 20% ownership as well as for each additional 5%. If a particular individual (or legal entity or group of companies) acquires 30% or more of a company, the buyer(s) must offer to purchase all the shareholders' stakes at the weighted average market price over the previous six months or the current market price, whichever is higher. However, this requirement may be waived if 75% of the shareholders of a company approve the relevant amendment. There is no federal law imposing restrictions on different classes of investors. Companies may opt to amend the company charter to limit a single entity from holding more than a certain proportion of charter capital, although this is very rare. Few companies in Russia place restrictions on foreign participation like Gazprom, who limits foreign ownership to 20% of charter capital. Foreigners may only buy shares through a depository receipt and do not have access to the underlying shares. However, a so-called "grey-scheme" exists enabling foreigners to hold more shares. Some Russian domiciled overseas may have even more holdings than the 20% limit through indirect investments. There are also certain laws limiting foreign ownership in a particular company, especially in prime entities like UES, with the purpose of retaining the national interests in these companies. Hence, despite all these efforts to improve the situation regarding separation of ownership and control in Russia, the fundamental

question stays unanswered: Does ownership structure in Russia matter whether only few groups control the larger industrial sectors or whether only oligarchs control the highly pyramidal corporate structure?

## 4 DATA AND METHODOLOGY

We use the modified Jones (1991) model used by Dechow *et al.* (1995) to measure the level of discretionary (sometimes called abnormal) accruals from annual financial reports of 98 listed firms on the Russian Trading System (RTS) Stock Exchange over the period of 1999-2004. The financial data is extracted from Brunswick UBS “Russian Equity Guides” and Thomson One Banker database. Ownership data is collected from different sources including Russian Equity Guides published by Brunswick UBS, SKRIN, Amadeus and sometimes directly from companies’ annual reports. The stock price data and RTS market index prices were obtained from Thomson Datastream. The total number of firm-years of financial data is 525. However, the ownership data could only be obtained for 330 firm-years during the whole time period. Hence, matching the earnings data with ownership provides a maximum of 330 observations. We do not include banking or other financial firms due to their different accounting methodologies.

### 4.1. Earnings Management Measure

We rely on an earnings management model directly relating income, cash and accruals because it enables us to measure accrual proxies in a time-series and cross-sectional way simultaneously and also requires fewer assumptions than other time-series and theoretical models. The Jones (1991) model is considered the standard (Hermanns, 2006). However, there have been some modifications to the original model to increase the predictability and explanatory power of the original version. For example, Dechow *et al.* (1995) modified the model by subtracting changes in receivables from changes in revenues to control for the intention of management to use its discretion over credit sales, which is the easiest way of manipulation in a non-conservative accounting environment. The Jones model identifies accounting fundamentals as the determinants of non-discretionary accruals. Schipper and Vincent (2003) state that the Jones model is a direct estimation model because it identifies the accounting fundamentals as determinants of expected accruals. Discretionary accruals reflect the quality of earnings with an inverse relationship, i.e. higher discretionary accruals proxy for bad quality of earnings.

Consistent with the earlier studies by Healy (1985) and Jones (1991), total accruals ( $TAC_{i,t}$ ) scaled by lagged total assets ( $A_{i,t-1}$ ) are calculated as

$$TAC_{i,t} = \frac{(\Delta CA_{i,t} - \Delta CL_{i,t} - \Delta Cash_{i,t} + \Delta STD_{i,t} - Dep_{i,t})}{A_{i,t-1}}, \quad (1)$$

where,

$\Delta CA_{i,t}$  = change in current assets for firm  $i$  in year  $t$ ,

$\Delta CL_{i,t}$  = change in current liabilities  $i$  in year  $t$ ,

$\Delta Cash_{i,t}$  = change in cash and cash holdings  $i$  in year  $t$ ,

$\Delta STD_{i,t}$  = change in debt included in current liabilities  $i$  in year  $t$ ,



$Dep_{i,t}$  = depreciation expense  $i$  in year  $t$ , and

$A_{i,t-1}$  = one period lagged ( $t-1$ ) total assets.

According to the modified Jones model, the non-discretionary accruals proxy is calculated to eliminate the conjectured tendency of manipulation when discretion is exercised over revenues. Dechow *et al.* (1995) proposed this modification in the original Jones (1991) model to control for any use of discretion over credit sales. It is easier to manage earnings via credit sales rather than cash sales. Hence, the estimated non-discretionary accruals are computed as

$$NDAP_{i,t} = \hat{\alpha}_1 \left( \frac{1}{A_{i,t-1}} \right) + \hat{\alpha}_2 (\Delta REV_{i,t} - \Delta REC_{i,t}) + \hat{\alpha}_3 (PPE_{i,t}). \quad (2)$$

We use a residual approach to estimate the discretionary accruals in Equation (4) below where we compute the series of residuals as a proxy for discretionary accruals. In Equation (2), the part explained by lagged total assets ( $1/A_{t-1}$ ), change in revenues minus change in current receivables ( $\Delta REV_{i,t} - \Delta REC_{i,t}$ ), and property, plant and equipment ( $PPE_{i,t}$ ) is considered as non-discretionary or the normal part of current total accruals. Residuals (i.e. the unexplained part of total accruals) represent discretionary accruals, which can be used as a proxy for earnings management (Hermanns, 2006). Equation (3) describes the regression model thus:

$$TAC_{i,t} = \alpha_1 \frac{1}{A_{i,t-1}} + \alpha_2 (\Delta REV_{i,t} - \Delta REC_{i,t}) + \alpha_3 PPE_{i,t} + \varepsilon_{i,t}, \quad (3)$$

where change in revenues ( $\Delta REV_{i,t}$ ), change in receivables ( $\Delta REC_{i,t}$ ) and levels of property, plant and equipment ( $PPE_{i,t}$ ) are all scaled by lagged total assets. The error term ( $\varepsilon_{i,t}$ ) is a discretionary accruals proxy ( $DAP_{i,t}$ ) and the non-discretionary accruals proxy is calculated as the difference between firm  $i$ 's total accruals ( $TAC_{i,t}$ ) and discretionary accruals ( $DAP_{i,t}$ ) at year  $t$  as below:

$$NDAP_{i,t} = TAC_{i,t} - DAP_{i,t}. \quad (4)$$

## 4.2. Ownership and Earnings Management

In the second stage of our analysis, the discretionary accruals are regressed in a univariate model setting with different ownership variables including the management's stake, and state, oligarch, foreign and local ownership etc. along with a number of control variables to ascertain the true picture of the deviations from the efficient market hypotheses, and to test whether or not general and small shareholders are expropriated by insiders (managers) and controlling owners in Russia. We use a univariate regression approach to form individual assessment of each controlling group for both a voting rights and cash flow rights setting. In traditional earnings management models, the regression coefficient of the parting variable (in our case, ownership types and levels) will have the predicted sign, showing the direction of earnings management (negative or positive), whereas the significance at traditional levels detects the earnings management. Hence, both the direction and the significance of the coefficient are important. The problem of misspecification and omitted variables (see e.g. Dechow *et al.* 1995) is addressed in the literature by adding a number of control variables, which strengthen the predictive power of the model. The regression equation takes the form of

$$DA_{i,t} = \alpha + bOWN_{i,t(\text{levels,types})} + \delta V_{i,t} + \varepsilon_{i,t}, \quad (5)$$

where ( $V_{i,t}$ ) represents the controls added to address the problems of misspecification. We include industry and year dummies. Cross-sectional stacked panel data is used where we have different firm-year observations for each ownership variable. Following the research of Warfield *et al.* (1995) and Gabrielsen *et al.* (2002), not only actual discretionary accruals but also absolute discretionary accruals are used to detect the differences in the total levels of earnings management or quality of earnings. The higher the absolute level of discretionary accruals, lower is the quality of earnings. Absolute discretionary accruals are also regressed one by one with ownership variables to estimate the difference in the use of discretionary accruals by each controlling shareholder. Equation (5) then takes the shape of

$$ADA_{i,t} = \alpha + bOWN_{i,t(\text{levels,types})} + \delta V_{i,t} + \varepsilon_{i,t}. \quad (6)$$

### 4.3. Earnings Informativeness

An earnings response coefficient approach is used to estimate the relationship between the accruals and the annual stock returns. We test the earnings response coefficient in a corporate governance setting by analyzing firm performance. We use earnings quality as a measure of firm performance from the general shareholder's point of view. The extent to which reported earnings represent the actual performance of the companies is considered as a measure for the quality of earnings. Following Guy *et al.* (1996), we model the market adjusted returns and accruals in different settings. The first step is to test the relationship between total accruals and returns in line with the value relevance and performance measure hypotheses as follows:

$$CAR_{i,t} = \alpha + \beta_1 TA_{i,t} + \varepsilon_{i,t}, \quad (7)$$

where ( $CAR_{i,t}$ ) is the cumulative net-of-market 12-month stock returns at year  $t$  for firm  $I$ ; and  $TA_{i,t}$  is the total accruals for firm  $i$  in year  $t$ . Discretionary accruals ( $DA_{i,t}$ ) under the performance measure and opportunism hypotheses are always perfectly (positive or negative) correlated with shocks and stock returns, so we expect discretionary accruals to correlate with stock returns thus:

$$CAR_{i,t} = \alpha + \beta_1 DA_{i,t} + e_{i,t}. \quad (8)$$

The sign of the correlation of discretionary accruals under the performance measure hypothesis depends on whether nondiscretionary accruals include an over- or under-reaction to the economic shock. To determine whether there are any predictive measures for non-discretionary accruals of stock returns, we test whether non-discretionary accruals ( $NDA_{i,t}$ ) contain any over- or under-reaction to economic shock:

$$CAR_{i,t} = \alpha + \beta_1 DA_{i,t} + \beta_2 NDA_{i,t} + e_{i,t}. \quad (9)$$

Furthermore, the regression analyses discussed so far include discretionary and nondiscretionary accruals as a part of total earnings. Operating cash flows to predict stock returns are also tested. To gain some initial insights into the question, we use the model to add operating cash flows as a variable and estimate a multiple regression model as below:

$$CAR_{i,t} = \alpha + \beta_1 DA_{i,t} + \beta_2 NDA_{i,t} + \beta_3 CFO_{i,t} + e_{i,t}, \quad (10)$$

where  $(CFO_{i,t})$  is the operating cash flow scaled by one year lagged total assets included in total disclosed earnings for firm  $i$  at year  $t$ .

The main objective of this study is to test the effect of highly-concentrated ownership on the informativeness of disclosed earnings. We expect that the quality of earnings is better in those firms where ownership is more diversified. The corollary is that performance and quality are lower in firms with more concentration in ownership. We use pooled cross-sectional regression and firm-specific time-series regression to test our hypothesis. The multivariate model used for the analysis is as follows:

$$\begin{aligned} CAR_{i,t} = & a + b_1 ADA_{i,t} + b_2 (ADA * Size)_{i,t} + b_3 (ADA * Growth)_{i,t} + b_4 (ADA * Lev)_{i,t} \\ & + b_5 (ADA * VC)_{i,t} + b_6 (ADA * StD)_{i,t} + b_7 (ADA * OI)_{i,t} + b_8 (ADA * FoD)_{i,t} \\ & + b_9 (ADA * StO)_{i,t} + b_{10} (ADA * OIO)_{i,t} + b_{11} (ADA * ForO)_{i,t} + IND + YRD + e_{i,t} \end{aligned}, \quad (11)$$

where  $CAR_{i,t}$  is the cumulative market adjusted annual stock return at year  $t$  for firm  $i$ ,  $ADA_{i,t}$  is the absolute discretionary accruals; and  $Size_{i,t}$  is the natural logarithm of total assets at the beginning of year  $t$ . Size is included to control for any missing factor that could effect the earnings-return relationship as Atiase (1985) and Freeman (1987) have documented that public disclosure and private development of non-earnings information are an increasing function of firm size.  $Growth_{i,t}$  is the revenue growth at year  $t$  because high growth opportunities are associated with future high earnings or persistence. High growth of revenues may lead to higher expected earnings in future and thus a stronger earnings-return relationship (Collins and Kothari, 1989). On the other hand, high growth firms are more risky, which weakens the earnings-return relationship. We control for any empirical effect that revenue growth may have on earnings informativeness.  $Lev_{i,t}$  is the ratio of total debt to assets. Dhaliwal *et al.* (1991) argue that leverage could be a proxy for the riskiness of debt or default risk, the earnings informativeness of highly-leveraged firms being lower. On the other hand, Smith and Watts (1992) suggest that leverage represents the investment opportunities of a firm and that mature firms usually have high leverage but more information in disclosed earnings. Hence, leverage can also improve the informativeness of earnings.  $VC_{i,t}$  is the ratio of voting rights over cash flow rights of the largest controlling owner, i.e. the voting rights have to be 50% or more for full control of the firm. By definition,  $VC$  is inversely related to cash-vote divergence.  $VC$  represents the gap between ownership and control, and if we expect an alignment effect to have any significance impact on earnings informativeness, then this coefficient should be positively or negatively related to stock returns.  $StD_{i,t}$ ,  $OI_{i,t}$  and  $FoD_{i,t}$  are the dummy variables if state, oligarchs and foreign corporations are the controlling owner of the firm, respectively.  $StO_{i,t}$ ,  $OIO_{i,t}$  and  $ForO_{i,t}$  are the total levels of ownership stakes by state, oligarchs and foreign corporations, respectively, in a firm without any controlling limits. These variables define the difference in slope coefficients for these three major types of owners in Russia. Widely held firms are excluded from the model to control for multicollinearity in the analysis. Industry ( $IND$ ) and year ( $YRD$ ) are included to control for specific industry and year effects. The model is tested in various specifications capturing any particular variable effect on the overall coefficients.

## 5 RESULTS

This section describes the results of the estimates of the models presented in the previous section. First, we discuss the descriptive statistics of all variables used in our study including the accounting and ownership variables. Second, the basic results obtained by earnings management and ownership structure are presented, and finally we show the results obtained from the earnings informativeness models and analyze possible association of different ownership variables (levels and types of majority shareholders) in the earnings-return relationship.

### 5.1. Descriptive Statistics

Table (1) presents the descriptive statistics of the ownership variables in our study. Panel A describes the levels of cash flow rights for each type of controlling owner. The state has a 41% ownership stake in all sample firms whereas oligarchs have a 57% ownership stake on average in all listed firms in our sample. The portion of foreign ownership in all firms amounts to almost 40%. These levels of ownership also include the cash flow rights of each type with and without control. It is important to understand the effect of the presence of other influential shareholders in the firm when control is held by one of the major shareholders in Russia. For example, if an oligarch is the controlling owner in a company, the presence of the state as the second largest owner may have an effect on the discretionary powers of the managers and controlling ownership. Panel B of Table (1) shows the percentage control by each type. The state has the controlling powers (i.e. more than 50% of voting rights) of almost 55% of the total companies. Oligarchs control 37% of the total companies, whereas foreign corporations have 4% of companies under their control. The remaining 4% of the companies are widely held. The distribution of companies with respect to industrial sectors is shown in Panel C. Power sector remains the biggest sector in Russia with a 28% representation in the whole sample. Panel D presents the distribution of companies with respect to compliance of accounting standards. In our sample period, 53% of the companies complied with Russian accounting standards (mostly regional power and ferrous metal companies) and the remaining 47% issued financial statements according to international accounting standards (IAS/US GAAP). We have firm-specific time-series data on these variables as well, so any possible effect of a shift from Russian standards to international standards is captured as we use the accounting standards compliance dummy in all of our analyses.

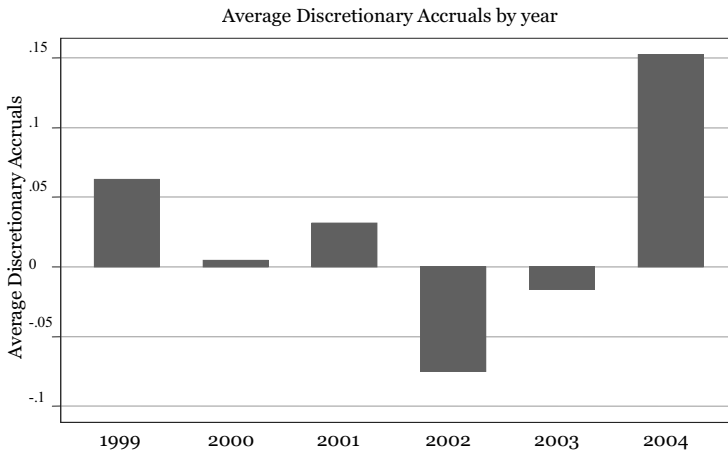
**Table 1 Distribution of ownership levels and types of controlling owner in sample period**

The table presents the distribution of ownership across all listed Russian firms in the sample. Panel A presents the levels of ownership stake and cash flow rights) by all major types of owners including management (*MOWN*) defined as portion of the total equity held by the management, the state (*STOWN*) defined as the portion of equity shareholdings by the Russian State either directly or indirectly through affiliates, oligarchs (*OGOWN*) defined as the portion of equity shareholdings by big private owners or individuals and foreign corporations (*FOWN*) defined as the portion of share ownership held by a foreign corporation or individual. The total portion of cash flow rights held by the controlling owner is represented by *COWN*. Panel B shows the types of controlling owners and percentage of companies owned by each type of controlling owner. Panel C shows the distribution of the sample according to the major industrial sectors defined by Brunswick Equity Guides. Panel D shows the portion of firms complying with Russian accounting standards (*RSA*) and international accounting standards (*ISA*) by all firms included in the sample.

	Mean	Median	Min	Max	Obs
Panel A: Level of ownership					
MOWN	0.262	0.149	0.003	0.956	207
COWN	0.499	0.464	0.123	0.970	315
STOWN	0.408	0.313	0.042	0.830	195
OGOWN	0.570	0.605	0.079	0.970	147
FOWN	0.400	0.270	0.080	0.895	26
Panel B: Controlling owner type					
State	0.550	1	0	1	182
Oligarch	0.370	0	0	1	123
Foreign	0.040	0	0	1	12
Widely held	0.040	0	0	1	13
Panel C: Industrial Sector's					
Ferrous Metal	0.160	0	0	1	54
Power	0.280	0	0	1	93
Oil & Gas	0.160	0	0	1	54
Telecom	0.150	0	0	1	51
Others	0.250	0	0	1	78
Panel D: Accounting Standards and ADRs					
RSA	0.530	1	0	1	176
ISA	0.470	0	0	1	154

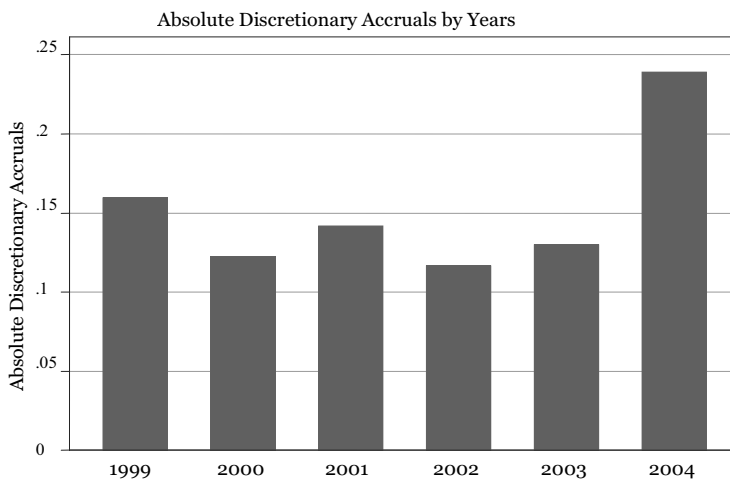
Figure (1) shows the discretionary accruals across years in the whole sample period. Negative (income decreasing) earnings management was more common than positive (income enhancing) management during the years 2002 and 2003, whereas on average

companies were more involved in positive earnings management during 1999, 2001 and 2004. Figure (1) shows that negative earnings management to avoid taxes took place during the tax reforms of 2001-02, whereas lower manipulations took place in 2002 due to lower marginal tax rates<sup>2</sup>.



**Figure 1 Average discretionary accruals across 330 firm-years during 1999-2004**

Absolute levels of discretionary accruals (the inverse of the quality of earnings) are shown in Figure (2). The levels of discretionary accruals were highest in 2004, and least in 2002, meaning the disclosed earnings were of better quality in 2002 and worst in 2004.



**Figure 2 Average discretionary accruals across 330 firm-years during 1999-2004**

<sup>2</sup> According to Black *et al.* (2006), the top statutory corporate tax rate in Russia was dropped from 35% in 2001 to 24% in the year 2002.

**Table 2 Descriptive statistics of stock returns and accounting variables used in earnings-return regression**

The table presents the descriptive statistics of performance indicators including: Gross Return, the cumulative annual return on equity; CAR, the market-adjusted cumulative annual return; and Size, the amount of total assets in US\$ millions. Leverage is the ratio of total debt to total assets as a percentage. Revenue growth is the difference in revenue generated in year  $t$  over the previous year divided by the revenues of the previous year. Market to Book Ratio is the ratio of market value of equity per share divided by the book value of the equity. Operating profit and net profits are the percentages over total equity of the firm. The statistics are presented for each type of controlling owner, industrial sector and accounting standards compliance, respectively.

	<b>Gross Return (%)</b>	<b>CAR (%)</b>	<b>Size (USD million)</b>	<b>Leverage (%)</b>	<b>Revenue Growth</b>	<b>Market To Book</b>	<b>Operating Profit (%)</b>	<b>Net Profit (%)</b>
Overall	74.2	33.9	22983.63	10.5	34.0	1.701	11.7	5.8
State	56.7	29.3	16070.78	9.1	35.1	1.475	9.2	3.0
Oligarch	108.8	41.7	34474.87	13.9	35.9	1.891	14.2	8.5
Foreign	79.7	-27.0	22791.37	7.5	32.9	3.453	18.3	12.3
Widely held	26.4	48.9	11216.25	0.9	5.4	1.484	18.3	13.2
Ferrous Metal	127.6	45.1	16450.07	5.8	41.4	1.722	16.4	9.3
Power	65.0	18.9	22827.52	5.1	6.2	0.913	3.9	-0.7
Oil & Gas	119.0	35.1	62496.4	13.6	28.9	2.831	21.5	13.5
Telecom	36.3	24.2	5232.68	10.5	105.6	1.660	12.5	6.2
Others	64.4	51.5	11944.4	18.1	19.2	1.900	10.8	5.6
RSA	73.7	30.5	15028.93	7.6	14.1	1.685	11.7	4.9
ISA	74.6	38.5	32074.72	13.9	57.4	1.721	11.8	6.7

The descriptive statistics of stock returns and other accounting variables used in our analysis (Equation 11) are presented in Table (2). The average cumulative annual gross and market-adjusted returns (CAR) across ownership control, industrial sectors and accounting standards compliance are in the first two columns of Table (2). Companies with more diverse ownership have higher net-of-market returns but lower gross returns. Oligarch-controlled companies have 41.7% market adjusted returns as compared to state-owned companies that have 29.3% excess returns. Foreign-owned companies have negative excess returns. This might be because they are more exposed to international pressures and foreign investors as most of these companies are cross-listed in other markets along with the RTS index, which is overwhelmingly dominated by state and oligarch-owned companies who drive the market by controlling the supply and demand forces within Russia. Foreign-owned companies possess a significant

amount of liquidity in the market and trade between themselves, affecting both the market value and stock index. Oligarch-owned companies are the largest companies with an average size of more than US\$34 million assets, ahead of foreign-owned companies with almost US\$23 million total assets. Oligarch-owned companies also have the highest leverage indicating a higher risk equity stake. Their revenue growth of almost 36% shows future profitability and a wider consumer base, consistent with the high returns of such companies. Foreign-owned companies have the highest market-to-book ratio representing growth opportunities, the high market price also being representative of greater investor confidence. The last two columns of the Table (2) shows operating and net profit shown in averages across all ownership types and industrial sectors, a measure of profitability.

## 5.2. Test of Ownership and Discretionary Accruals

Before making a direct prediction about disclosed earnings and stock returns, we perform analyses by directly relating earnings management to ownership structure, to understand the endogeneity of earnings when ownership is concentrated. Table (3) presents the results of the simple t-test of the levels (absolute values) of discretionary accruals across different ownership, industrial sectors and accounting standards compliance. Difference-in-means analysis is done to show the direction of earnings management between positive and negative accruals. We divide the whole sample into positive and negative discretionary accruals. The results show that the levels of discretionary accruals are significant across all ownership types and industrial sectors. Overall, the mean of positive accruals is higher than the mean of negative accruals. The difference in means is 0.051, significant at the 5% level. The quality of earnings of state-owned companies is quite bad, with positive accruals significantly higher than negative accruals. The same results hold for the ferrous metal and power sectors. Earnings management in companies complying with Russian accounting standards is significantly higher than those reporting in compliance with international standards. This result is consistent with previous literature on Russia (e.g. Desai *et al.* 2007). International accounting standards compliance leads to better, more timely and more transparent disclosure of information, not only increasing the quantity of disclosure, but the quality of disclosure as well.

Table (4) presents the results of the univariate regression of both signed and absolute discretionary accruals with ownership variables (levels and types). The literature on earnings management models directly relating company fundamentals like income, cash and accruals argue that these models possess the problem of omitted variables, and hence very low predictive powers, because there are certain unobservable factors other than firm characteristics which impact the earnings-return relationship (Jones, 1991; Dechow *et al.*, 1995; Guy *et al.*, 1996). We attempt to control for the problem of omitted variables by introducing a number of industry, year and accounting standard variables in an earnings-ownership relationship. Ownership, being one of the variables to affect the earnings management practices of companies, should also capture some misspecifications. Ownership levels and control types should have an impact on manipulations.



**Table 3 Difference-in-means analysis (t-test) of absolute discretionary accruals**

The table presents the average absolute discretionary accruals and corresponding t-values across whole sample of firms in panel A, across controlling group in panel B, across industrial sectors in panel C and across accounting standards compliance in panel D. The t-values are significant to the fact that the mean is significantly away from zero at standard level of significance. The Difference between positive and negative discretionary accruals and corresponding t-values are presented also presented in column #4. The difference in mean analysis shows the significance if positive – negative discretionary accruals is significant at standards level of confidence.

ADA	Mean	t value	Diff (Pos –Neg)	Min	Max	Obs.
<i>Panel A: Discretionary Accruals across whole sample</i>						
Overall	0.1417	15.79***		0.0001	1.4738	330
Positive DA	0.1700	10.01***	0.0510	0.0001	1.4738	147
Negative DA	0.119	14.23***	(2.85)**	0.0002	0.6962	183
<i>Panel B: Discretionary Accruals across Ownership levels</i>						
State	0.1202	13.77***	0.0371 (2.10)**	0.0002	0.6962	182
Oligarch	0.1671	8.69***	0.0601 (1.59)	0.0001	1.4738	123
Foreign	0.1591	4.71**	0.0005 (0.01)	0.0066	0.3754	12
Widely held	0.1878	3.99**	0.0589 (0.59)	0.0106	0.6373	13
<i>Panel C: Discretionary Accruals across Industrial Sectors</i>						
Ferrous Metal	0.1763	6.04***	0.1025 (2.20)**	0.0068	1.1603	54
Power	0.1227	9.77***	0.0500 (2.02)**	0.0002	0.5076	93
Oil & Gas	0.115	7.51***	0.0096 (0.30)	0.002	0.4799	54
Telecom	0.1245	9.34***	-0.0529 (-1.39)	0.0017	0.3967	51
Others	0.1702	6.94***	0.0629 (1.25)	0.0001	1.4738	78
<i>Panel D: Discretionary Accruals across Accounting standards compliance</i>						
RSA	0.1581	14.33***	0.035	0.0002	0.7458	176
ISA	0.1231	8.54***	1.96*	0.0001	1.4738	154

\* significant at the 10% level of significance

\*\* significant at the 5% level of significance

\*\*\* significant at the 1% level of significance

We showed in Table (3) that earnings management is persistent across all ownership types and industrial sectors. Hence, it is more important to assess the quality of earnings with respect to the different ownership structures. Both entrenchment and alignment effects, if present, should explain earnings management (discretionary accruals in our case). White-adjusted t-statistics for all the coefficients are reported due to heteroskedasticity. Table (4) shows that the direction of earnings management is consistent with our predictions based on our hypothesis presented in Section 2. Long-term motives (value enhancing) of state-owned companies and short-term objectives (tax management) is supported but we do not find any significant relationship with actual discretionary accruals. However, the levels of discretionary accruals are significantly lower in state-owned companies as compared with others. This is consistent with both types and levels of state ownership.

**Table 4 Univariate analysis of ownership and earnings management with controls**

The coefficient estimates of the univariate regression with discretionary and absolute discretionary accruals are shown in Table (3) above. The equation for discretionary accruals and ownership type and level used is  $DA_{i,t} = \alpha + bOWN_{i(levels,types)} + \delta V_{i,t} + \varepsilon_{i,t}$ . The regression equation of absolute accruals is  $ADA_{i,t} = \alpha + bOWN_{i(levels,types)} + \delta V_{i,t} + \varepsilon_{i,t}$ . The table shows the coefficients of management ownership (*MOWN*), the controlling owner's cash flow rights (*COWN*), state ownership level (*STOWN*) and the oligarchs' level of ownership (*OGOWN*). *STATE* is the coefficient representing the dummy variable if state is the effective controller of the firm. Similarly, *OLIG* and *FOR* are the dummy variables for oligarchs and foreign corporations, respectively, provided they are the ultimate owner of the firm. Robust t-statistics are in parentheses.

	<b>Signed Discretionary Accruals</b>	<b>Absolute Discretionary Accruals</b>	<b>Controls</b>	<b>No. of Observations</b>	<b>Adjusted R<sup>2</sup></b>
MOWN	-0.0344 (-0.48)	-0.0025 (-0.04)	Yes	207	6.3/2.2
COWN	0.0267 (0.48)	-0.0238 (-0.54)	Yes	330	6.3/2.3
STOWN	0.0487 (1.04)	-0.0733** (-2.22)	Yes	195	6.4/3.1
OGOWN	0.0368 (0.83)	0.0447 (1.32)	Yes	147	6.4/2.6
FOWN	-0.1082 (-1.17)	0.0537 (0.75)	Yes	26	6.6/2.4
STATE	0.0197 (0.66)	-0.0445** (-2.01)	Yes	330	6.3/3.0
OLIG	-0.0002 (-0.01)	0.0322 (1.45)	Yes	330	6.2/2.7
FOR	-0.0876 (-1.59)	0.0175 (0.43)	Yes	330	6.8/2.2

\*\* significant at the 5% level of significance

### 5.3. Ownership and Earnings Informativeness

Results from pooled cross-sectional and firm-specific time-series regressions are similar to those reported below. Table (5) reports the time-series means of the estimated annual cross-sectional regression statistics of our sample data. For each model, we report the estimated parameters, standard errors and White-adjusted t-statistics for all the coefficients to eliminate heteroskedasticity. We begin with regression of returns on total accruals (Panel A). Total accruals are negatively correlated to returns, but insignificant at the traditional level, possibly caused by the fact that total accruals include both non-discretionary and discretionary accruals, while the performance measure hypothesis assumes a negative correlation between these two types of accruals. Any over- or under-reaction of economic shock to market returns should thus be offset by an opposite effect from discretionary accruals. So the individual relationship to each type of accruals should be measured to assess the performance measure hypothesis. Panel B of Table (5) shows the regression of returns with discretionary accruals. The coefficient is negative (-0.657, t-value: -1.92) and significant representing negative informativeness of discretionary accruals on stock returns.

We then add nondiscretionary accruals in the regression. The results are presented in Panel C, which shows that there is no such informativeness as predicted by the performance measure hypothesis (0.804, t-value: 0.68) in non-discretionary accruals. The positive coefficient of nondiscretionary accruals is as expected by the performance measure hypothesis, but is not significant. Therefore, we can assume that companies in Russia use discretionary accruals for opportunistic purposes and market reacts to that opportunism negatively. These results are consistent with the entrenchment effect of majority shareholders. We further add the cash flow component of total earnings to check whether there is a relation between the cash flow generated directly from operations, and the stock returns. Panel D of Table (5) shows the coefficient estimates of Equation (10). Cash flows are insignificantly but negatively correlated with the returns. Note that the explanatory power of all models in Table (5) is low. In general, the weak association of returns with discretionary and nondiscretionary accruals, and the negative association of discretionary accruals are inconsistent with the joint hypothesis that the market reacts systematically to discretionary accruals and that the model accurately identify discretionary accruals. The results also suggest that there are inefficiencies in the Russian market, where discretion is used by the majority or controlling owners over earnings in general, and accruals in particular, to opportunistically create sources of expropriation of rights of minority shareholders. Although the sign of the coefficient on discretionary accruals does not support a particular type of hypothesis (i.e. performance measurement or opportunistic management) but absence of any significant correlation between non-discretionary earnings (i.e. non-discretionary accruals and operating cash flows) and stock returns shows that the true economic performance of a firm is not mechanically incorporated into stock prices. There is no significant change in the sign and magnitude of the coefficient on discretionary accruals (DA) after including parts of non-discretionary earnings meaning (Table 5; panels C and D). The claim that the managers (controlling owners) use their discretion to manage earnings opportunistically for private gains may also be overly optimistic. We consider opportunism as a short term benefit extraction for personal gains through discretion over firm's reported earnings. Nevertheless, absence of correlation between discretionary accruals and non-discretionary earnings may also represent a noise in earnings process.

**Table 5 Pooled regression of cumulative annual market-adjusted returns on accruals and cash flow components of earnings**

The regression coefficients of each model for earnings informativeness are presented.  $CAR_{i,t}$  is the cumulative market-adjusted annual return of firm  $i$  at year  $t$ .  $TA_{i,t}$  is the total accruals of firm  $i$  for year  $t$ ,  $DA_{i,t}$  is the discretionary accruals of firm  $i$  for year  $t$ . Similarly  $NDA_{i,t}$  and  $Cash_{i,t}$  are non-discretionary accruals and cash flows of firm  $i$  in year  $t$ , respectively. All variables are scaled by lagged total assets. The mean values of the coefficient, standard errors and corresponding robust t-values are presented.

Model	A	B <sub>1</sub>	β <sub>2</sub>	B <sub>3</sub>	Adj. R <sup>2</sup> (%)	F-stat (p-value)
Panel A: Returns on Total Accruals: $CAR_{i,t} = \alpha + \beta_1 TA + \varepsilon_{i,t}$						
Mean	0.437**	-0.523				
St. Error	0.151	0.337			0.3	7.38
t-value	2.90	-1.55				(0.007)
Panel B: Returns on Discretionary Accruals: $CAR_{i,t} = \alpha + \beta_1 DA_{i,t} + e_{i,t}$						
Mean	0.448**	-0.657*				
St. Error	0.151	0.343			0.4	7.32
t-value	2.97	-1.92				(0.007)
Panel C: $CAR_{i,t} = \alpha + \beta_1 DA_{i,t} + \beta_2 NDA_{i,t} + e_{i,t}$						
Mean	0.461**	-0.657*	0.804			
St. Error	0.160	0.356	1.183		0.5	3.75
t-value	2.88	-1.85	0.68			(0.025)
Panel D: Returns on Accruals and Cash Flows: $CAR_{i,t} = \alpha + \beta_1 DA_{i,t} + \beta_2 NDA_{i,t} + \beta_3 CFO_{i,t} + e_{i,t}$						
Mean	0.533**	-0.661*	0.546	-1.909		
St. Error	0.239	0.361	1.126	3.194	1.3	2.54
t-value	2.22	-1.83	0.48	-0.60		(0.057)

\* significant at the 10% level of significance

\*\* significant at the 5% level of significance

\*\*\* significant at the 1% level of significance

We also test the relative effect of different ownership variables on the earnings-return relationship. Table (6) presents the results obtained by the pooled cross-sectional regression of returns on different firm's characteristics and ownership levels and types. Again we report White-adjusted t-statistics for all the coefficients to capture and eliminate the effects of heteroskedasticity. The next step is to check whether different ownership structures explain this use of discretionary power. For this purpose, we use levels of discretionary accruals in each firm-year to find the relationship between returns and levels of earnings management (use of discretion) with ownership and firm-specific variables. The levels of discretionary earnings management (absolute discretionary accruals) is insignificant but does not contrast the results of simple regression in Table (5). Earnings are informative (negatively) but their levels (negative and/or positive) do not explain contemporaneous returns, and the relationship also becomes insignificant because of the inclusion of the additional variables. The levels of discretionary accruals of larger firms seem to be associated with lower returns because

the size coefficient is negative but significant in Models 3 and 5, where we include control type dummies. Models 1, 2 and 3 show lower informativeness of earnings in high revenue growth firms, consistent with the fact that the use of discretion over revenues (especially credit sales) is much easier and high growth firms are more risky. Thus, keeping the levels of accruals constant, an increase in revenue growth decreases contemporaneous market-adjusted returns. Leverage is positively related to returns, which is consistent with the view that highly-leveraged firms tend to be mature firms and thus have more credible earnings regardless of level of discretion. The results in all models presented in Table (6) support that the presence of creditors in corporate governance increases the informativeness of disclosed earnings. This result is also consistent with earlier research on other parts of the world<sup>3</sup>. Creditors can be better monitors in countries where legal and investor protection is weak because monitoring by the large creditors is less costly for the legal system than the cost associated with small investors if they try to enforce their rights.

In order to investigate the effect of separation of cash flow and voting rights on earnings informativeness, we use the ratio of voting rights over cash flow rights obtained by each controlling shareholder. To be consistent with the entrenchment effect, we expect to observe a significantly positive coefficient of voting rights, which is by definition inversely related to cash-vote divergence. However, we do not find any significant relationship between cash-vote divergences of the controlling shareholder with stock returns. This means that obtaining greater cash flow rights than the minimum level needed to effectively control a firm does not add any additional market value to the firm's shares. This result can be considered consistent with the alignment effect. The control type dummies are added to check whether or not there are any differences in the slope coefficients between CAR and the levels of discretionary accruals when different owners are involved. The results show that the control by both state and oligarch control is positively related to stock returns at a given level of earnings management.

It is interesting to note that the credibility of earnings disclosed by both controlling groups increases when either gets effective control. There can be two potential explanations for this result. One is that investors consider both of them as credible controllers of firms and do not pay much attention over the levels of discretionary accruals, as they are beneficial for all. Or the disclosed earnings simply improve the value relevance of earnings conveying private information to the stakeholders and public. When we add levels of cash flow rights by each type of owner when they are not in control, the phenomena are further clarified. The results in Columns 4 and 5 of Table (6) show that levels of ownership by oligarchs without control negatively affect the stock returns at a given level of earnings management. This reveals that it is only control that increases the value relevance of earnings, not the levels of cash flow rights. This result is again consistent with the opportunistic earnings management hypothesis, supporting that the controlling owners of a firm are involved in earnings management (both positive and negative), which in turn give them short-term benefits. The low liquidity of the Russian Stock Exchange, lower dividend payout ratios and significantly lower values for non-voting preferred shares in Russia can also be attributed to these short-term benefits extractions. The level of foreign ownership also decreases the credibility of earnings, and hence reduces the stock returns.

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<sup>3</sup> See Shleifer and Vishny (1997) for detail on the role of large creditors in corporate governance.

**Table 6 Pooled regression of returns on absolute discretionary accruals and ownership variables**

The table represents the pooled regression of cumulative market-adjusted returns (CAR) and absolute discretionary accruals multiplied by various economic and ownership variables. *ADA* is the absolute discretionary accruals, *Size* is the total assets divided by one year lagged total assets, *Growth* is the sales growth of the firm, *Lev* is the ratio between debt and total assets (leverage). *VC* is the ratio between voting rights and cash flow rights of the largest owner of the firm. *StD* is the dummy variable if State is the controlling owner of the firm. *OliD* is the dummy variable if Oligarch is the controlling owner, *ForD* is the dummy variable if Foreign corporation is the controlling owner of the firm. *StO*, *OliO* and *ForO* are the percentage of total (direct and indirect) ownership by State, Oligarchs and Foreign corporations respectively.

CAR	1	2	3	4	5
Intercept	0.285 (1.61)	0.312* (1.71)	0.287 (1.55)	0.329* (1.73)	0.302 (1.58)
ADA	1.454 (1.21)	1.427 (1.18)	1.146 (1.24)	1.633 (1.15)	1.398 (1.25)
ADA*Size	-0.222 (-1.29)	-0.299 (-1.47)	-0.492** (-2.43)	-0.238 (-1.17)	-0.511** (-2.16)
ADA*Growth	-0.606* (-1.87)	-0.641** (-2.08)	-1.132* (-1.82)	-0.396 (-0.57)	-0.530 (-0.78)
ADA*Lev	1.735*** (8.75)	1.671*** (8.46)	1.523*** (6.87)	1.687*** (8.21)	1.490*** (6.52)
ADA*VC		0.406 (0.65)	-0.221 (-0.29)	0.465 (0.64)	-0.449 (-0.62)
<b>Control Type:</b>					
ADA*StD			2.737** (2.21)		5.147** (2.50)
ADA*OliD			3.171* (1.85)		7.386** (2.30)
ADA*ForD			0.565 (0.46)		12.822 (1.11)
<b>Ownership Levels:</b>					
ADA*StO				-1.929 (-0.87)	-5.247 (-1.53)
ADA*OliO				-1.247 (-0.65)	-6.219* (-1.86)
ADA*ForO				-4.260** (2.18)	-17.207 (-1.09)
<i>N</i>	175	169	169	169	169
Adjusted <i>R</i> <sup>2</sup>	1.6	1.8	2.5	2.1	3.8
<i>F-stat</i>	20.22***	15.08***	14.80***	13.23***	10.40***

\* significant at 10% level of significance

\*\* significant at 5% level of significance

\*\*\* significant at 1% level of significance

## 6 CONCLUSION

Using a pooled cross-sectional and firm-specific time-series regression, we tested for earnings management practices of Russian listed firms in different ownership setups. We tested the value relevance of earnings, including the performance measure and opportunistic earnings management hypotheses. The performance measure hypothesis, that firms manage earnings by discretionary accruals to offset the over- or under-reaction of economic shock present in nondiscretionary earnings, is not supported.

The use of accrual-based accounting in Russia has resulted in lower informativeness of earnings due to the use of powers for opportunistic purposes in a highly concentrated ownership environment, where the majority shareholders (controllers) enjoy short-term benefits of manipulating the accounting figures. These benefits may include tax management to avoid heavy taxes, entrenchment plans and speculative insider trading before or after information disclosure. We further hypothesized that significant use of discretionary accruals is explained by ownership structure and that both control and levels of ownership affect the informativeness of disclosed earnings. The traditional aspect of agency theory, where conflicts lie between control (managers) and ownership, shifts away to the conflict between majority and minority shareholders in the highly concentrated environment of Russia. We found that state-owned companies use lesser discretion to manipulate the earnings than other controlling groups (oligarchs and foreign corporations). However, the market reaction to accounting figures is positive both with control by either the state or an oligarch. Leverage increases the informativeness of earnings, but size and revenue growth reduce it at any given level of discretionary accruals. The levels of ownership stake without control by oligarchs and foreign corporations are negatively related to earnings informativeness.

Cross holdings and business groups in Russia do not provide ample opportunity for outside investors to trade on public information. This partly explains the lower liquidity and market valuation of Russian companies. The control of major Russian firms is in the hands of the state or big business tycoons. State firms have some long-term objectives of privatization and increasing the market value of the companies but they still lack property rights enforcement. In the presence of significant benefits attached to control, non-voting (preferred) shares have very low value in Russia. We propose to improve the quality of corporate governance and earnings quality in Russia, first there should be separation between state and private ownership because they have common objectives and sometimes they combine powers to design the firm's policy matters. In both cases, minority shareholders suffer, so the state should first revise its role as a large owner in many privately-owned companies and then make sure that the proper corporate regulations and property rights are enforced. The state should concentrate more on its role as a useful monitor rather than be an active participant in the corporate sector. It is evident that the state could play a better role for minority shareholders only if it has decision making powers in the company.

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ESSAY # 3



## **DETERMINANTS OF THE QUALITY OF DISCLOSED EARNINGS AND INFORMATIVENESS ACROSS TRANSITIONAL EUROPE**

*Sheraz Ahmed<sup>φ</sup>*

### **ABSTRACT**

Accounting earnings that according to the value relevance theorem, reflect the true economic performance of a firm, should be priced mechanically into the market value of equity. Using panel data analysis of 2000 listed firms, this paper examines determinants of the quality of disclosed earnings and the market reaction associated with systematic differences in the quality of disclosed earnings across Transitional Europe. The results indicate that the determinants of the quality of earnings are different among different groups of countries. Firm size is the only consistent determinant across all countries. Larger firms seem to have a significantly better quality of earnings than smaller firms. Among other variables, ownership and firm-level transparency are important determinants in developed countries, whereas economic determinants are more important in relatively less-developed countries. Market reaction to earnings management is negative in more transparent (Nordic) countries whereas it is positive in less developed (Eastern European) countries.

*JEL Codes:* G30, G32, M41

*Keywords:* Ownership structure, earnings management, accruals, stock returns, corporate governance

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## 1 INTRODUCTION

In this paper, we examine the determinants of the quality of earnings and its implications for firm value in Transitional European economies. Healy and Wallen (1999) define earnings management as the alteration of firm's reported economic performance by insiders to either mislead other stakeholders or to influence contractual outcomes. Earnings management has recently received considerable attention both from regulators and media after the revelation of huge accounting scandals of Enron, WorldCom, Tyco, Parmalat, Yukos etc.

These scandals resulted in the decline in public trust on accounting and reporting practices. The market value of these companies did not help to anticipate these scandals because the market prices of some of the companies were trading at all time high before these accounting frauds were disclosed. Management of these firms was lately confirmed to be involved in self dealing and expropriation of minority shareholders rights. Investors trade on information available to them but what if that information is misleading? The market price may not represent the truthful valuation of firm if the available information is drawn from the reported performance given the fact that there are significant incentives for insiders to manipulate the performance. Dechow (1994) explains the importance of disclosed earnings as a summary measure of the performance of a firm. Unexpected higher earnings increase stock market returns and vice versa. The value relevance theorem of earnings predicts a direct relationship between economic performance and market value (see also Guy *et al.* (1996), Watts (1977) and Healy (1985)). Hence, it is important to understand the determinants of bad quality of reported earnings across different countries.

This paper examines systematic differences in earnings management across East-European and Scandinavian countries for the first time. We propose that one of the possible explanations for these differences is the corporate governance system and shareholder protection in these countries. Earnings management is expected to decrease in shareholder protection and effective corporate governance mechanisms. There are significant differences among European countries, because many of them have responded well towards corporate transparency reforms due to their inclusion in European Union. However, some of them are still struggling, and lack a good corporate governance structure, transparency and enforcement of property rights. Examples of such countries are Russia and other ex soviet nations. However, Scandinavians are often considered best in proper investor and property rights enforcements and transparency. In this paper, we explore these differences in the quality of corporate earnings across Europe. Our main objective is to study the determinants of earnings management in these countries.

This study also tries to provide evidence concerning the adoption of International Financial Reporting standards (IFRS). Some people may argue that the internationalization of accounting practices such as the IFRS is aimed to address the problem of information asymmetries. These standards require disclosing as much information as possible to outside world. But the main question still remains whether that disclosure represent the truthful information about the performance of a firm? However, we do not intend to explore the desirability of particular accounting standards by firms situated in Eastern Europe and Scandinavia. Soderstrom and Sun (2008) evaluate the costs and benefits of policy issues related to the adoption of IFRS in detail. They argue that cross-country differences in accounting quality are likely to remain following IFRS adoption because accounting quality is a function of the firm's

overall institutional setting, including the legal and political system of the country in which the firm is located.

Harmonized accounting standards may have increased the quantity of accounting information but investors have reservations about the quality of those reported numbers. The influence of these reservations is visible through discounted values of firms in transitional economies, where firms are still being traded at levels significantly below than those for their western counterparts. Therefore, it is important for regulators and policy makers to understand the causes of this undervaluation of firms in these countries, and one possible way to analyze the effect of changing accounting practices within Europe is to study the amount of discretionary accruals. This measure provides a proxy for the quality of disclosed earnings. The absolute value of discretionary accruals is an indicator of the quality of earnings in a reverse order, i.e. higher the value of absolute discretionary accruals, the lower the quality of earnings, and vice versa.

We use discretionary accruals Dechow *et al.* (1995) as a measure for earnings management and investigate the determinants of the quality of earnings in 10 European countries namely Bulgaria, Romania, Croatia, Ukraine, Czech Republic, Estonia, Slovakia, Poland, Sweden and Finland. We further divide these countries into three groups based on Transparency International's CPI (Corruption Perception Index). CPI ranks annually countries according to corruption perception scores ranging from 0 to 10 for each country. The higher the scores, the better is the overall transparency. Group 1 constitutes countries that are lowest in ranking (score less than 5), meaning least transparent among our sample countries. Moreover, these countries were also not part of the European Union until the last year of our analysis i.e. 2006. Group 2 includes countries that are in the middle range (5 to 8) according to CPI, and also became EU members during the period of analysis. Finally, group 3 includes Sweden and Finland, which are highest in transparency scores and are also long-time EU members. We construct a panel data set of 2000 publicly traded companies in all 10 countries for the period of 2001 to 2006. Our analysis focuses on firm-level economic determinants such as size, leverage and growth as well as ownership characteristics such as concentration of ownership and control dummies to ascertain which one is more pronounced in each country. In order to ascertain firm-level disclosure transparency, we use the number of publicly disclosed shareholders in the annual financial statements. The number of recorded shareholders having more than 5% of equity stake in a particular year represents the proxy for firm-level disclosure quality. The companies disclosing more number and names of majority shareholders can be considered as more transparent and better in the quality of disclosures.

Our results show that firm size is the only determinant that seems to have impact in all countries; bigger firms seem to have a better quality of earnings (lower discretionary accruals). Other variables have a varying impact across countries. Economic determinants (leverage and sales growth) are more significant determinants in less transparent countries (group 1), whereas ownership structures and firm-level transparency turns out to be more important determinants in most transparent countries (Group 3). None of the firm-level determinants seems prominent except size within group 2 countries (medium transparent). Detailed results for each country are described in relevant sections. In summary, the results are interesting since they indicate that ownership structures (such as the level of ownership concentration and control) is a more significant determinant for the quality of earnings in more developed and transparent countries than in less transparent and transitional countries. The results may also be considered surprising as one should have expected a positive

relationship between the levels of ownership concentration and absolute discretionary accruals in transitional European countries. The weaker investor protection rights of minority shareholders would allow large shareholders to expropriate the value of minority shareholders through earnings manipulations in transitional countries.

We further tested for the informativeness of discretionary accruals according to the value relevance theorem. Results show that the market detects well the quality of earnings disclosed in group 3 countries, and market value is reduced when discretionary accruals are higher. This is in line with the opportunistic earnings management hypothesis, and predicts that firms are engaged in opportunistic earning management behaviour, but the market seems to be capturing their action. For, group 2 countries, a positive relationship between discretionary accruals and market value is found meaning that the performance measure hypothesis prevails for these medium transparent and transitional countries. No relationship is detected for group 1 countries. Pooled regressions of firm characteristics, market-to-book ratios and discretionary accruals show different interaction terms within each group. A detailed discussion is provided in the results section.

The layout of the paper is the following; the next section describes the motivation and gives a literature review of propositions tested in the paper. Section 3 describes the data and descriptive statistics for variables tested. Section 4 presents the methodology used for empirical analysis. Section 5 and 6 discuss the results, and conclusions of the paper respectively.



## 2 PURPOSE OF THE STUDY AND LITERATURE REVIEW

Earnings management is defined as the extent to which the distribution of reported earnings fails to provide information about the distribution of true economic performance. According to Healy and Wahlen (1999) and Leuz *et al.* (2003), insiders alter the firm's reported performance to either mislead some stakeholders or to influence contractual outcomes. Accrual accounting gives managers substantial discretionary powers to manipulate the reported performance for self-interested purposes and to get private benefits. Better inside information provides managers incentives to maximize their own interests or to signal their private information, thus influencing the informativeness of earnings (Healy, 1985; Holthausen *et al.*, 1995; Fan & Wong, 2002; Gul *et al.*, 2003; Chung *et al.*, 2004).

The main purpose of this paper is three fold. First, it explores the firm-level economic characteristics that determine the extent of earnings management<sup>1</sup>. Second, it tries to find a relationship between the extent of earnings management and to study the three aspects of the determinants of earnings management, and third, it tries to test whether the extent of earnings management is associated with market returns. The tests for these relationships in different countries help us to reach to some interesting conclusions about the effectiveness of the corporate governance mechanisms and corporate transparency in these different countries. Economically different types of companies may find different reasons to manage earnings e.g. firm's size, risk, and growth opportunities can determine the extent of earnings management measured as the absolute value of discretionary accruals. Similar to economic determinants, there may also be firm-level corporate governance determinants of earnings management under perceptiveness of the agency theory. We study ownership as an important determinant for earnings management. The ownership concentration and control may drive insiders to entrench themselves by the use of discretionary powers over the reported performance of the firm. Then there are different theories about the market reaction of earnings management. Two of them are *performance measure* and *opportunistic* theories that predicts a significant positive or negative relationship between the extent of earnings management and stock returns. We test these theories at macro-level within three groups of countries, which are different according to level of transparency and economic development. We argue that there may also be country-level determinants of earnings management, which are important to control in order to minimize the expropriation of minority shareholders' rights. We discuss all three approaches in more detail separately in the following sections.

### 2.1. Economic Determinants of Earnings Management

Earlier literature has documented both firm-level and country-level determinants of earnings management and of the informativeness of disclosed earnings to market value (see e.g. Warfield *et al.* (1995), Gabrielsen *et al.* (2002), Yeo *et al.* (2002), Park and Shin (2004), Sanchez-Ballesta and Garcia-Meca (2007)). These studies discuss the impact of firm-level determinants of the magnitude of accruals. They show that variables such as size, leverage, and growth determine the extent of managers' discretion to inflate or deflate reported performance and thus determine the quality of reported earnings.

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<sup>1</sup> The extent of earnings management is measured by the magnitude of discretionary accruals.

Sanchez-Ballesta and Garcia-Meca (2007) show that firm level characteristics are important determinants of earnings management in Spanish listed firms. They further suggest that it is important to control for the size of the firm while examining earnings management practices, because bigger firms are less likely to manage earnings due to more attention from financial analysts and press. It is difficult for bigger firms to manage earnings before announcements as their activities are monitored frequently, and it would be hard for them to beat the expectations. On the other hand, bigger firms may also have more incentives to manage earnings to smooth the effect of short-term economic shocks to their actual performance. Similarly, riskiness can also be an important determinant of earnings management as firms that face financial constraints (highly leveraged firms) have incentive to adjust earnings upward in order to avoid a potential loss from disclosing a financial problem. Park and Shin (2004) report that financially constrained firms manage earnings in order to fulfill their commitments to pay costs of debt and to avoid bankruptcies. Additionally, growth of firm can also be an important determinant. According to Skinner and Sloan (1999) the market severely penalizes growth firms for negative earnings surprises. Therefore, growth firms have relatively strong incentives to meet earnings forecasts. Assessing the impact of these firm-level determinants on the quality of reported earnings becomes an important issue in different institutional settings. Leuz et al. (2003) show that the quality of earnings increases in investor protection and the level of earnings management is lower in countries where investors' rights are more protected.

Another objective of this paper is to examine the determinants of financial reporting across European countries. Hence, it is important to discuss earlier literature that provides insights about how different characteristics of countries may influence the decisions taken by managers at firm level. There is a strand of literature examining how legal institutions impact the quality of reported earnings e.g. Ali and Hwang (2000); Ball *et al.* (2000); Leuz *et al.* (2003) and Bushman and Piotroski (2006). They find that the quality of legal institutions and investor protection are important determinants of the country level quality of reported earnings. Although these studies provide valuable insights into the effects of firms' regulatory environments yet they do not tell us much about firm-level earnings management which can vary considerably not only across countries but also within them.

Shleifer and Vishny (1997) argue that the relationship between firm level corporate governance and firm value is high in countries where investor protection is weak and vice versa. This gives a useful insight into the earnings management mechanism and its relationship with firm and country level characteristics. Earlier evidence in this regard is mixed. Klapper and Love (2004), Durnev and Kim (2005) and Dayha *et al.* (2008) support the contention that firms benefit the most from adopting strong governance standards when the country environment is weak, whereas Khanna *et al.* (2006) and Doidge *et al.* (2007) find limited convergence in corporate governance practices around the world, and describe that country attributes are crucial in explaining firm-level governance ratings. Stulz (2005) argue that the effects of globalization are limited because of local governments and corporate insiders who look after their own interests at the expense of outside investors.

## **2.2. Corporate Governance Determinants of Earnings Management**

Berle and Means (1932) and Jensen and Meckling (1976) argue that insiders do not have full cash flow rights but significant controlling rights of the firm, which intensify the need to analyze the ownership structure with respect to earnings management and

valuation to measure the extent of the agency problem. This conflict of interest between outside shareholders, and managers, who own a small portion of equity in a diffused ownership environment (U.S, UK and other western economies), shifts away to conflicts between the controlling owner (who possesses more than 50% of the voting rights) and minority shareholders in a concentrated ownership environment. In this situation, the nature of accounting accruals provides ample discretion to managers and/or controllers to determine the actual earnings a firm reports in any period. Most of the earlier studies examine managerial (insider) ownership and discretionary accruals. We however, examine the magnitude of ownership concentration (which we calculate as the cumulative ownership held by all shareholders with at least 5% of individual ownership). Furthermore, the firm-level transparency measure can also explain the extent of earnings management. We use the number of reported shareholders as a proxy measure for the transparency in reporting. These determinants of earnings management may also change over time as different firms may have different incentives to manipulate performance in different stages of their life cycle.

Most previous studies in discretionary accruals examine only one aspect of ownership structure, insider ownership (Warfield *et al.*, 1995; Gabrielsen *et al.*, 2002; Yeo *et al.*, 2002). There are few studies in corporate governance that deal with ownership concentration measures (e.g. McConnell and Servaes, 1990; Agarwal and Knoeber, 1996; Demsetz and Villalonga, 2001; Boubarki *et al.*, 2005). The majority of this empirical research states that monitoring by owners improves the quality of managerial decisions and consequently firm value. De Bos and Donker (2004) show that increased ownership concentration is an effective corporate governance mechanism to monitor the accounting decisions of incumbent management, such as voluntary accounting changes.

The ownership structure of firms may also explain the extent of earnings management. This relationship is further strengthened in developing and transitional countries. The most significant benefit of control via ownership concentration is to conceal the firm's real economic performance from outsiders and to misrepresent the allocation of resources for private benefits. The most common abuse of powers is that some value is enjoyed exclusively by controllers and thus not shared with non-controlling shareholders through earnings management. This paper contributes in the existing literature about the agency conflict between controlling majority owners and non-controlling minority shareholders. According to Leuz *et al.* (2003) the controlling owners can misrepresent the firm's actual performance to earn incentives which are not shared with minority shareholders. The costs of misrepresentation such as legal, loss of reputation and loss of market value have to be lower than the incentives gained from misrepresentation.

Controlling owners are perceived to report accounting information for self-interested purposes, causing the reported accounting information to lose credibility to outside investors. For example, controlling owners can use their discretion to overstate earnings and conceal unfavorable earnings to mislead outsiders' interferences. They can also use discretion to create reserves (accruals) for future periods by understating earnings in years of good performance, effectively making reported earnings less variable than the firm's true economic performance. Hence, the use of discretionary accruals has offsetting effects on the value relevance of accounting information.

The controlling shareholder controls and manages the sources of companies to achieve incentives at the cost associated with minority shareholders. The controlling owners expropriate the value of minority shareholders to entrench themselves. The controlling

owners join powers with management of the company to divert the resources and manipulate the reported earnings. It further leads to significant under valuation of companies. Thus it is important to understand the effect of concentrated ownership on earnings management activities before making direct assessment of earnings informativeness.

### **2.3. Informativeness of Earnings Management**

In economies where the state does not effectively enforce property rights, the enforcement by individual owners plays a relatively more important role in determining the valuation of the shares (see e.g. Fan and Wong, 2002). Schleifer and Vishny (1997) and LaPorta *et al.* (1999) argue that investors' rights attached to the security they are buying are important while valuation of their shares especially when managers act in their own interest<sup>2</sup>. They further elaborate that the benefits from concentrated ownership are relatively larger in countries that are generally less developed, where property rights are neither well defined nor protected. The benefits include incentives of control, contracting and entrenchment activities. Hence, the investors in more developed countries should be able to detect the manipulation of the actual performance of the companies by the managers. Thus, the market value of the company should be lower if the absolute value of discretionary accrual is high. Sanchez-Ballesta and Garcia-Meca (2007) report in their study on ownership concentration and informativeness of earnings in Spanish listed companies that the main agency problem arises from controlling and minority shareholders in most of the European countries. This problem is more prominent in Ex-soviet countries where the property rights and shareholder protection is still weak and gradually improving with effective reforms and outside pressures from EU (La Porta *et al.* 2002).

We test the informativeness of the quality of earnings measured from the magnitude of absolute discretionary accruals across 10 European countries. We expect that investors in more transparent markets are able to detect the quality of disclosed earnings and react mechanically as lower quality should be reflected by discounted valuation of firms resulting in a negative relationship between discretionary accruals and tobin's q. Furthermore, it is also important to test the interactions of different firm-level determinants of informativeness of the quality of earnings. Firm size, leverage, growth, ownership concentration, number of reported shareholders and control should have an impact on the relationship between market value and discretionary accruals.

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<sup>2</sup> The owner of a share is entitled to three categories of property rights that include (i) voting right –the owner has the decision right over the utilization of corporate assets, (ii) cash flow right - the owner has a right to earn income and (iii) transfer right – the owner is entitled to transfer his/her rights to another party.

### 3 DATA AND DESCRIPTIVE STATISTICS

We use historical ownership, accounting fundamentals and market prices obtained from Amadeus Bureau van Dijk snapshot DVDs for the period starting from year 2001 to year 2006. It gives us an opportunity to test the firm specific cross-sectional and time-series variations in discretionary accruals and value relevance of accounting accruals. The current data is selected for 10 European countries. We divide the whole sample into three groups of countries based on Transparency International's Corruption Perception Index and EU membership as follows:

Group I - Lower transparency and Non-EU Members

Bulgaria, Romania, Croatia, Ukraine

Group II - Medium Transparency and New EU Members

Estonia, Czech Republic, Slovakia, Poland

Group III - Most transparent and long-time EU Members

Finland, Sweden

The distribution of countries into three groups is based on two factors. First, the whole sample was divided into EU member and non-EU member states by year-end 2006. Then the EU member states were further divided into two groups based on Transparency International's Corruption Perception Index (CPI) and the fact that the two Nordic countries turned out to be the least corrupt countries in ratings provided a reason to test them differently than the other EU member states especially those who recently joined the EU. Thus we test the quality of earnings in three groups, which are different from each other in terms of legal environment, investor protection and general transparency standards.

We use annual data for all listed firms in a particular country regardless of the stock exchange where they are listed. Financial data is extracted from consolidated annual statements available at Amadeus. All financial variables are converted to Euros (in thousands) using end of year exchange rate of relative currency. Ownership and market values are also taken from the Amadeus database. Financial firms and inactive firms are excluded from the sample due to methodological reasons. Financial firms have different accounting methodologies and hence cannot be judged together with other non-financial firms. Inactive firms are also excluded due to illiquidity and unavailability of market price data. Our final sample contains 2001 listed companies in all 10 countries. The total number of firm-years amounts to 8926. Distribution of companies and firm years across countries is shown in table (1). We got high number of firm-year observations especially in case of Group (1) countries because we did not restrict our dataset to listed firms in the main stock exchanges. For example, the main stock exchange in Romania is Bucharest Stock Exchange and that has only 69 listed firms whereas another OTC exchange namely "RASDAQ" is the former stock exchange of Romania and was merged into Bucharest Stock Exchange in the year 2005. Current number of listing in RASDAQ is more than 1600. As we did not restrict our dataset to cover the main stock exchanges hence, a higher number of firm-years is observed. However, we conducted some additional tests to check the robustness of our main

results discussed in section (5) on firms that are listed in the main stock exchanges only and did not find any significant variations in observed findings.

**Table 1 Number of companies and firm years (*N*) across countries**

The table represents the number of firms in each country in our sample and corresponding number of firm-year observations (*N*) across all 10 countries. The countries are divided into 3 groups on the basis of transparency and EU membership. For transparency, corruption perception index scores by Transparency International are used. The dates of EU membership for each country are also checked to strengthen the reasoning of these grouping on the basis of economic development.

	<b>No. of firms</b>	<b><i>N</i></b>
<b><i>Group I</i></b>		
Bulgaria	185	872
Romania	764	3137
Ukraine	221	1223
Croatia	290	1449
<b><i>Group II</i></b>		
Czech Republic	22	103
Estonia	14	47
Slovakia	106	451
Poland	76	201
<b><i>Group III</i></b>		
Sweden	228	931
Finland	95	512
<b>Total</b>	<b>2001</b>	<b>8926</b>

## 4 METHODOLOGY

We use an earnings management model, directly relating income, cash and accruals, because it enables us to measure accruals proxies in a time series and cross-sectional way simultaneously and also requires fewer assumptions than other time series and theoretical models. The Jones model (1991) is considered as the milestone (Hermanns, 2006), but some modifications in the original model have been proposed to increase the predictability and explanatory power of original version. E.g. Dechow et al (1995) modified the model by subtracting changes in receivables from changes in revenues in order to control for management's intentions to use its discretion over credit sales, which is the easiest way of manipulation in a non-conservative accounting environment. The Jones model identifies accounting fundamentals as the determinants of non-discretionary accruals. Schipper and Vincent (2003) state that the Jones model is a direct estimation model because it identifies accounting fundamentals as determinants of expected accruals. Discretionary accruals reflect the quality of earnings with an inverse relationship, i.e. higher is the discretionary accruals worse is the quality of earnings.

Consistent with the earlier studies by Healy (1985) and Jones (1991), total accruals ( $TA$ ) scaled by lagged total assets ( $A_{t-1}$ ) are calculated as

$$TA_t = \frac{\Delta CA_t - \Delta CL_t - \Delta Cash_t + \Delta STD_t - Dep_t}{A_{t-1}}, \quad (1)$$

where,

$\Delta CA$  = change in current assets,

$\Delta CL$  = change in current liabilities,

$\Delta Cash$  = change in cash and cash holdings,

$\Delta STD$  = change in debt included in current liabilities,

$Dep$  = depreciation expense, and

$A_{t-1}$  = one period lagged ( $t-1$ ) total assets.

According to the modified Jones Model, the non-discretionary accruals proxy is calculated to eliminate the conjectured tendency of manipulation when discretion is exercised over revenues. Dechow *et al.* (1995) proposed this modification in the original Jones (1991) model in order to control for any use of discretion over credit sales. It seems much easier to manage earnings via credit sales rather than cash sales.

We use a residual approach to estimate the discretionary accruals from equation (2), where we compute the series of residuals as a proxy for discretionary accruals.

$$TA_{i,t} = \alpha_1 (1/A_{i,t-1}) + \alpha_2 (\Delta REV_{i,t} - \Delta REC_{i,t}) + \alpha_3 (PPE_{i,t}) + \varepsilon_{i,t}. \quad (2)$$

For each year and industry, we regress total Accruals ( $TA_{i,t}$ ) on the lagged total assets ( $1/A_{i,t-1}$ ), change in revenues minus change in trade receivables ( $\Delta REV_{i,t} - \Delta REC_{i,t}$ )

divided by lagged total assets, and property, plant and equipment ( $PPE_{i,t}$ ) divided by lagged total assets. The explained part is considered as non-discretionary or normal part of current total accruals and residuals (i.e unexplained part of total accruals) represent discretionary accruals. That can be used as a proxy for earnings management.

#### 4.1. Determinants of Earnings Management

Earnings management is measured by the extent of discretionary accruals in absolute terms, considering the fact that the earnings management can be positive (income inflating) and negative (income deflating). Hence, it is important to detect both directions of earnings management. This absolute measure of earnings management is used by several other studies (see e.g. Warfield *et al.*, 1995; Bartov *et al.*, 2001; Klein, 2002; Gabrielsen, *et al.*; 2002; Jiraporn *et al.*, 2008) as a proxy for the combined effect of a positive and negative earnings management. The absolute value of discretionary accruals represents the inverse of the quality of the disclosed earnings. A higher value of absolute DA means more earnings management thus lower the quality of the earnings and vice versa.

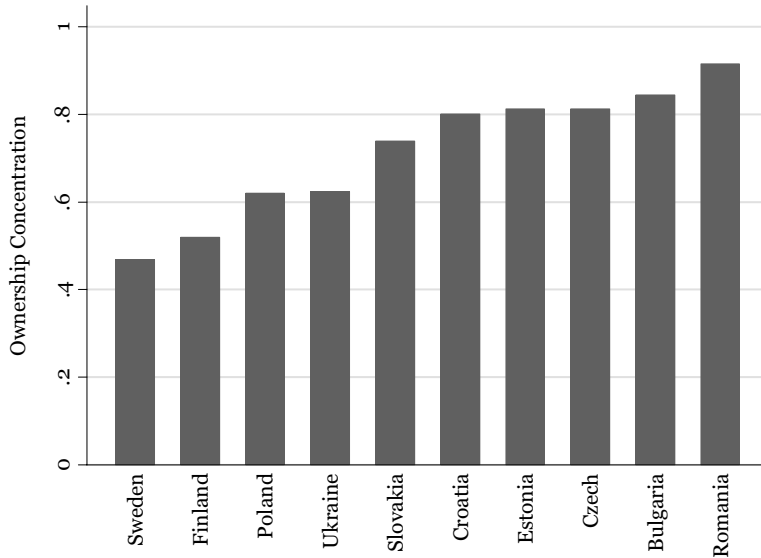
The firm-level variables used in this study as determinants of discretionary accruals across all countries are size, leverage, sales-growth, ownership concentration, control and the number of reported shareholders. *SIZE* is measured as the natural logarithm of total assets in thousands of Euros at the beginning of the year. We expect size to have a negative relationship with discretionary accruals due to the fact that bigger firms are more transparent, and are less likely to hide abnormal performance from the market. These firms are closely monitored by financial analysts and media and find it difficult to manage earnings. Smaller firms on the other hand are expected to have higher discretionary accruals because they are not that closely monitored, and the nature of accruals give ample opportunities to the managers of these firms to use their discretion over the performance before making it public to outside world. Lower scrutiny by outsiders can potentially increase managers' ability to exercise their discretion in smaller firms. Financial leverage (*LEV*) measured as the debt to equity ratio, represents the financial risk of the firm. Dhailwal (1991) argue that leverage could be proxy for the riskiness of debt or default risk. Shleifer and Vishny (1997) argue that banks and other large creditors are in many ways similar to the large shareholders. Like the large shareholders, they have large investments in the firm, and want to get returns on their investments. Their incentives cohere with the large shareholders due to variety of control rights they achieve when firms violate debt obligations and when firms come back at regular intervals to borrow more. They therefore, end up holding substantial cash flow and voting rights and exercise their rights to affect the equity of other shareholders. With these significant powers, they can influence the financial disclosures of the firm to obtain favorable results. We therefore expect a positive relationship between leverage and the absolute discretionary accruals due to the fact that financially constrained or distressed firms have an incentive to avoid potential shocks to economic profits and thus inflate the earnings to avoid financial problems. At the same time, highly leveraged firms would also like to postpone an exceptionally good performance to next periods in anticipation of relatively poor future performances in order to keep their future debt obligations in tact. Sales-growth (*SGT*) is calculated as the difference of revenues between two years, divided by the previous year revenues. Firms with more revenue growth have more attractive investment opportunities, which leads managers to try to influence learning through the exercise of accounting discretion, in order to improve the chances of getting the outside financing they need in the future. Additionally, Skinner and Sloan (1999) argue that the market may penalize



growth firms more severely for negative earnings surprises, and these firm may therefore, have more incentives to meet high earnings expectations. Hence, we expect a positive relationship between sales growth and discretionary accruals.

Ownership variables include concentration of ownership (COWN), measured as cumulative shares held by majority shareholders having at least 5% of individual share ownership in a firm. The concentration of ownership is calculated using the direct cash-flow rights. Amadeus report the direct ownership stake on individual owner for all reported shareholders. The measure of ownership concentration may have some biases because of differences in cash-flow rights and voting rights in Scandinavian countries. However, most of the Eastern European countries have one share-one vote system that reduces the difference between cash-flow and voting rights. But it is very difficult to detect the pyramid and cross-ownership structures in Eastern European companies. Unless the owners report their indirect ownership or the name of the nominees by themselves, it becomes impossible for the outsiders to measure the actual share ownership of majority shareholders. Therefore, the actual ownership concentration may be higher than our measure. Since, Amadeus do not provide data on the voting rights explicitly for each owner and only provides name and equity stake of the ultimate owner so we can assume that the possible biases should be minimized when we aggregate the ownership stakes of all individual shareholders with more than 5% stake in the company. We expect ownership concentration to be positive related to earnings management. Majority shareholders have more incentives to engage in earnings smoothing, as the potential for expropriation is higher. Conversely, firms with dispersed ownership are more likely to have lower incentives for earnings management, due to the fact they need to attract minority shareholders and to get better negotiation terms for more equity offerings.

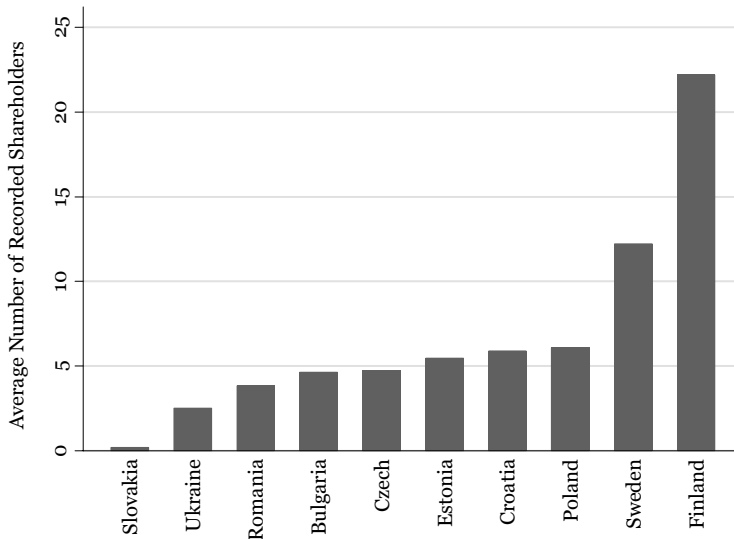
Control variable (C50) is the dummy variable for firm controlled by one shareholder possessing 50% or more stakes in the company. Amadeus provides information about the ultimate control. The name and share ownership is directly taken from the database. For control, an owner must have – direct or indirect - more than half of its shareholders' voting power or more than half of its shares (Statistics Finland, concepts and definitions). Hence, we generalize the control variable over all countries in our sample to identified the firms that have one controlling owner. Controlling shareholder has incentives to manipulate the disclosed earnings to entrench themselves through self-dealing, thus having a positive relationship with earnings management. On the other hand, incentive alignment hypothesis suggest that achieving control minimizes the entrenchment because further expropriation may harm the value of controlling owner and thus expropriation would become costly. Thus we do not make any ex-ante prediction about the relationship between control and earnings management.



**Figure 1 Ownership concentration across 10 European countries**

Country-wise ownership concentration is presented in Figure (1) where it seems that Romania has the most concentrated ownership environment with almost 90% of the ownership of all listed firms concentrated in a few individuals who own at least 5% of individual shares in any firm, followed by another group 1 country - Bulgaria. Both Sweden and Finland seems to have the lowest concentration, ranging from 40% to 50%.

As a firm-level transparency measure, we use the number of reported shareholders (*NRS*) defined as the logarithmic value of number of shareholders reported in annual report in a particular year  $t$ . We expect *NRS* to have negative relationship with discretionary accruals because firms disclosing the names of more shareholders are considered more transparent and disclosing truthfully. It also represents the dispersion of ownership among large shareholder and firms with more dispersion of ownership have more monitoring incentives. Ownership entrenchment can be controlled by high scrutiny by other large shareholders.



**Figure 2 Average number of reported shareholders across 10 European countries**

Figure (2) shows the average of number of reported shareholders across all countries and here we see that Scandinavian countries (Group III) have the highest average in terms of reporting shareholders' information. Finland is at the top with reporting of information about 24 shareholders on average. This highlights the high-level corporate transparency within Nordic countries. Slovakia is at the bottom with fewer than one (average) individual shareholder per firm. Cross-sectional mean of each variable discussed above is presented in table (2) for each country. It shows that Croatia has the lowest magnitude average discretionary accruals across all firms (0.077) and another group 1 country, Romania, has the highest magnitude of absolute discretionary accruals (0.42). The variable C50 that shows the number of solely controlled firms in each country is important. The table highlights that group 1 countries have on average high values for this variable, whereas group 3 countries (Sweden and Finland), have few firms that are controlled by one shareholders, 11% and 14%, of all firms respectively). Romania has a maximum number of firms controlled by one shareholder.

**Table 2 Descriptive statistics of firm-level variables across countries**

The table represents the descriptive statistics of firm level variable used in our analysis across all countries for period 2001-2006. *ADA* is the absolute value of discretionary accruals. *SIZE* is the natural logarithmic value of Total Assets in thousands of Euro for firm *i* in year *t*. *LEV* is the debt to equity ratio for firm *i* in year *t*. *SGT* is the sales growth for firm *i* in year *t*. *COWN* is the fractional cumulative ownership of shareholders of all individual shareholders having 5% or more ownership for firm *i* in year *t*. *NRS* is the natural logarithmic of number of reported shareholders for firm *i* in year *t* and *C50* is the dummy variable if one reported shareholder owns 50% or more shares for firm *i* in year *t*.

	<b>ADA</b>	<b>SIZE</b>	<b>LEV</b>	<b>SGT</b>	<b>COWN</b>	<b>NRS</b>	<b>C50</b>
<b>Group I</b>							
Bulgaria	0.137	8.492	0.521	0.200	0.845	4.648	0.605
Romania	0.420	7.037	0.550	1.192	0.916	3.847	0.812
Ukraine	0.127	10.218	0.848	0.494	0.623	2.507	0.282
Croatia	0.077	9.960	0.882	0.261	0.801	5.886	0.474
<b>Group II</b>							
Czech Republic	0.092	11.997	0.319	0.152	0.813	4.707	0.537
Estonia	0.135	10.051	0.659	0.577	0.812	5.467	0.467
Slovakia	0.092	8.574	0.533	0.210	0.739	0.217	0.085
Poland	0.201	9.490	0.939	0.379	0.621	6.100	0.220
<b>Group III</b>							
Sweden	0.299	9.435	0.685	3.775	0.468	12.207	0.108
Finland	0.089	11.737	0.680	0.137	0.519	22.194	0.143

We investigate the determinants of earnings management in Transitional Europe. We start by examining which firm-level characteristics drive earnings management. Firm-level variables include both economic variables such as size ( $SIZE_{i,t}$ ), leverage ( $LEV_{i,t}$ ) and sales growth ( $SGT_{i,t}$ ) as well as ownership variables such as ownership concentration ( $COWN_{i,t}$ ), number of reported shareholders ( $NRS_{i,t}$ ) and a control dummy ( $C50_{i,t}$ ). We estimate the firm-level earnings management in a panel regression of the following form:

$$ADA_{i,t} = \alpha_{i,t} + \beta_1 SIZE_{i,t} + \beta_2 LEV_{i,t} + \beta_3 SGT_{i,t} + \beta_4 COWN_{i,t} + \beta_5 NRS_{i,t} + \beta_6 C50_{i,t} + Fixed\_Effects + \varepsilon_{i,t} \quad (3)$$

#### 4.2. Earnings Management and Firm Value

We estimate the pooled regression of panel of firms across countries to test the relative effectiveness of firm-level variables across years and countries. Industry, year and country dummies are used to control for asymmetries in estimation in each regression.

The coefficients are estimated in pooled regression for each variable interaction with absolute discretionary accruals. The analysis will be carried across-countries and across-years in order to test the variations among different countries and time periods. The model is:

$$\begin{aligned}
 Q_{i,t} = & \alpha_{i,t} + \beta_1 ADA_{i,t} + \beta_2 (ADA * SIZE)_{i,t} + \beta_3 (ADA * LEV)_{i,t} + \beta_4 (ADA * SGT)_{i,t} \\
 & + \beta_5 (ADA * COWN)_{i,t} + \beta_6 (ADA * NRS)_{i,t} + \beta_7 (ADA * C50)_{i,t} + \\
 & Fixed\_Effects + \varepsilon_{i,t}
 \end{aligned} \quad . (4)$$

In terms of market reaction to discretionary accruals, we expect to have a negative interaction term of size with absolute discretionary accruals because it is easier for investors to detect the earnings management done by bigger firms and discount the price. Atiase (1985) and Freeman (1987) has documented that public disclosure and private development of non-earnings information are increasing functions of firm size.  $LEV_{i,t}$  is the ratio of debt to equity.. The earnings informativeness of highly leveraged firms is lower. On the other hand, Smith and Watts (1992) suggest that leverage represents the investment opportunities of a firm and mature firms usually have high leverage but more information in disclosed earnings. Hence, leverage can also improve the informativeness of earnings.  $SGT_{i,t}$  is the revenue growth at year  $t$  because high growth opportunities are associated with future high earnings or persistence. High growth of revenues may lead to higher expected earnings in future and thus a stronger earnings- return relationship (Collins and Kothari, 1989). On the other hand, high growth firms are more risky, which weakens the earnings-return relationship. We control for any empirical effect that revenue growth may have on earnings informativeness.  $IND$  and  $YRD$  are industry and year dummies to control for any asymmetric effects of industrial segment and time across firms.

### 4.3. Earnings Management and Stock Returns

The earnings response coefficient approach is used to estimate the relationship between the accruals and the annual stock returns. We test the earnings response coefficient across countries and years. We use actual discretionary and non-discretionary accruals as a measure of firm performance from general shareholder's point of view. Following Guy *et al.* (1996), we model the relationship between the cumulative annual returns, and parts of accruals. Under the performance measure and the opportunistic earnings management hypotheses discretionary accruals ( $DA_{i,t}$ ) are always perfectly (positive or negative) correlated with stock returns. Similarly we expect relationship between discretionary accruals and stock returns.

$$CAR_{i,t} = \alpha + \beta_1 DA_{i,t} + \beta_2 NDA_{i,t} + \varepsilon_{i,t}. \quad (5)$$

The sign of the correlation of discretionary accruals with stock returns under the performance measure hypothesis depends on whether nondiscretionary accruals include an over or under reaction to the economic shock to the earnings. In order to test whether non-discretionary accruals ( $NDA_{i,t}$ ) contain any over or under reaction to economic shock to earnings we try to find any predictive relationship between non-discretionary accruals and stock market returns.

## 5 EMPIRICAL RESULTS

The results obtained from the regression analyses on 2001 listed firms across 10 European countries are now presented in this section<sup>3</sup>. Table (3) reports the results obtained from year fixed-effect regressions of absolute discretionary accruals on firm-level variables. Columns (1) and (2) report the coefficients for firm-specific economic variables such as size, leverage and growth. It shows that size is always negatively related to discretionary accruals, meaning that bigger firms have lower discretionary accruals and thus better quality of earnings even after controlling for industry and country effects. Leverage, as a measure of firm riskiness, is always positively and significantly correlated with discretionary accruals. It means that financially distressed firms tend to have lower quality of earnings (higher discretionary accruals). Columns (3) and (4) report the results for both economic and ownership determinants of earnings management without controls and with controls respectively. It shows that leverage is no more significantly affecting discretionary accruals and most of the ownership variables seem uncorrelated with earnings quality. In one instance, ownership concentration is negatively (only at the 10% significance) related to discretionary accruals but that effect disappears when we add dummies to control for industrial and country variations. Firm size turns out to be only variable in this combined panel regression to have a significant relationship with earnings management. However, we not only intended to test these determinants within individual countries but also tested the impact of these firm-level variables across the years.

It indicates that higher coverage by analysts, increased media attention and higher investors' trust on bigger firms play a deterministic role for the quality of disclosed earnings in all types of countries regardless of their general levels of transparency, investor protection and legal rights. Other variables such as leverage, growth and ownership structures seems to play their role in specific settings or around the time of a specific corporate event such as need to raise capital either via equity or debt financing, around mergers and takeovers, in times of financial distress or at the time when major legislation affecting specific types of firms is being brought into force. Similarly, different ownership structures such as levels of ownership concentration, types of controlling owners, their affiliations and the level of control might play a deterministic role in a particular time period.

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<sup>3</sup> We also checked the robustness of the results by running all the regressions on only those firms which are listed on the main stock exchange of the country. The data in this case was limited to 1556 firm-year observations of 598 firms across 10 countries. The firms not listed at the main stock exchange may have different disclosure requirements which could distort the main findings of our analyses. We did not find any significant difference in our results from those reported in this section. Therefore, we report results only from our main analyses covering all listed firms across countries. The only reportable difference found was in the leverage which changed the sign and reported a negative relationship with the absolute discretionary accruals. The change in the direction of the coefficient can be explained by the fact that firms listed on the main stock exchanges are prone to better monitoring by the financial institutions such as banks and thus have lesser opportunities to manipulate the reported earnings. This affect is highly significant in Bulgaria, Sweden and Ukraine. It shows that large creditors play a more effective role in monitoring the performance of firms listed on the main stock exchanges in these countries. This result drew our attention towards an interesting issue to explore the role of financial institutions in different legal and institutional settings. We leave this issue to be analyzed in a future research on the topic.

**Table 3 Determinants of earnings management – panel regression**

The table represents the panel regression analysis for whole sample representing 8926 firm years in 10 European countries. The dependent variable is the absolute value of discretionary accruals (*ADA*). The independent variables include; the size of the firm (*SIZE*) which is the natural logarithmic value of the Total Assets in thousands of Euro. Leverage is represented by (*LEV*) which is the debt to equity ratio. Growth is represented by (*SGT*) which is the growth in sales. Ownership concentration is represented by (*COWN*) which is the cumulative ownership stake of all individual shareholders having at least 5% direct or indirect cash-flow rights in a firm. The number of recorded shareholders (*NRS*) is the natural logarithm of the total number of reported shareholders in consolidated annual statements of the firm and the control of the firm is represented by (*C50*) which is the dummy variable if one reported shareholder directly or indirectly owns 50% or more cash-flow rights. *Industry* and *Country* dummies are included to control for industry-specific and country-specific variations.

<b>ADA</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
<i>SIZE</i>	-0.027*** (-5.15) <sup>§</sup>	-0.036*** (-3.57)	-0.013*** (-5.61)	-0.014*** (-4.89)
<i>LEV</i>	0.003*** (2.83)	0.003*** (3.26)	0.001 (0.96)	0.001 (1.30)
<i>SGT</i>	0.001 (0.97)	0.001 (0.90)	0.000 (0.42)	-0.000 (-0.45)
<i>COWN</i>			-0.021* (-1.66)	0.006 (0.36)
<i>NRS</i>			0.004 (1.17)	0.007 (1.46)
<i>C50</i>			-0.000 (-0.06)	0.006 (0.79)
Constant	0.376*** (7.39)	0.460*** (5.66)	0.243*** (10.49)	0.170*** (6.06)
<i>Industry</i>	No	Yes	No	Yes
<i>Country</i>	No	Yes	No	Yes
<i>Year</i>	No	Yes	No	Yes
<i>R</i> <sup>2</sup>	0.03	0.03	0.03	0.06
<i>N</i>	8926	8926	8926	8926

<sup>§</sup>corresponding *z* – values are in parentheses.

\* significant at 10% level of significance

\*\* significant at 10% level of significance

\*\*\* significant at 1% level of significance

Table (4) summarizes the year specific cross sectional regressions with country and industry controls. Size of the firms again shows a consistently negatively relationship with discretionary accruals. Other variables have varying impact on firms' discretionary practices. The quality of earnings was lower in highly leveraged firms during the years 2003 and 2005 whereas, growth in sales showed positive deterministic behavior during 2001 and 2004 and negative behavior during 2005. Among ownership variables, concentration (*COWN*) attributes increased discretionary accruals during 2002, 2005 and 2006 and dummy variable representing the ultimate control (*C50*) tend to increase the quality of disclosed earnings (negatively related to discretionary accruals) during the last two years of analysis. The results indicate towards a need to test the short-term

objectives of firms to misrepresent the actual performance through discretionary accruals. It requires conducting an event study on firm-level objectives that may affect the magnitude of discretionary accruals in a specific time period. However, this still remains out of the scope of this paper and we leave it for a future study on firm-specific determinants of the quality of the earnings around a particular corporate event or objective. This study focuses on general trends in the quality of disclosed earnings at country-level and its determinants. Earnings management is assumed to be a widely-spread practice in a country of lower transparency and higher perception corruption perception.

**Table 4 Determinants of earnings management – cross sectional regression**

The table represents the yearly cross-sectional analysis of all firms in 10 European countries. The dependent variable is the absolute value of discretionary accruals (*ADA*). The independent variables include; the size of the firm (*SIZE*) which is the natural logarithmic value of the Total Assets in thousands of Euro. Leverage is represented by (*LEV*) which is the debt to equity ratio. Growth is represented by (*SGT*) which is the growth in sales. Ownership concentration is represented by (*COWN*) which is the cumulative ownership stake of all individual shareholders having at least 5% direct or indirect cash-flow rights in a firm. The number of recorded shareholders (*NRS*) is the natural logarithm of the total number of reported shareholders in consolidated annual statements of the firm and the control of the firm is represented by (*C50*) which is the dummy variable if one reported shareholder directly or indirectly owns 50% or more cash-flow rights. *Industry* and *Country* dummies are included to control for industry-specific and country-specific variations.

<b>ADA</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
SIZE	-0.011** (-2.18) <sup>§</sup>	-0.005 (-0.96)	-0.016*** (-2.89)	-0.011** (-2.15)	-0.011** (-2.56)	-0.017*** (-2.63)
LEV	0.008 (1.06)	0.005 (0.63)	0.002** (1.99)	0.001 (0.14)	0.008* (1.85)	-0.001 (-1.47)
SGT	0.074*** (3.24)	0.039 (0.96)	0.004 (0.90)	0.002*** (12.53)	-0.001*** (-3.32)	0.009 (1.11)
COWN	-0.047 (-1.53)	0.064* (1.92)	-0.044 (-1.37)	-0.013 (-0.42)	0.091** (2.26)	0.068** (1.98)
NRS	0.018 (1.19)	-0.042** (-2.01)	0.015 (1.13)	0.006 (0.62)	0.012 (1.52)	0.010 (1.51)
C50	0.074*** (3.46)	0.022 (1.17)	0.032 (1.14)	0.017 (1.07)	-0.044** (-2.28)	-0.036* (-1.75)
Constant	0.212** (2.29)	0.165** (2.05)	0.419*** (3.95)	0.214*** (2.85)	0.190*** (3.70)	0.192*** (3.15)
<i>Country</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Industry</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>R</i> <sup>2</sup>	0.25	0.22	0.10	0.14	0.17	0.09
<i>N</i>	1429	1503	1504	1560	1530	1400

<sup>§</sup>Bollerslev-Wooldridge robust *t*-statistics are in parenthesis

\* significant at 10% level of significance

\*\* significant at 5% level of significance

\*\*\* significant at 1% level of significance

However, country specific regressions for groups 1, 2 and 3 presented in tables (5), (6) and (7) shed some light on country specific behavior of these firm-level determinants. Table (5) summarizes the cross-sectional regressions for each of the 4 countries of



group 1 (least transparent and non-EU members) namely Bulgaria, Romania, Ukraine and Croatia. Size is again an important determinant of the discretionary accruals in Bulgarian and Romanian firms but not in Ukrainian and Croatian firms. Similar is the case with leverage. However, a relatively more consistent determinant in this group of countries is the growth, positively related with accruals in all countries except Ukraine.

**Table 5 Determinants of earnings management – across group I**

The table represents country-wise regression analysis for all 4 countries of Group I (least transparent). The dependent variable is the absolute value of discretionary accruals (*ADA*). The independent variables include; the size of the firm (*SIZE*) which is the natural logarithmic value of the Total Assets in thousands of Euro. Leverage is represented by (*LEV*) which is the debt to equity ratio. Growth is represented by (*SGT*) which is the growth in sales. Ownership concentration is represented by (*COWN*) which is the cumulative ownership stake of all individual shareholders having at least 5% direct or indirect cash-flow rights in a firm. The number of recorded shareholders (*NRS*) is the natural logarithm of the total number of reported shareholders in consolidated annual statements of the firm and the control of the firm is represented by (*C50*) which is the dummy variable if one reported shareholder directly or indirectly owns 50% or more cash-flow rights. *Industry* and *Country* dummies are included to control for industry-specific and country-specific variations.

<b>ADA</b>	<b>Bulgaria</b>	<b>Romania</b>	<b>Ukraine</b>	<b>Croatia</b>
<i>SIZE</i>	-0.012** (-2.25) <sup>§</sup>	-0.013* (-1.76)	-0.007 (-1.10)	-0.001 (-0.34)
<i>LEV</i>	0.011** (2.27)	0.002*** (3.61)	-0.001 (-1.36)	0.002 (0.66)
<i>SGT</i>	0.148*** (7.08)	0.041** (2.33)	0.036 (0.70)	0.001*** (5.99)
<i>COWN</i>	0.056* (1.72)	-0.055 (-0.95)	0.018 (0.28)	0.005 (0.26)
<i>NRS</i>	-0.008 (-0.64)	0.022 (0.97)	-0.017 (-0.68)	0.003 (0.28)
<i>C50</i>	0.023* (1.66)	0.021 (0.56)	-0.028 (-0.97)	-0.001 (0.88)
Constant	0.079 (1.27)	0.206** (2.27)	0.093 (1.57)	0.075* (1.88)
<i>Year</i>	Yes	Yes	Yes	Yes
<i>Industry</i>	Yes	Yes	Yes	Yes
<i>R</i> <sup>2</sup>	0.63	0.30	0.09	0.03
<i>N</i>	872	3137	1223	1449

<sup>§</sup>Bollerslev-Wooldridge robust *t*-statistics are in parenthesis

\* significant at 10% level of significance

\*\* significant at 5% level of significance

\*\*\* significant at 1% level of significance

None of the ownership variables seems to matter in this group with a slight exception for Bulgaria where both ownership concentration and the control dummy are showing positive relationships with absolute discretionary accruals, but at a significance level of 10%. To summarize the findings, economic variables are much more consistent

determinants of earnings management in least transparent countries of Europe. Ownership structures of firms within these countries do not explain much of earnings management activities of firms. Another interesting finding is very low explanatory power of our model in Ukraine and Croatia suggesting that there are other factors that may have been missed in this paper for these countries. Especially in Ukraine, none of the firm-level variable shows any relationship with the quality of disclosed earnings. Further analysis is needed to capture the effect of changes in earnings management practices.

Table (6) reports the results of determinants of earnings management in group (2) countries. None of the determinants seem consistent to explain the absolute discretionary accruals within this group. In Estonia, ownership concentration and control show significant positive and negative relationships. It means that firms where ownership is concentrated into few hands in Estonian firms, it is more likely to have more discretion used over firm's earnings to manipulate before reporting them to public. However, this use of discretion is significantly lower in firms controlled by a single owner. Both entrenchment and incentive alignment theories may be supported in Estonian case. Majority owners get more private benefits of expropriation when ownership is concentrated into few hands but once effective control is achieved by single large shareholder (i.e. he/she achieves at least 50% of the cash flow rights), then further expropriation by extraction of resources may have an adverse effect. This is consistent with Shleifer and Vishny (1997) and Fan and Wong (2002), who propose that in countries that are relatively under-developed and in transition, the benefits of ownership concentration are higher for individual owners. However, that seems here to hold only in the case of Estonia. To summarize, group (2) countries have nothing in common concerning which determinants explain the quality of corporate earnings. There must be other unobservable factors that could explain earnings management practices in these countries.

Table (7) presents the results for group (3) countries, which are highest in ranking in terms of transparency and are also relatively more developed. Size again is an important determinant here as expected. However, ownership variables turned out to be more significant determinants as compared to other economic determinants. Ownership concentration in Finland drives down earnings management. The number of reported shareholders (a measure of firm-level transparency) is also an important determinant, but with opposite effects for Sweden versus Finland. More transparent firms in Finland have a better quality of earnings as compared to others. This relationship is reversed in Sweden however, where number of reported shareholders is positively related to earnings management, showing a greater tendency for transparent firms to disclose managed earnings. We do not reject the performance measure hypothesis of earnings management, as firms in these countries could be managing earnings to offset the under or over reaction of economic shocks to performances to meet earnings expectations. Next section sheds more light on these hypotheses. We present the results of market reaction to earnings management practices in all sample countries.

**Table 6 Determinants of earnings management – across group II**

The table represents country-wise regression analysis for all 4 countries of Group II (Medium transparent). The dependent variable is the absolute value of discretionary accruals (*ADA*). The independent variables include; the size of the firm (*SIZE*) which is the natural logarithmic value of the Total Assets in thousands of Euro. Leverage is represented by (*LEV*) which is the debt to equity ratio. Growth is represented by (*SGT*) which is the growth in sales. Ownership concentration is represented by (*COWN*) which is the cumulative ownership stake of all individual shareholders having at least 5% direct or indirect cash-flow rights in a firm. The number of recorded shareholders (*NRS*) is the natural logarithm of the total number of reported shareholders in consolidated annual statements of the firm and the control of the firm is represented by (*C50*) which is the dummy variable if one reported shareholder directly or indirectly owns 50% or more cash-flow rights. *Industry* and *Country* dummies are included to control for industry-specific and country-specific variations.

<b>ADA</b>	<b>Czech</b>	<b>Estonia</b>	<b>Slovakia</b>	<b>Poland</b>
SIZE	-0.039* (-1.79)	0.076 (0.58)	-0.019 (-1.05)	0.001 (0.07)
LEV	0.200** (2.29)	-0.072 (-0.96)	-0.006 (-0.13)	0.015 (0.40)
SGT	0.061 (0.51)	0.053 (1.21)	0.017 (0.22)	0.085* (1.75)
COWN	-0.011 (-0.12)	0.515* (1.95)	0.069 (0.36)	-0.008 (-0.10)
NRS	0.032** (1.97)	-0.099 (-1.40)	0.083 (1.42)	0.027 (0.69)
C50	0.024 (0.52)	-0.223** (-2.61)	-0.016 (-0.21)	0.056 (0.76)
Constant	0.392* (1.69)	-0.308 (-0.20)	0.200** (2.29)	-0.082 (-0.31)
<i>Year</i>	Yes	Yes	Yes	Yes
<i>Industry</i>	Yes	Yes	Yes	Yes
<i>R</i> <sup>2</sup>	0.30	0.36	0.27	0.31
<i>N</i>	103	47	451	201

<sup>§</sup>Bollerslev-Wooldridge robust *t*-statistics are in parenthesis

\* significant at 10% level of significance

\*\* significant at 10% level of significance

\*\*\* significant at 1% level of significance

In a nutshell, there are significant differences in terms of the quality of earnings determinants between similar countries. These results are somewhat surprising in line with earlier literature, where country characteristics are considered important in determining the corporate performance of firms. There are not only differences in the quality of earnings across groups of countries, but there are differences within each group as well.

**Table 7 Determinants of earnings management – across group III**

The table represents country-wise regression analysis for both countries of Group III (Most transparent). The dependent variable is the absolute value of discretionary accruals (*ADA*). The independent variables include; the size of the firm (*SIZE*) which is the natural logarithmic value of the Total Assets in thousands of Euro. Leverage is represented by (*LEV*) which is the debt to equity ratio. Growth is represented by (*SGT*) which is the growth in sales. Ownership concentration is represented by (*COWN*) which is the cumulative ownership stake of all individual shareholders having at least 5% direct or indirect cash-flow rights in a firm. The number of recorded shareholders (*NRS*) is the natural logarithm of the total number of reported shareholders in consolidated annual statements of the firm and the control of the firm is represented by (*C50*) which is the dummy variable if one reported shareholder directly or indirectly owns 50% or more cash-flow rights. *Industry* and *Country* dummies are included to control for industry-specific and country-specific variations.

<b>ADA</b>	<b>Finland</b>	<b>Sweden</b>
<i>SIZE</i>	-0.007*** (-2.65) <sup>§</sup>	-0.041** (-2.61)
<i>LEV</i>	0.004 (0.62)	-0.001 (-0.12)
<i>SGT</i>	0.086* (1.66)	0.001 (0.19)
<i>COWN</i>	-0.033** (-2.19)	0.021 (0.39)
<i>NRS</i>	-0.025** (-2.36)	0.019* (1.88)
<i>C50</i>	0.009 (0.69)	-0.075** (-2.38)
Constant	0.159*** (3.83)	0.563*** (3.35)
<i>Year</i>	Yes	Yes
<i>Industry</i>	Yes	Yes
<i>R</i> <sup>2</sup>	0.16	0.11
<i>N</i>	512	931

<sup>§</sup>Bollerslev-Wooldridge robust *t*-statistics are in parenthesis

\* significant at 10% level of significance

\*\* significant at 10% level of significance

\*\*\* significant at 1% level of significance

### **5.1. Corruption Perception as a Determinant of Corporate Earnings Management**

In order to test whether a general perception levels of ‘experts’ in a country determine the magnitude of discretionary accruals at firm-level, we used the Transparency International’s Corruption Perception Index (CPI) that measures the degree to which “corruption perceived to exist among public officials and politicians”. The Transparency International (TI) publishes on annual basis, a list of countries and their respective score of corruption perception. TI defines corruption as "the abuse of entrusted power for private gain". Higher the score the better is a country in terms of corruption

pervasiveness and a lower score represents more (perceived) corruption. CPI has drawn increasing criticism in the past because of its structure and the quality of index. As the index is based on third party surveys, the results are subjective and less reliable for the countries with fewer sources of information. Neither it should be considered a representative of actual corruption levels in a country because the corruption is willfully hidden and it is impossible to measure the levels of corruption directly, nor it should be used as an analytical tool to judge the impact of new policies introduced by the government in a particular year.

**Table 8 Pooled cross-sectional and yearly regressions of firm-level determinants and country level CPI score**

The table represents the pooled cross-sectional and yearly regression analysis of all firms in 10 European countries. The dependent variable is the absolute value of discretionary accruals (*ADA*). The independent variables include; the size of the firm (*SIZE*) which is the natural logarithmic value of the Total Assets in thousands of Euro. Leverage is represented by (*LEV*) which is the debt to equity ratio. Growth is represented by (*SGT*) which is the growth in sales. Ownership concentration is represented by (*COWN*) which is the cumulative ownership stake of all individual shareholders having at least 5% direct or indirect cash-flow rights in a firm. The number of recorded shareholders (*NRS*) is the natural logarithm of the total number of reported shareholders in consolidated annual statements of the firm and the control of the firm is represented by (*C50*) which is the dummy variable if one reported shareholder directly or indirectly owns 50% or more cash-flow rights. *Country* dummies are included to control for and country-specific variations.

	All	Years					
	(Pooled)	2001	2002	2003	2004	2005	2006
SIZE	-0.008*** (-3.28) <sup>§</sup>	-0.005 (-1.18)	-0.001 (-0.23)	-0.010* (-1.91)	-0.008* (-1.66)	-0.012*** (-2.75)	-0.010*** (-2.73)
LEV	0.002*** (3.10)	0.002 (0.33)	0.002*** (6.65)	0.003*** (4.92)	0.013 (1.03)	-0.004 (-0.67)	0.000 (0.19)
SGT	-0.000 (-0.34)	0.085*** (3.28)	0.125*** (4.34)	0.088 (1.46)	0.002*** (12.66)	-0.000** (-2.58)	0.010 (1.16)
NRS	0.003 (0.51)	0.009 (0.59)	-0.027 (-0.98)	0.026 (1.57)	0.004 (0.42)	0.017* (1.77)	0.001 (0.08)
COWN	0.008 (0.41)	-0.015 (-0.44)	0.038 (0.65)	0.011 (0.18)	-0.029 (-0.83)	0.030 (0.89)	0.057 (1.22)
C50	-0.012 (-1.10)	0.024 (0.98)	0.032 (1.54)	-0.005 (-0.24)	0.003 (0.16)	0.010 (0.54)	-0.055** (-2.42)
CPI	0.018 (0.61)	-0.009* (-1.80)	0.022 (1.54)	-0.013 (-1.42)	-0.013* (-1.66)	-0.006 (-1.30)	-0.005 (-1.23)
Constant	0.140* (1.72)	0.188*** (3.15)	-0.082 (-0.57)	0.244*** (2.67)	0.317*** (3.83)	0.193*** (3.15)	0.207*** (4.82)
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.04	0.17	0.37	0.38	0.11	0.14	0.08
N	8926	1429	1503	1504	1560	1530	1400

<sup>§</sup>Bollerslev-Wooldridge robust *t*-statistics are in parenthesis

\* significant at 10% level of significance

\*\* significant at 10% level of significance

\*\*\* significant at 1% level of significance

The scope of CPI is very broad and do not necessarily represent the abuse of powers by corporate managers. It should only be considered as a proxy for overall perception of individuals about the corruption. TI writes in their FAQ on their website that "residents' viewpoints correlate well with those of experts abroad". The experts surveyed in the CPI sources are often business people from industrialized countries as well as from emerging market economies. It should be reasonably expected that higher CPI scores are associated with lower corporate discretionary accruals which we consider as a measure for the quality of earnings. Table (8) represents the association between absolute discretionary accruals and CPI (as an additional explanatory variable in original regression analysis). The relationship is negative meaning that higher CPI is associated with better quality of earnings during most of the years though, not often statistically significant. We used country dummies in the yearly regression analysis reported in table (8) in order to control for other country-specific effects and did not find a clear time trend in the country dummies across the years.

## **5.2. Market Reaction to Earnings Management**

This section discusses the results obtained from models that test the relationships between market value and interaction terms between earnings management and firm-level variables. Table (9) shows the results of yearly cross-sectional pooled regression of tobin's Q on one period lagged discretionary accruals and firm characteristics. Market reacts negatively to earnings management during 2001 and 2005, but there is no significant relationship found during other periods of analysis. Leverage is the only consistent variable, showing a negative interaction term with market value. It indicates that the market values of financially distressed and risky firms react negatively to earnings management. The result is consistent with the view that earnings informativeness of highly leveraged firms is lower.

Table (10) reports the results of regressions for each group. Here we present the results on group basis instead of for individual countries, as the market price data was not available for each firm in our sample of countries. Transparent and developed markets (group 3) have negative reaction to the measure of earnings management. Consistent with value relevance of reported earnings, the market penalizes firms in which the quality of earnings is bad. This reaction is also present for bigger firms, but not for firms with higher growth. Firm value increases with earnings management for firms that showed high sales growth during the preceding year. Firms disclosing more names of shareholders in preceding year get a positive response from the market when they manage earnings, perhaps because of the trust the investors may have on the quality of their reported performance. Firms controlled by a single large shareholder also get a negative response from the market when they manipulated their reported performance. The results for group (2) are, however different from group 3 except for size and the number of reported shareholders. Within group 1, both sales growth and control showed positive interaction with absolute discretionary accruals for valuation. It means that the informativeness of disclosed earnings increases with growth in sales, as in group (3), and when control is achieved, as in group (2). This informativeness is negative when leveraged is increased.

**Table 9** Yearly pooled regression with firm characteristics interactions

The table represents the pooled regression for each year of the sample period. The dependent variable is the Tobin's ( $Q$ ) for firm ( $i$ ) in year ( $t$ ). The independent variables include; the absolute discretionary accruals ( $ADA$ ) and interaction terms of  $ADA$  with the size of the firm ( $SIZE$ ) which is the natural logarithmic value of the Total Assets in thousands of Euro, leverage ( $LEV$ ) is the debt to equity ratio. Growth ( $SGT$ ) is the growth in sales, ownership concentration ( $COWN$ ) is the cumulative ownership stake of all individual shareholders having at least 5% direct or indirect cash-flow rights in a firm, the number of recorded shareholders ( $NRS$ ) is the natural logarithm of the total number of reported shareholders in consolidated annual statements of the firm and the control of the firm ( $C50$ ) is the dummy variable if one reported shareholder directly or indirectly owns 50% or more cash-flow rights. *Industry* and *Country* dummies are included to control for industry-specific and country-specific variations.

<b>Q</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
ADA	-12.219*** (-3.62) <sup>§</sup>	1.881 (1.20)	6.029 (0.56)	4.697 (0.65)	-12.023** (-2.40)	-10.346 (-0.22)
ADA*SIZE	0.759*** (3.68)	0.145 (1.03)	-0.522 (-0.51)	-0.029 (-0.53)	0.789 (1.04)	1.887 (0.44)
ADA*LEV	0.014 (0.49)	0.438** (2.20)	-0.724** (-2.44)	-3.291* (-1.94)	-6.529*** (-3.54)	-0.105*** (-4.87)
ADA*SGT	0.898 (0.99)	0.141 (0.63)	-0.085 (-1.04)	0.027*** (3.96)	0.220** (2.60)	0.662** (2.11)
ADA*COWN	-6.056 (-0.68)	6.711** (1.98)	7.531* (1.87)	5.035* (1.70)	1.526 (0.20)	-14.412 (-0.99)
ADA*NRS	0.240* (1.65)	1.616 (1.44)	-0.834 (-0.43)	0.659 (0.29)	1.108 (1.56)	1.029 (0.21)
ADA*C50	8.599* (1.86)	1.838 (0.62)	-1.886 (-0.66)	4.308* (1.93)	-1.062 (-0.29)	2.216 (0.14)
Constant	12.483*** (2.79)	0.692*** (3.27)	0.801** (2.22)	0.039 (0.14)	0.616** (2.60)	0.783** (2.43)
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
$R^2$	0.30	0.55	0.17	0.16	0.14	0.08
$N$	195	258	304	404	462	482

<sup>§</sup>Bollerslev-Wooldridge robust  $t$ -statistics are in parenthesis

\* significant at 10% level of significance

\*\* significant at 10% level of significance

\*\*\* significant at 1% level of significance

**Table 10 Group-wise pooled regression with firm characteristics interactions**

The table represents the pooled regression for each group of the countries in the sample. The dependent variable is the Tobin's ( $Q$ ) for firm ( $i$ ) in year ( $t$ ). The independent variables include; the absolute discretionary accruals ( $ADA$ ) and interaction terms of  $ADA$  with the size of the firm ( $SIZE$ ) which is the natural logarithmic value of the Total Assets in thousands of Euro, leverage ( $LEV$ ) is the debt to equity ratio. Growth ( $SGT$ ) is the growth in sales, ownership concentration ( $COWN$ ) is the cumulative ownership stake of all individual shareholders having at least 5% direct or indirect cash-flow rights in a firm, the number of recorded shareholders ( $NRS$ ) is the natural logarithm of the total number of reported shareholders in consolidated annual statements of the firm and the control of the firm ( $C50$ ) is the dummy variable if one reported shareholder directly or indirectly owns 50% or more cash-flow rights. *Industry* and *Country* dummies are included to control for industry-specific and country-specific variations.

<b>Q</b>	<b>Group I</b>	<b>Group II</b>	<b>Group III</b>
ADA	-12.528 (-0.77) <sup>§</sup>	13.156*** (3.01)	-13.079*** (-3.49)
ADA*SIZE	1.556 (1.12)	-5.342*** (-3.14)	-1.239** (-2.49)
ADA*LEV	-13.067** (-2.03)	-3.783* (-1.70)	-0.722 (-0.29)
ADA*SGT	4.339** (2.22)	-2.420*** (-3.11)	0.045*** (-3.51)
ADA*COWN	-2.254 (-0.37)	-3.909 (-0.61)	-4.491 (-1.15)
ADA*NRS	0.792 (0.73)	9.289*** (3.23)	1.556*** (3.39)
ADA*C50	7.287** (2.12)	10.175** (2.47)	-2.056** (-2.76)
Constant	1.379*** (5.39)	1.891*** (3.22)	4.152*** (4.59)
Fixed Effects	Yes	Yes	Yes
$R^2$	0.35	0.32	0.09
$N$	219	413	1473

<sup>§</sup>Bollerslev-Wooldridge robust  $t$ -statistics are in parenthesis

\* significant at 10% level of significance

\*\* significant at 10% level of significance

\*\*\* significant at 1% level of significance

The informativeness of accrual as a part of total earnings to cumulative stock returns is tested as a last step to see whether there is any direct relationship between stock returns and either discretionary or non-discretionary accruals. The results of the test are presented in table (11). In order to directly test the performance measure and



opportunistic earnings management hypotheses, we regressed the cumulative annual returns (*CAR*) with actual (unsigned) discretionary (*DA*) and non-discretionary (*NDA*) accruals. The results suggest that the performance measure hypothesis is supported in group 3 (most transparent and developed countries). It means firms do earnings management in order to offset the economic shock of actual earnings by over or under reaction of discretionary accruals. The significantly positive relationship between non-discretionary accruals and cumulative annual returns suggests that unusual positive or negative earnings are accurately picked by the market, whereas managers use their discretion over accruals to smooth this positive or negative reaction. A significant negative relationship between cumulative annual returns and discretionary accruals supports the performance measure hypothesis for group (3) countries. On the other hand, discretionary accruals of firms in group 2 (medium transparent and developing countries) have significantly positive coefficient when regressed with cumulative annual returns. It suggests that the opportunistic earnings management hypothesis is supported in these countries. This may be due to the fact that the controlling owners and/or managers of firms in these countries use discretionary accruals to achieve personal targets opportunistically. The market reacts in the same direction as disclosed earnings. Higher earnings get positive returns and vice versa.

**Table 11 Earnings informativeness to stock returns**

This table represents the linear regression of cumulative annual returns (*CAR*) and discretionary and non-discretionary accruals. (*DA*) is the discretionary accruals for firm *i* in year *t*. (*NDA*) is the non-discretionary accruals for firm *i* in year *t*. *Industry* and *Country* dummies are included to control for industry-specific and country-specific variations.

<i>CAR</i>	Group I	Group II	Group III
DA	-0.117 (-0.59) <sup>§</sup>	0.375*** (3.84)	-0.456*** (-3.22)
NDA	-0.304 (-1.57)	0.084 (0.86)	0.755*** (2.78)
Constant	0.491*** (2.96)	0.359*** (2.68)	0.144*** (3.95)
<i>R</i> <sup>2</sup>	0.06	0.16	0.26
<i>N</i>	343	613	1802

<sup>§</sup>Bollerslev-Wooldridge robust *t*-statistics are in parenthesis

\* significant at 10% level of significance

\*\* significant at 5% level of significance

\*\*\* significant at 1% level of significance

There is no significant relationship between stock returns and discretionary or non-discretionary accruals within group 1 (least transparent and under-developed countries). It means we do not find a support for either performance management hypothesis or opportunistic hypothesis. This result may also be driven by very low level of stock market liquidity in these countries. The concentration of ownership and the absence of free-floating shares in the market do not help to influence an active trading in the market upon the disclosure of accounting earnings. Hence, the controlling owner

may engage in earnings management activities without any market pressures. Nevertheless, this result may also represent a noise in earnings process. Earlier studies such as Ryan and Zarowin (1995), Collins *et al.* (1994) and Ramakrishnan and Thomas (1998) supported the noise hypothesis in the earnings informativeness assuming that discretionary accruals represent a noise in reported earnings which is uncorrelated with the stock returns.

## 6 CONCLUSION

In this paper, we use the panel data methodology to determine the relationship between discretionary accruals, firm-level characteristics and the informativeness of earnings for a sample of 2001 listed firms within 10 European countries. These countries are divided into three groups based on the level of transparency. Two types of determinants of earnings management are examined, (i) firm's economic indicators namely size, leverage and growth and (ii) ownership characteristics namely ownership concentration, control and reported shareholders.

In our analysis, we find non-consistent determinants of earnings management across times and countries. The only consistent variable that determines the quality of earnings is the size of the firm. All other variables have varying relationship both within and across groups of countries. The results show a systematic pattern in terms of types of determinants. Economic determinants are more significant within group 1 (least transparent) countries, whereas ownership characteristics proved to be significant determinants within group 3 (most transparent) countries. Group 2 countries (medium transparent) countries did not show any systematic pattern and none of the determinants is found to be consistent.

Another important result of this paper is that the market reacts negatively to earnings management in relatively developed and transparent countries, and positively in developing countries. It seems difficult to deceive market participants such as financial analysts and the press in developed countries, even though they do it to avoid strong market reaction to shocks in earnings (in line with the performance measure hypothesis). No market reaction is shown in non-EU and least transparent countries within our sample. There are differences in terms of firm-level characteristics in explaining the informativeness of earnings.

We suggest that firms in transitional countries should be monitored closely to improve the quality of their disclosed earnings statements. Firms find different incentives to manipulate actual performance before disclosing it to outside world. Some do it for opportunistic reasons to improve the valuation and some do it for detrimental reasons to gain private benefits. More attention is needed to improve transparency and investor protection in Transitional markets of East Europe.

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