The corporation tries to fulfill its social responsibility

The corporation tries to accommodate governmental request

The corporation tries to accommodate requests for NGOs

Organizational Commitment (OC)

1 = Strongly disagree, 2 = disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

1. I would be very happy to spend the rest of my career with this organization

2. I really feel as if this organization’s problems are my own

3. I do not feel like ‘part of the family’ at my organization

4. I do not feel ‘emotionally attached’ to this organization

5. I think that people these days move from company to company too often

6. Jumping from organization to organization does not seem at all unethical to me

7. It would be very hard for me to leave my organization right now, even if I wanted to

8. Right now, staying with my organization is a matter of necessity as much as desire

ABSTRACT

The purpose of research is to identify the relationship between the ownership and earning management on a sample of companies of the oil and gas and metal and metallurgy industries in Russia.

Methodology: Panel data regression analysis was conducted to test research hypothesis. Research covers the data for 2010-2016 periods in regard to two industries – oil and gas production and refinery, ferrous and non-ferrous metallurgy. The theoretical and empirical research suggests that the ownership structure plays an important role for the company performance following the studies of Liu and Lu [1], Ali Shah, Ali Butt and Hasan [2] and Hassan [3].
The originality / value of the research. This study examines the impact of the degree of government and foreign ownership, and the size of entities on corporate earning management measurement, up to our best knowledge there is limited studies conducted on this subject.

Findings. According to Strukova [4], Vidyapin and Stepanov [5], Russia heavily relies on the export oriented industries like oil/gas and metal/metallurgy. Therefore, understanding of the corporate governance determinants of financial reporting becomes an important issue. The paper finds that foreign and state ownership together with size of entities are factors which reduce the effect of earning management.

Keywords: Earning management, Russia, oil and gas, GDP.

INTRODUCTION

Russia is heavily relying on the abovementioned industries and represents a classical example of a developing country, which actively exports its natural raw materials, in contrast to the developed countries, that follow the strategy for the conservation of its natural resources and the satisfaction of its needs mainly through imports. Just as example, it is estimated that approximately 21.5 % of the world's known natural gas reserves are located on the territory of Russia, and their estimated consumption timespan is expected to be 73.5 years. The annual extraction of natural gas in the amount of 670 billion cubic meters makes Russia the absolute global leader. Russia ranks the sixth in the world according to oil, in percentage terms it is 6.3 % of the world's reserves.

Apart from oil and gas industries, Russia exports metals and minerals. Metallurgy consists of two main parts: ferrous metallurgy and non-ferrous metallurgy. The basis of this division is identification of the final product (metal). The basis of metallurgical production is the mining industry. Ferrous metallurgy is the basis for the development of machine building and metalworking. It is responsible for the production of metals such as iron, manganese, chromium. Non-ferrous metallurgy is responsible for the extraction, enrichment of ores of non-ferrous, noble and rare metals. It includes such industries as copper, lead-zinc, nickel-cobalt, aluminum, titan magnesium, and tungsten-molybdenum.

The theoretical and empirical research suggests that the ownership structure plays an important role for the company performance according Lie and Lu [1]. Which is also confirmed by Ali Shah, Ali Butt and Hasan [2] and Hassan [3].

The purpose of this study is to test the impact of the ownership variables on earning management practices of companies of the extracting industries such as oil/gas and metal/metallurgy. Specifically, the variables such as the degree of government and foreign ownership, and the size of entities and industry affiliation are examined for their possible influence on earning management measurement. The paper employs the method of modified Jones model [6], which display the difference between incremental change of revenue and corresponding receivables, adjusted to the plant, property and equipment that calculates depreciation charge and working capital adjustments.

The study finds that government, foreign ownership and size of entities are key factors in decreasing of earning management occurrence. The rest factors did not prove to be significant. The research results have an important implication in understanding the most efficient type of shareholder in counteracting the occurrence of earning management.

Literature Review

Earning management and ownership structure relation. The modern reality shows that the ability of accounting standards to prevent earning management practice occurrence is limited. The wider choice of instruments for the accounting methods, the laxer or more underdeveloped corporate and legal requirements, the larger the platform for misinterpretation and professional terminology abuse and, finally, the weaker corporate governance control make more likely precedence that earning management will take place. Effective corporate governance is relevant to companies in emerging economies market, like Russia. Let alone motivation to being enlisted in international stock exchange with real potential to attract the foreign investment by promising the long-term dynamic growth, is more than enough to understand how crucial corporate governance is, and to what degree earning management practice creates the obstacles in this direction.
The previous studies displayed that company’s management were likely to involve in profit maximization and loss concealment, if they were given significant freedom of choosing accounting methods and standards. Campello, Graham and Harvey [7] showed that effect was more prominent during crisis. The fear of unstable financing, restriction and absence of short term fundraising serve as stimuli factor and leads to reduced quality of reporting. Rational corporate governance control should by definition represent the defense mechanism against earning management. Abbadi, Hijazi and Al-Rahahleh [8] demonstrated evidence of the adverse relation between corporate governance quality and degree of earning management practice in Jordan, which confirms that government is not efficient shareholder.

The obsessively complex and needlessly utterly difficult terminology in financial reports and disclosures might be used effective method to blue the eyes of executive committee, shareholders and rest stakeholders. Li [9] evidenced the concrete relationship between readability of reports and financial performance. Using the Fog index methodology, the negative relationship of corporate governance with degree of earning management was identified. There were two potential explanations – whether it was deliberate way to use overcomplicating in a favor of concealment or company’s management low competence in reporting the unfavorable earnings. The motives of obfuscation in displaying the reports and disclosures might vary. Burgstahler and Dichev [10] discovered that the management releasing the goods news naturally tends not to disclose the roots of success. Specifically, when the reported performance greatly differs from the real, managers make the readability as much as difficult to conceal the earning management. Mislead and manipulations of information were classical tools to prevent the investors understanding of entity true value and earnings.

Earning management cannot be explained as dull management manipulation over the earnings. Freedom and flexibility in accounting choices and operating decisions grant management a tool to abuse the “accrual” concept. Musfiqur, Moniruzzaman and Sharif [11] classify the most popular into following list:

- “Big bath technique” – a technique with deliberate allocation of excessive lose and charges to restructuring, asset impairment, discontinued operations or projects which are already proved failed. Management wants to report bad news in regard to loss all at once, probably held responsible and blaming the predecessor, at the same time creating the buffer safety for the next periods.
- “Big Bet for the future” – technique when company acquires another one. Management involves the write off of R&D cost and also consolidates the earning of the acquired company.
- Changing the GAAP – management abuses the new accounting standard or changing the revenue/expense recognition principle.
- “Cooking jar reserve” – quite similar to big bath, but with several distinctions. It does not involve discontinued operations/projects or restructuring, but rather is represented by artificial negative performance in a form of overestimation of future expenses. Later on, with the bet that actual expense will be lesser that the one forecasted, management might use it as boosting and fixing the real performance.
- Depreciation, Amortization and Depleting – is mainly the manipulation over the write off periods or methods, reclassification of assets or asset categories.
- “Early Retirement of Debt” – management might pursue to create loss or gain on changing the accounting period of debt retirement.
- Flushing the asset portfolio – reclassification of investment into trading or available for sale with corresponding change in value in the income statement making write down of impaired investment.
- Operating versus non-operating income – reclassification of component from income statement to attract investors with the operating earnings. In practice the component of real operations is concealed among non-operating charges like extraordinary, discontinued or special.
- Sale or leaseback and asset exchange – manipulation by boosting the asset by sale and leaseback of the same asset
- “Shrink the ship” – repurchase of companies own shares without recognition of any lose to boost the earning per share
- “Throw out the problem child” – conceal or complete ignorance of subsidiary loss in consolidation to improve the general overall group performance. The same goes to liquidation and disposal cost.
In general practice, GAAP allows the freedom in choosing the accounting methods, therefore earning management is not necessarily considered illegal. For instance, Yang, Chun and Ramadili [12] – if firm adjusts the earnings in regard to changing approaches like inventory evaluation or depreciation in compliance with GAAP guidelines in pursuit of true value reflection. But using earning management to accelerate the revenue recognition and/or deferring the expense recognition clearly marks this practice as involved in fraudulent activities. The true motive to affect contractual benefit and compensation based on accounting earnings and subsequent misinformation of stakeholders is earning management illustration of firm manipulation described by Healey and Wahlen [13]. Deliberate misstatement in financial reporting for the sake of personal reasons creates conflict in original essence of management stewardship – preservation and maximization of shareholder value. Following research of Roychowdhury [14], the earning management is identified by the level of abnormal cash from operating activities, manipulation with discretionary expenses and production cost. Due to tightening the accounting standards, managers tend to use the real earning management rather than accrual earning management. This happened due to lesser chance to violate the accounting rules in case of operating activity earning management than pure manipulation through accruals.

**Earning management practical substance issues and principle agent theory implications.** Agency theory interprets the difference of managers and owner’s motives in a form that managers do not have or have insignificant or low equity stake rather than owners. Oppositely, if managers were given a certain ownership, that would have aligned their interest vector and will reduce the earning management facilitation. However, there’s might be a backfire reaction associated with principle that manager might abuse granted control without less fear to risk of held responsible or exposed to grave legal consequences.

The outcome is the behavior, which is motivated through self-interest is different from corporate values or value maximization. Agency theory underlines the idea that principals and agents are destined to have deviant goals, capacities and stimuli to influence the reporting. According to Eisenhardt [15] it practically discloses the important contribution to the understanding of structured analysis of economic motives and incentive difference between owners and stewards. The handy relevance of accounting numbers opens a seductive incentive for stewards to manipulate earnings to their advantages. According to Gul, Chen and Tsui [16], there are two general reasons:

- Capital market pressure stimulates the use of accounting information by investors and stakeholders for valuation of company creates incentive to manager to manipulate the earnings in a favor of short-term performance.
- Contracting motivation, which enforce the use of accounting data monitors contracts between firms and stakeholders. Executive might abuse earnings and distort information for own personal gain.

Cohen, Dey and Lys [17] described the combination of abnormal cash flow from operations, abnormal discretionary expenses and abnormal production cost as the way to measure the real earning management. The general interpretation of hypothesis is negative relation, especially in emerging markets, which is generally raised due to agency conflicts and information asymmetry. Management can abuse discretionary accrual either to leak the private information or to manipulate earnings. Jensen and Meckling [18] explained that manipulation of earnings in a form of discretionary accrual results in less informative data for public. This is basically covered by fundamentals of contemporary firm theory in a form of separating equity ownership from the control of companies’ decision. Without the control, management tends to mask the firm performance, make the asymmetry information gap more prominent and weakening the outsider ability to track and monitor. In return it creates obstacles in replacement of management and increases the risk of companies’ takeover. According to Chung, Ho and Kim [19], it distorts the financial reporting quality as it usually permits’ personal benefit maximization and insider information opportunities. Thus, might identify the earning management as a set or sequence of managerial decision not to report the true short-term value.

Alternation of performance in misinterpretation of data to confuse stakeholders or direct influence of contractual performance allows managers to work opportunistically for their advantage solely and disadvantage for the companies they work for. Dechow, Sloan, Sweeney [20] confirmed that the quality of accounting earning is more reliable and information shared to stakeholders are more informative in the scenario, when managing opportunistic tension is constrained through variety of controlling systems. The bankrupt of even
large companies raised the questioned efficiency implemented in internal monitoring and gave the opportunity to reconsider of corporate government tools for the further development. The study of Fischer and Rosensqieg [21] reported that earnings management contained two critical components – management intention and consequences of practice. Action of managers to over/underestimate current reporting earning without the intention to correspond to long-term economic reality can be considered as true definition of earning management practice. Management finds imperfect spreading of information and especially costly monitoring of information as an opportunity for personal advantage. Consequently, we might evidence that agency theory claims that control function and monitoring mechanism improve the alignment of shareholders interest by mitigating any opportunistic behavior resulting from conflict of interest. Agency theory might be interpreted as situation in the organization with powerful and professional management with little ownership operating on behalf of dispersed weak investors. According to research of Gedajlovic and Shapiro [22] managers have the motive to be engaged in short-term cost improving activities to increase benefit in non-salary form. Additionally, in case they indulge in getting more power, control, status and other non-monetary benefits, they will shift the focus from cost optimization/profit maximization to the increase of size and growth of the organization. In lieu of weak dispersed investors, the factor of tight concentration of ownership might be directly affecting the firm financial performance. But concentration alone cannot explain the patterns of character from the side of shareholder. The motives, incentives, style and capacity of monitoring and corporate governance efficiency are not always uniform among different shareholders, even though the ownership concentration is high. Thomsen and Pederson [23] in research of financial institutions evidenced additional imposing of limitation on managerial discretion. Dahlquist and Robertsson [24] identified in their research of Swedish firm that foreign owners are, commonly, mutual funds or institutions. The common characteristics in invested companies, which were predominant and important to foreign owners, can be identified as the large size company with significant cash reserves. Even if the dividend payout is low, companies operating activity should be present in international liquid market and the ownership should be fractured and widespread. Bushee [25] took another approach in checking the relation between foreign institutional investors and quality of earnings. The researches results are in align of study done by Grinblatt and Keloharju [26] – foreign institutions are in better position due superior access to technology, expertise and talent. However, Dvorak [27] research of data from Jakarta Stock Exchange proposed that domestic investor performance is superior to the foreign. Resulted asymmetry is explained as the inability for companies with significant foreign investment to efficiently monitor the correctness of local accounting department, which basically leads to limitation of real earnings of company.

If there are incentives for management to be involved in earning management practices, there should be a set of factors that might limit it. For instance, Warfield, Wild and Wild [28] doubt that managers, who appear significant shareholders in the equity have incentive not to manipulate the accounting information. It might be explained by the argument that managerial shareholdings encourage managers to improve the firm performance. As owners, they’re interested in maximizing the shareholders wealth. That can be quite effective strategy in aligning the interest of shareholders and managers. The research showed that managerial ownership is positively correlated with earnings explanatory power for returns and inversely related to the magnitude of discretionary accounting accruals. On the other hand, Dechow, Sloan, Sweeney [20] propose large shareholders (block-holders) in their nature of close monitoring and scrutiny of the procedures, compliance and earning management prevention, improves the overall reliability and credibility of reported accounting information. But, the study of Denis and McConnell [29] suggest that managers and shareholders’ interests might not be aligned. The high managerial ownership might give the stimuli for managers to indulge in personal benefit pursue due to less responsibility and fear over the rest shareholders.

The research of Balsam, Bartov and Marquardt [30] shows that institutional ownership represented by experienced and competent investors due to wide access to on-time information resources are more capable of tracking and revealing earning management occurrence. That is why the concentration of institutional ownership is preventive measure that limit the ability of managers level of mislead. On the other hand, there are also studies which argue that institutional ownership has a significant impact in improvement of manager’s activities monitoring. Pound [31] finds that following investors might too concentrate on short-term benefits, which make them unable to adequately monitor management. Meanwhile, in worst case scenario of poor
performing company, instead of controlling and monitoring the resource, these passive investors are more likely to sell their investment. Finally, the institutional ownership does not limit the level of earning management. On the contrary, it creates the additional stimuli to management in earning management discretionary accruals.

**Quality of reporting and corporate governance.** Ownership structure is factor which affects not only the direct incentive of management to manage earnings correctly and adequately, but also play significant role in prevention in catching the opportunity and sensing the incentive to manipulate profits. Effective corporate governance system provides better control to shareholders, which is especially crucial in countries with high political risk or during the time of financial distress. The post-crisis countries tend to pay a scrupulous attention to reforming of accountability and transparency of corporate governance mechanism to restore the trust of shareholders. Khan [32] evidenced following trend in research of Asia companies – the countries with weaker monetary authority or strong financial system were more vulnerable to detrimental effect from financial crisis and banking sector collapse.

Additionally, corporate governance mitigates the principle agent conflict, which is granting protection of investors’ interests and rights. Factually, corporate governance is a set of rules to ensure the quality of reported information. Hassan [3] confirmed the fact that the quality of reporting affects the promotion and delivery accurate and reliable information through financial statements. The quality of reporting is not to be underestimated by all type of shareholders; on the contrary, corporate governance implication importance might not be the same for all shareholders. That’s why, the ownership structure is critical in setting effective oversight tool depending on shareholder preference, which is straightforwardly connected to likelihood of earning management practice.

Bushee [25] classifies the shareholders, especially institutional investors, can be classified into two different groups. The first ones are the long-term investors, whose primary goal is characterized by value maximization of investment over time, even if it’s in long-term perspective. They intended to keep their investment over the long period. The second group is speculative, myopic or transient investors. They focus on current earnings of the firm disregarding long-term perspective. In case of unfavorable firm’s results, they prefer to sell their investment rather than to monitor and control the source of inefficiency. Engagement in monitoring over the management is not preferred course of action for them.

The effective corporate governance implementation in a form of adequate board and/or competent audit committee may be quite handful in monitoring the corporate financial accounting process. The research Liu and Lu [1] indicated the impact of agency problems, conflicts between minority and majority shareholders, can be reduce with corporate governance practice. Management is less likely to be involved in reporting the abnormal accruals under abovementioned circumstances. Ali Shah, Ali Butt and Hasan [2] experienced similar results in observation of Pakistani Listed companies. Corporate governance by definition is supposed to outcome in better implementation performance represented by limitation of expropriation of controlling shareholders and ensuring correct decision making. The case of expropriation is usually the classical income smoothing of earnings. It can be utilized into personal benefits via executive compensation directly through increased stock value or alternative option, or indirectly through bonus taking into account the research of Bhojraj, Hribar and Picconi [33]. Summarizing the pros and cons of ownership concertation, we might evidence the two opposite direction trends:

1) Dispersed of ownership might stimulate the opportunities of earning management due to lack of concrete control measures and power of implementation (Earning management against weak investors by manager)

2) Over-tight concentration jeopardizes the position of minority as strong shareholder might expropriate the earning and turn the profit into position which maximize its benefit solely (Earning management against minority/weak investors by significant owners)

Fan and Wong [34] in research of companies in East Asian economies tested the earnings informative quality. The results were consistent with the preliminary studies confirming the idea that concentrated ownership and associated pyramidal/cross-holding structures is responsible for creation of conflict between dispersed outsider investors and controlling owners. With the authority granted controlling shareholders abuse the reported accounting information disregarding creditability of reports to the stakeholders, including outside investors. One of the ultimate owner’s incentives is in expropriation of minority owner’s earnings by separation of cash
flow and of voting rights control. One of the key component in agency conflict is that ultimate owner often possesses strong voting control in difference with cash flow rights. The stimuli to expropriation occurs once the two rights diverge due to following simple scheme – ultimate owners receive the entire benefit, but with fractioned cost. Lemmons and Lins [35] evidenced that crisis is amplifying the incentive for ultimate owner to expropriate wealth from outside investors. The crisis represented in a form of exogenous shock lowers the variability of available investment opportunities. Holding ownership structure constant, this shock to returns decrease the marginal cost to insiders of diverting resources away from profitable investment projects and increase incentive for expropriation by controlling owners. The crisis might affect the company’s ability to meet current obligations. The fear to bear the consequences makes definite incentive to hide the real situation at the high level of ownership. Insufficiency in meeting the current criteria and requirements might cause violation of contract with short payment deadline and following might lead to unspecified or specified legal consequences affecting the real value of entity.

Corporate governance can directly make an impact on manager’s decision and activities. As example, the implementation of external auditor’s practices and internal control function in a form of audit committee. Efficient board governance prefers to use the internal control functions to identify potential earning management practice. Independent board might constraint the earning management as there’s no place for utilization of direct self-interest likewise compensation, misstatement of assets to delude shareholders in order to meet stated objectives. The study of Roe [37] confirmed the ability of independent board to deprive managers from abuse of power. Abed, All-Altar and Suwaidan [38] identified the size is also affecting factor which defines the level of earning management. For instance, the size of board of directors might be the much more appealing variable that has sufficient relation with earning management practice among the existence of independence of the board, the size of board, the function of CEO as chairman represented by duality and ownership percentage of insider ownership. Duality of function of CEO/Chairman brings the problem of duties segregation as Chairman ability to objectively control the executive body is under the question. As the role of board of directors can be interpreted in minimization cost born from separation of ownership and control, it is extremely important to have the board independency in order to protect the interest of shareholders. Once managers have influence on board decision, the control, monitor and preventive mechanism become more biased and inefficient. The study of Dayha, McConnel and Travlos [39] suggest ensuring the board independence by increasing the number of outside directors – that structure can be a good practical example.

Swastika’s [40] research of Indonesian firms also displayed positive relation between qualities of board of directors. It had also displayed the steady negative relation between the quality of internal audit and firm size in direction to earning management. The research of Gonzalez and Garcia-Meca [41] evidenced various factors which have negative relation with application of earning management practice represented by discretionary accruals: management ownership, ownership concentration, activity and size of board. Though, the results proved family ownership, institutional ownership, CEO/Chairman duality insignificant to earning management. Size of board of directors is seen factor which greatly affects the board ability to monitor and control. Boards might reduce ability to efficiently monitor and control management due to obstacles in coordination and communication. If board is being mostly represented by major shareholders, management of the companies, with or without limited numbers of independent directors, the earning management practice is flourishing. Following Yermack [42], this happened due to occurrence of passive or dependent directors and lack of consequent rotation. Following the research done by Anderson and Reeb ([43] in regard to US publicly traded firms, the family ownership is in creation of efficient organized structure. Specifically, if the role of CEO is performed by family member, the organizations tend to be having better corporate governance mechanism resulting in better performance and profitability. Though, in general family ownership has positive relation with the companies’ activities, the relationship is not mono-semantic. Non-linear relationship is represented by positive trend with the rise on low level, but with the further increase it starts to diminish. Anderson, Mansi
and Reeb also evidenced significantly lesser cost of debt and availability to bondholder financing proceeds associated with family ownership and CEO family affiliation.

Taking into account the results of previous studies the documentation of the influence of corporate governance over the earning management is evidenced in form that the efficient corporate governance has a good potential to limit the occurrence and practice of earning management. Though, not in all cases the relation is straightforward and mono-semantic. Ownership structure is another internal control option that focuses on rights and titles of representation to affect the capital. The monitoring ability derives from putting into practice the control of over management and executive body.

MAIN PART
Methodology

Data sources. Our study covers the data for 2010-2016 period in regard to two industries – oil and gas production and refinery and ferrous and non-ferrous metallurgy. The Moscow Stock Exchange [44] and the Center of Disclosure of Corporate Information [45], authorized to disclose information on the Russian securities market served as a primary source for financial statements of the Russian listed companies. Using the database of entities [46] we identified ownership structure for the sample companies. The ownership data was reviewed using the site https://www.ogrn.ru [47], which provides ownership data in chronological order. All financial statements were annual and audited as per the country legal requirements.

The panel data includes information on companies’ total assets, liabilities, net income, revenue, trade receivables, capital expenditures, working capital and gross profit. The government ownership concentration is defined as: minor (0 – 10 %) and significant (>10 %). The ownership is defined as foreign if the shareholder is a foreign entity. The foreign ownership is also classified as minor (0 – 10 %) and significant (>10 %).

Model and hypotheses. We test the following hypotheses. The research suggests that ownership is the factor which affect the occurrence of earning management. The study of Balsam, Bartov and Marquardt [30] in regard to institutional ownership propose that state ownership is factor affecting the earning management. Therefore, the first hypothesis in an alternative form will be as follows:

H1: The government ownership has a negative impact on corporate earning management

Following the research of Dahlquist and Robertsson [24], Bushee [25], Grinblatt and Keloharju [26] in regard to foreign ownership the study expects that foreign ownership has a positive impact on corporate governance and leads to a lower degree of earning management. Therefore, the second hypothesis in an alternative form will be as follows:

H2: Foreign ownership negatively affects occurrence of earning management

Following the research of Swastika’s [40], it proves of use to test whether the size of firm is factor which affect the earning management

H3: Firm is the factor which negatively affect earning management

Our analysis uses accounting accrual approach to measure earning management variable. The modified Jones model [6] is one of the classical and frequently used as applied method to decompose earning management accruals. The model utilizes the difference between incremental change of revenue and corresponding receivables, adjusted to the plant, property and equipment that calculates depreciation charge and working capital adjustments. The model principle lays in calculation of difference between entities total accruals and estimation of non-discretionary accruals.

The starting point in applying this model is calculation of total accruals, which is, the difference between the net income and cash from operating activities.

\[ T ACC_{it} = NI_{it} - OCF_{it} \]  

where:

\( TACC_{it} \) = total accruals for company \( i \) in year \( t \)

\( NI_{it} \) = net income before extraordinary items for company \( i \) in year \( t \)

\( OCF_{it} \) = operating cash flows for company \( i \) in year \( t \)
Using the calculation of TACC derived from the previous formula, we proceed with the second step, which is the calculation of total accruals model. It is required for construction of further regression model. The primarily target is identification of required coefficients, which are applied in constructing non-discretionary accrual model.

\[
\varepsilon_{TACC_t} / A_{t-1} = (1 / A_{t-1}) + b = \text{Error term.}
\]

The key point of the applied method is not only identification of the residual. We would like to know whether ownership type and degree of ownership are elements which are responsible for earning management practice. The occurrence of significant residual due to different level and ownership type with significant coefficient of determination and p-value are the expected results as per stated hypothesis.

**Descriptive Statistics**

The panel data contains financial statement variables for the period of 2013-2016. As discussed before, we use the following financial statement variables – Assets, Liabilities, Net income, Sales, Account receivables, CAPEX and working capital change. Then, next corresponding ratios can be derived from calculations – Asset to Liability, Adjusted Log of Net income, logged size and Return on equity. We review the data to check what is the absolute minimum, maximum and average data split by different combination of ownership. This step will provide us with initial insight of general data trend depending of ownership structure. The data pool of integral and consecutive information is represented by 224 observations.

Table 1 provides descriptive statistics for the regression variables. It shows that overall data statistics of all variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>N of obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets</td>
<td>291 130 349</td>
<td>14 453</td>
<td>9 953 400 000</td>
<td>224</td>
</tr>
<tr>
<td>Net income</td>
<td>17 364 617</td>
<td>-261 230 000</td>
<td>973 172 000</td>
<td>224</td>
</tr>
<tr>
<td>Sales</td>
<td>118 723 000</td>
<td>473</td>
<td>4 299 680 000</td>
<td>224</td>
</tr>
<tr>
<td>AR</td>
<td>44 289 744</td>
<td>-</td>
<td>2 025 600 000</td>
<td>224</td>
</tr>
<tr>
<td>CAPEX</td>
<td>31 377 025</td>
<td>26</td>
<td>1 175 214 720</td>
<td>224</td>
</tr>
<tr>
<td>WC change</td>
<td>34 444 571</td>
<td>-128 851 000</td>
<td>2 197 700 000</td>
<td>224</td>
</tr>
</tbody>
</table>

Note – compiled by the authors based on data from [46].

Table 2 describes the size of the sample companies by ownership type. Size is represented by total assets of the entities. The purpose of table is to demonstrate the range and tendency of total assets through ownership types. The largest companies are likely to have only government or only foreign ownership. The same is true for the mean values – the companies with largest total assets are likely to have one predominant owner – either the government or foreign investor. Though, government type ownership is an absolute leader exceeding the foreign one 5 times – this typical for Russian market, where government tends to active participant in large, industry-generating companies with high capitalization. The mix combination or exclusion of both shareholders type tend to usual practice for smaller companies.

<table>
<thead>
<tr>
<th>Ownership</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>GO only</td>
<td>756 278 484,36</td>
<td>215 501,00</td>
<td>9 953 400 000,00</td>
</tr>
<tr>
<td>FO only</td>
<td>157 435 934,36</td>
<td>116 952,00</td>
<td>2 023 180 000,00</td>
</tr>
<tr>
<td>GO + FO</td>
<td>71 466 092,50</td>
<td>2 431 940,00</td>
<td>654 600 000,00</td>
</tr>
<tr>
<td>no GO + FO</td>
<td>13 382 284,22</td>
<td>14 453,00</td>
<td>202 988 000,00</td>
</tr>
</tbody>
</table>

Note – compiled by the authors based on data from [46].
Table 3 describes statistics for net income and sales for the sample companies by ownership type. The variable is represented by dynamic indicators of profitability – net income and turnover – sales. We strive to understand whether ownership tends to affect the profitability and turnover. The data shows a characteristic similar to what we observed in total assets statistics: the government owned companies generate on average large amounts of sales and net income. This is logical due to close relationship of assets to sales.

Table 3 – Net income by ownership

<table>
<thead>
<tr>
<th>Ownership</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>PANEL A:</td>
<td>Net income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GO only</td>
<td>32 355 302.13</td>
<td>- 261 230 000.00</td>
<td>973 172 000.00</td>
</tr>
<tr>
<td>FO only</td>
<td>16 164 441.72</td>
<td>- 101 143 000.00</td>
<td>371 881 000.00</td>
</tr>
<tr>
<td>GO + FO</td>
<td>11 887 225.00</td>
<td>- 4 143 230.00</td>
<td>137 372 000.00</td>
</tr>
<tr>
<td>no GO + FO</td>
<td>2 124 262.82</td>
<td>- 309 429.00</td>
<td>38 311 600.00</td>
</tr>
<tr>
<td>PANEL B:</td>
<td>Sales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GO only</td>
<td>312 810 693.42</td>
<td>11 018,00</td>
<td>4 299 680 000.00</td>
</tr>
<tr>
<td>FO only</td>
<td>60 210 149.51</td>
<td>473.00</td>
<td>688 006 000.00</td>
</tr>
<tr>
<td>GO + FO</td>
<td>22 145 035.83</td>
<td>1 548 610.00</td>
<td>129 223 000.00</td>
</tr>
<tr>
<td>no GO + FO</td>
<td>9 175 348.02</td>
<td>6 419.00</td>
<td>128 001 000.00</td>
</tr>
</tbody>
</table>

Note – compiled by the authors based on data from [46].

Table 4 shows statistics for account receivables, CAPEX and working capital changes. Following items are component of balance sheet representing the operational and investment requirements. Capex data is identical to data structure of assets and sales. In order to generate higher volumes of sales the higher level of CAPEX is required, which confirm the identical allocation. Working capital data is identical to data structure of assets and sales. We conclude the same explanation as for CAPEX dependency.

We reviewed the allocation of variable in regard to combination ownership types. All financial data, except Net income have the same patterns. Minimum and maximum amounts are not informative. The average values are predominantly high in case of government type companies. The second position is taken by foreign type companies. The minimum amounts in all data are in companies with hybrid ownership or w/o government & foreign investment. This is mostly explained by government to be active player in strategic industries and control the market.

Regarding absolute profitability we evidence, that size does not guarantee the same level of profitability. For instance, the average absolute net income of foreign owned companies are only 2 times lesser than government owned companies, though the average size is 6 lesser. The other combination type companies also displayed decent absolute profitability.

Table 4 – Account Receivables, CAPEX and Working capital change by ownership

<table>
<thead>
<tr>
<th>Ownership</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>PANEL A:</td>
<td>Account Receivables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GO only</td>
<td>115 623 035.05</td>
<td>7 780.00</td>
<td>2 025 600 000.00</td>
</tr>
<tr>
<td>FO only</td>
<td>22 920 609.04</td>
<td>127.00</td>
<td>189 066 000.00</td>
</tr>
<tr>
<td>GO + FO</td>
<td>18 128 493.67</td>
<td>263 393.00</td>
<td>198 519 000.00</td>
</tr>
<tr>
<td>no GO + FO</td>
<td>1 572 300.73</td>
<td>-</td>
<td>14 792 200.00</td>
</tr>
<tr>
<td>PANEL B:</td>
<td>CAPEX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GO only</td>
<td>73 200 753.69</td>
<td>26.00</td>
<td>1 175 214 720.00</td>
</tr>
<tr>
<td>FO only</td>
<td>19 129 675.28</td>
<td>1 669.00</td>
<td>143 274 372.00</td>
</tr>
<tr>
<td>GO + FO</td>
<td>11 394 793.42</td>
<td>1 784 862.00</td>
<td>40 055 200.00</td>
</tr>
</tbody>
</table>
Regression Analysis. Table 5 display the correlation between variable. We observe high correlation between ROE and Log(NI) due to dependency nature of ROE. There’s also significant correlation between size and net income in absolute terms, which also logical as larger entities are likely to generate the higher absolute profits. The rest variable do not shown correlation between selected variables.

Table 5 – Correlation matrix

<table>
<thead>
<tr>
<th></th>
<th>ATL</th>
<th>LOG(NI)</th>
<th>LOG(SIZE)</th>
<th>IND</th>
<th>ROE</th>
<th>Log(DAC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATL</td>
<td>100,00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOG(NI)</td>
<td>6,02%</td>
<td>100,00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOG(SIZE)</td>
<td>9,43%</td>
<td>42,43%</td>
<td>100,00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IND</td>
<td>4,15%</td>
<td>13,82%</td>
<td>-5,87%</td>
<td>100,00%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>-2,02%</td>
<td>74,31%</td>
<td>28,27%</td>
<td>4,26%</td>
<td>100,00%</td>
<td></td>
</tr>
<tr>
<td>Log(DAC)</td>
<td>-10,74%</td>
<td>-10,81%</td>
<td>-41,64%</td>
<td>6,08%</td>
<td>-2,16%</td>
<td>100,00%</td>
</tr>
</tbody>
</table>

Note – compiled by the authors based on data from [46].

Table 6 shows the possible forecast model depending on chronology and duration of period. It is required to choose the model with larger pool of data and good coefficient of determination. In that way the data will be as possible as integral and, on the hand, we need to pay attention to ability of coefficient to explain the overall model assuring the quality of the forecast.

The regression helps to construct effective forecast based on the historical data, which basically is required to project non-discretionary accrual model. First, we need to identify, which is the fittest model, which can provide good relationship explanatory power represented by good level of R-square. We perform regression analysis over the data by the different time periods, so it can provide us with further variability in model choice. Therefore, the period of 2011-2012 for regressor with 687 observation and coefficient of determination with 56.26 %, so we can the rest data after 2013 for analysis.

Table 6 – Non-discretionary accrual (NDAC) regression table with different regressor periods

<table>
<thead>
<tr>
<th>Regressor</th>
<th>cell</th>
<th>r2</th>
<th>a</th>
<th>Drev-Drec</th>
<th>PPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>399</td>
<td>75.34%</td>
<td>5 090 445.37</td>
<td>- 0.45</td>
<td>0.68</td>
</tr>
<tr>
<td>2011</td>
<td>457</td>
<td>24.47%</td>
<td>3 492 011.87</td>
<td>- 0.34</td>
<td>0.30</td>
</tr>
<tr>
<td>2010-2011</td>
<td>515</td>
<td>52.59%</td>
<td>5 174 442.06</td>
<td>- 0.45</td>
<td>0.42</td>
</tr>
<tr>
<td>2012</td>
<td>629</td>
<td>76.32%</td>
<td>- 4 066 438.16</td>
<td>- 0.18</td>
<td>0.23</td>
</tr>
<tr>
<td>2011-2012</td>
<td>687</td>
<td>56.26%</td>
<td>- 1 638 086.35</td>
<td>0.19</td>
<td>0.17</td>
</tr>
<tr>
<td>2010-2012</td>
<td>801</td>
<td>43.44%</td>
<td>618 546.02</td>
<td>- 0.07</td>
<td>0.48</td>
</tr>
<tr>
<td>2013</td>
<td>971</td>
<td>95.13%</td>
<td>3 956 127.28</td>
<td>- 0.26</td>
<td>- 0.61</td>
</tr>
<tr>
<td>2012-2013</td>
<td>1029</td>
<td>58.74%</td>
<td>2 999 451.02</td>
<td>- 0.74</td>
<td>- 0.88</td>
</tr>
<tr>
<td>2011-2013</td>
<td>1143</td>
<td>30.41%</td>
<td>2 626 983.30</td>
<td>0.51</td>
<td>- 0.55</td>
</tr>
<tr>
<td>2010-2013</td>
<td>1313</td>
<td>6.32%</td>
<td>4 620 463.93</td>
<td>0.19</td>
<td>- 0.24</td>
</tr>
<tr>
<td>2014</td>
<td>1539</td>
<td>44.31%</td>
<td>613 791.59</td>
<td>- 0.07</td>
<td>0.24</td>
</tr>
</tbody>
</table>
Table 7 display several periods with applied forecast. Again, we need to pay attention to duration covering as much periods as possible to prevent data leak. Coefficient of determination is the second important factor in selections. Afterwards, we identified that quality over the resulted models is dispersed. That might be explained by different significance and degree of the relationship in different years. This is confirmed by high R-square of one-year regressed models. We will try to choose the model, which covers the longer period possible to prevent the data loss and fits the requirements in regard to comparably high r-square. Using NDAC model we calculate the DAC accrual. Later, DAC can be regressed against control variables. Due to scaling reason, the absolute amounts in regression model will be logged. Finally, we need to check whether selected chosen NDAC model can have a significant coefficient of determination with the control variables. The period of DAC regressor for 2013-2016 with NDAC regressor have been selected with coefficient of determination of 21.61%.

Table 7 – 2011-2012 NDAC regressed model for DAC time span estimation

<table>
<thead>
<tr>
<th>DAC Reg</th>
<th>NDAC Reg</th>
<th>( r^2 )</th>
<th>( a )</th>
<th>Drev-Drec</th>
<th>PPE</th>
<th>( r^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>2011-2012</td>
<td>56.26%</td>
<td>-1 638 086.35</td>
<td>0.19</td>
<td>0.17</td>
<td>39.97%</td>
</tr>
<tr>
<td>2013-2014</td>
<td>2011-2012</td>
<td>56.26%</td>
<td>-1 638 086.35</td>
<td>0.19</td>
<td>0.17</td>
<td>22.96%</td>
</tr>
<tr>
<td>2013-2015</td>
<td>2011-2012</td>
<td>56.26%</td>
<td>-1 638 086.35</td>
<td>0.19</td>
<td>0.17</td>
<td>20.66%</td>
</tr>
<tr>
<td>2013-2016</td>
<td>2011-2012</td>
<td>56.26%</td>
<td>-1 638 086.35</td>
<td>0.19</td>
<td>0.17</td>
<td>21.61%</td>
</tr>
</tbody>
</table>

Out of the chosen control variables, we evidenced three of them are proved to be significant: size of the entity, government and foreign ownership. The other variables do not have straightforward relation or statistical significance.

Table 8: DAC regression against controlled variables

<table>
<thead>
<tr>
<th></th>
<th>Slope</th>
<th>Standard Error</th>
<th>T-Statistics</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>16.05765747</td>
<td>2.2837</td>
<td>7.03142</td>
<td>2.650494E-11</td>
</tr>
<tr>
<td>GO</td>
<td>-1.802960032</td>
<td>0.897542</td>
<td>-2.00877</td>
<td>0.045805967</td>
</tr>
<tr>
<td>FO</td>
<td>-2.236830664</td>
<td>0.894572</td>
<td>-2.50045</td>
<td>0.01314679</td>
</tr>
<tr>
<td>ATL</td>
<td>-3.49321E-05</td>
<td>3.14E-05</td>
<td>-1.11211</td>
<td>0.267326253</td>
</tr>
<tr>
<td>LOG(NI)</td>
<td>-0.019283688</td>
<td>0.113106</td>
<td>-0.17049</td>
<td>0.864782689</td>
</tr>
<tr>
<td>LOG(SIZE)</td>
<td>-1.865899192</td>
<td>0.344763</td>
<td>-5.41212</td>
<td>1.64983E-07</td>
</tr>
<tr>
<td>IND</td>
<td>0.297062125</td>
<td>0.8904</td>
<td>0.33628</td>
<td>0.738984122</td>
</tr>
<tr>
<td>ROE</td>
<td>3.861376491</td>
<td>3.987351</td>
<td>0.968406</td>
<td>0.333924482</td>
</tr>
</tbody>
</table>

Out of the chosen control variables, we evidenced three of them are proved to be significant: size of the entity, government and foreign ownership. The other variables do not have straightforward relation or statistical significance.
Following the logic of model if TACC is positive number, we might conclude that NI is actually higher than actual OCF. This can be explained as incomplete conversion of OCF into declared NI over the monitored period. Potentially, this scenario brings the ground for classical earning management practice occurrence. The intercept of the model is positive which confirms the general occurrence of the earning management occurrence. If we take a look on slope of other statistically significant variables – government and foreign ownership, we evidence the negative sign for both variables. With increase of these variables, the model tends to decrease the intercept, which brings the positive effect to the gap – following variables are favorable to reduce the earning management practice. Therefore, companies with government or foreign ownership (more than 10 %) displays better results, rather than the rest companies. Foreign ownership slope coefficient is a bit sharper, which displays better countermeasures in regard to earning management.

Technically answering stated hypothesis, we derive the following results:

H1: Government ownership adversely affect occurrence of earning management

This hypothesis is rejected as we evidence positive effect of government ownership. The slope of GO (-1.8) is negative which under dummy variable tends to decrease positive intercept (16). Meaning with increase of dummy variable to 1, the overall model decreases the gap between discretionary and non-discretionary accruals. Following can be explained by enforcing of additional legal requirements affecting corporate governance to the companies with state ownership.

H2: Foreign ownership adversely affect occurrence of earning management

We reject the hypothesis, as we've evidenced the similar results as with government. But the slope even steeper (-2.23), which means that foreign ownership even more effective in countering earning management practice. Which is factually logical as foreign investors and having better instruments experience in tuning the corporate governance, resulting in lesser effect of earning management occurrence.

H3: Firm is the factor which negatively affect earning management

Again, the hypothesis is rejected. We evidence negative slope (-1.86), which decrease the models intercept. Large size companies are subject for more secure monitoring due to risk exposure, which results in better alignment of corporate governance in regards earning management.

RESEARCH RESULTS (CONCLUSION)

Russia markets of oil/gas and metal/metallurgy are system-creating and driving the most economy in country. It’s worth to mention that it is crucial for following entities to be having a reliable corporate governance from earning management perspective. It was confirmed by various prior research that ownership play a prominent role in earning management occurrence. Which is why one of the aims of this study was identification of earning management magnitude occurrence regarding type and degree of foreign and government ownership. Apart from it the relations between size, profitability, type of industry (oil & gas versus metal & metallurgy) and leverage are tested. We did not evidence sufficient relation regarding degree of profitability, type of industry and leverage. It might be explained by strong diversity of market representatives making difficult to synthesize similarities in controlled variables.

We derive consistent results based on research of Balsam, Bartov and Marquardt [30] – underlying the good institutional capability to prevent earning management, but there are different cases as well. For instance, results of Abbadi, Hijazi and Al-Rahahleh [8] demonstrated negative relation, explaining weaker ability of Jordan government to control the entities rather than in Russia. Dechow, Sloan, Sweeney [20] confirmed that the quality of accounting earning is more reliable, when great controlling systems in place, which are taking place in entities with government and foreign participation in Russia. In regard to foreign owned companies, the result of current study is consistent with research of Bushee [25], Grinblatt and Keloharju [26]. Though, the are examples, where foreign investors are in weaker position to deal with earning management – Dvorak [27] – the example in a form of Jakarta companies

What we can derive from the results is that ownership effect of both foreign and government are the factors responsible for earning management occurrence practice in Russia. Logically, the low level of ownership presumes a little ability to control the entity. Investor cannot enforce and maintain its own corporate governance model toward company with little investments. On the contrary, we evidenced that both foreign and government
Ownership are indeed the factors which favourable in counter measuring the effects of earning management. This can be explained by positive effect of foreign and government ownership in preventing the occurrence of earning management. A slight difference in slope of ownership variables can be explained by fact that countries like Russian Federation might not have such effective legislative mechanism to deal with earning management that is why the requirements of foreign investors in regard to corporate governance proved to be useful in reducing effect of earning management. Though, current government introduced control over the owned companies is effective in dealing with earning management practice. We also identified the size as the factor decreasing the occurrence of earning management.

REFERENCES

REFERENCES


РЕСЕЙДЕГІ МҰНАЙ-ГАЗ, МЕТАЛЛУРГИЯ ЖӘНЕ МЕТАЛЛУРГИЯ КОМПАНИЯЛАРЫНЫҢ ТАБЫСЫН БАСҚАРУ

А. Файзулаев1*, М. Машаков1, Б. Жусупова1

1КИМЭП Университеті, Алматы, Қазақстан Республикасы

АНДАТПА

Зерттеу мақсаты. Бұл макала Ресейдегі мұнай-газ және металлургия өнеркәсібі компанияларының мысалдарын пайдаланып, меншік пен кірісті басқару арасындақы байланыс зерттеледі.

Əдіснамасы: Зерттеу гипотезасын тексеру үшін деректердің регрессиялық талдауы жүргізілді. Зерттеу екі салаға – мұнай-газ өндіру мен өңдеу, сонымен қатар қараба металлық және ар农业科技 компаниялары бойынша 2010-2016 жылдарының деректерін қамтиды. Теориялық және әдіспен кызмет ету үшін анықтау үшін компания жұмысында меншіктің табысты басқару, оның әсерін зерттеді.


Түйін сөзі: табысты басқару, Ресей, мұнай-газ, ЖІӨ.
АНАНТОЦИЯ

Цель исследования – выявить взаимосвязь между владением и управлением доходами на примерах компаний нефтегазовой, и металлургической промышленности в России.

Методология: для проверки нашей гипотезы был проведен регрессионный анализ панельных данных. Наше исследование охватывает данные за периоды 2010-2016 гг. по двум отраслям: добыча и переработка нефти и газа, а также черная и цветная металлургия. Теоретические и эмпирические исследования показывают, что структура собственности играет важную роль для эффективности компании после исследований Ли и Лу [1], Али Шаха, Али Батта и Хасана [2] и Хассана [3].

Оригинальность / ценность исследования. В этом исследовании изучается влияние степени государственного и иностранного владения, а также размера юридических лиц на измерение управления корпоративными доходами; насколько нам известно, по этой теме проведено ограниченное количество исследований.

Результаты исследования. По словам Струковой [4], Виляпина и Степанова [5], Россия сильно зависит от экспортно-ориентированных отраслей, таких как нефть / газ и металл / металлургия. Таким образом, понимание определяющих факторов корпоративного управления финансовой отчетности становится важным вопросом. В статье делается вывод о том, что иностранная и государственная собственность вместе с размером предприятий являются факторами, снижающими эффект управления доходами.

Ключевые слова: управление доходами, Россия, нефть и газ, ВВП.

ABOUT THE AUTHORS

Alimshan Faizulayev – PhD, KIMEP University, Almaty, Republic of Kazakhstan, e-mail: a.faizulayev@kimep.kz, https://orcid.org/0000-0002-0212-0538*

Madi Mashakov – MBA, DBA candidate, KIMEP University, Almaty, Republic of Kazakhstan, e-mail: arantir@bk.ru, https://orcid.org/0000-0002-1991-4123

Balzhan Zhussupova – PhD, KIMEP University, Almaty, Republic of Kazakhstan, e-mail: b.zhussupova@kimep.kz, https://orcid.org/0000-0003-4165-4476