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CORPORATE GOVERNANCE TRANSPARENCY AND DISCLOSURE AND RUSSIAN COMPANIES' VALUE

Abstract

The quality of corporate governance (CG) increase companies' value and asset prices (Bhagat, Black, 1999; Black, 2001; Black et al, 2006; Rachinsky, 2003; Gompers et al, 2003, etc.) and can be ensured by an adequate disclosure of CG practices (Kandukuri, 2015). The research of T&D (transparency and disclosure) effect on companies' performance is particularly important for Russia as the country has made a significant step toward T&D improvements, and CG system there is characterized by specific features like high state involvement, concentrated ownership. So, the current paper aims to determine the effect that CG T&D has on Russian companies' performance. We also examine whether companies' internal characteristics, e.g. size, financial leverage and growth prospects, or external factors such as sanctions have a considerable impact on the relationship between T&D and companies' performance. The sample consists of 62 leading Russian companies traded on the MOEX from 6 different industries for two years, 2011 and 2016. CG T&D was estimated using the UNCTAD methodology by authors and Russian Institute of Directors. According to the results obtained, higher T&D may contribute to higher companies' value. However, we could not find a significant impact of T&D on CG on book metric of performance, particularly, on ROA.

Introduction

Recent corporative scandals and cases of mismanagement in large international corporations (Enron, Tyco, etc.) exacerbate conflicts of interest, making the process of getting loans and raising external investments more difficult for companies. However, it is a general truth that long-run companies' development and modernization are not possible without loan capital. Although conflicts of interest and agency problem cannot be eliminated, they can be monitored and controlled by special mechanisms being defined as Corporate Governance.

Researchers and market regulators have recognized the importance of good Corporate Governance (CG) quality since long ago. Fundamental academic articles in this sphere (Bhagat, Black, 1999; Black, 2001; Black et al, 2006; Rachinsky, 2003; Gompers et al, 2003, etc.) have demonstrated that higher CG quality may contribute to higher companies' value and asset prices, lower cost of capital, etc. However, some number of researchers have not managed to find any relationships between the aforementioned indicators (Black, et al., 2006), therefore, the question of the impact of CG on companies' measures remains unanswered.

Although differing results are often explained by different methodologies used to evaluate CG quality in a company (Black et al., 2006), a more important challenge of CG research lies in the definition of measures of "good Corporate Governance" (Schnyder, 2012), i.e. of CG mechanisms that provide financial efficiency, compliance with social and environmental requirements, and achievement of companies' goals in general. These difficulties have made researchers find alternative ways to determine effects of CG quality on companies' performance.

According to the literature in the subject matter, adequate disclosure of CG practices ensures its good quality (Kandukuri, 2015). Indeed, it is more difficult for managers to pursue their own interests and use companies' funds for private purposes in case of higher Transparency and

Disclosure (T&D). Furthermore, higher degree of disclosed information may help shareholders to understand better firms' strategy and its managerial structure, thereby, reduce information asymmetries and agency risks (Healy and Palepu, 2001). Consequently, Corporate Governance disclosure is considered to be one of the most fundamental elements contributing to good CG.

The importance of T&D is widely recognized as over the last decade, many countries have enacted special laws and codes requiring companies to provide more information on their CG. Many empirical studies have also repeatedly underlined significance of the relationship between companies' disclosure levels and indicators. However, the results of stated in such papers are often conflicting, as positive, negative or neutral effects were reported, due to measurement problems as the level of disclosure is not directly observed, therefore, a proxy need to be used. It is assumed that countries' institutional characteristics and methods of T&D evaluation may contribute to differences in results.

The research of T&D effect on companies' performance is particularly vital and important for Russia as the country has made a significant step toward T&D improvements, thus, the results of previous research may be rather outdated. Moreover, the Russian economy has some distinguishing features, such as high state involvement, concentrated ownership, CEO duality, which were taken into consideration when choosing the method for T&D evaluation. Finally, in the light of recent events, particularly, sanctions imposed on Russian companies that limit access to international capital markets, it would be interesting to check how companies adjust to new realities and whether the effect of T&D is stronger for companies under sanctions which might start practicing more transparent policies regarding their CG to attract new investors.

The current paper aims to determine the effect that T&D has on Russian companies' performance measure. An additional objective of this study is to examine whether companies' internal characteristics, e.g. size, financial leverage and growth prospects, or external factors such as sanctions have a considerable impact on the relationship of T&D and companies' performance.

Overall, the paper consists of four parts, introduction and conclusion organized as follows: The first part includes the extended literature review on the CG concept in general as well as on the theory of T&D, methods of its evaluation and empirical findings regarding its effects on companies' indicators. The second part specifies the research question and hypothesizes tested in the framework of this study. The next chapter is dedicated to the description of the methodology and data sample used as well as the description of variables and the primary data analysis. In the fourth section, the detailed interpretation of empirical results is provided. Finally, limitations of the current research and possible developments are discussed in the conclusion.

Literature review

1. The Essence and Importance of Corporate Governance

Separation of ownership and control in corporate organizations may often result in information asymmetry problems between shareholders and managers as the former cannot directly control the latter. Information asymmetry leads to rising incentives of managers to pursue their own interests at shareholders' expense. Self-interested behavior may include assets stripping, shirking, over compensation, empire building, etc., all of which increase shareholders' risks and cause a so-called agency problem, making the process of getting loans and raising investments more difficult, time- and money-consuming (Ashbaugh, et al 2004). Special mechanisms that are intended to reduce agency risks by monitoring managerial decision-making process and limiting

the probability of opportunistic management behavior need to be implemented in a company that wants to raise investments. In relevant literature the set of these mechanisms is determined as Corporate Governance.

CG, being defined as a way to control, administer or direct an enterprise through special structures and relationships (Djodat and Nguyen, 2008), is considered to be an important characteristic of a company, especially in the light of recent corporate scandals (Enron, Worldcom, Tyco, etc.) and economic crises which occurred in different countries (Shehata, 2016). The quality of CG may be a signal for investors who aim at "getting anything but the worthless piece of paper back from the manager" (Vishny and Shleifer, 1997). Numerous debates and studies conducted have proved a significant link between CG practices and companies' performance. From the perspective of policy makers, better CG quality may enhance the efficiency of companies, reduce their capital costs and encourage innovations (RID, 2011).

In order to analyse the impact that CG quality has on different measures of corporate performance, academics have either focused on a particular mechanism, e.g. characteristics of CEO (Eichholtz and Yoender, 2015) or a board of directors (Millstein and MacAvoy, 1998, Bhagat and Black, 1999), management compensation system (Bhagat et al., 1999) and anti-takeover provisions (Sundaramurthy et al., 1997); or have constructed an overall index of CG practices (Spanos et al, 2004, Gompers et al., 2003), all depending on what the research questions and purposes they focused on. Despite considerable efforts, the results of these studies are often contradicting (Bhaghat et al., 2008).

The diverse results can be explained by the application of different methodologies. Black et al. (2006) have shown that the effect which CG quality has on companies' performance depends on the way how this quality is evaluated. In fact, even using different corporate governance ratings, based on the OECD principles and developed by well-known agencies (Standard&Poor's, Troika Dialog, Brunswick Warburg, etc.), as a proxy for CG quality, may lead to significant differences in results.

Another possible explanation is related to difficulties in interpretation of "good" practices in CG (Schnyder, 2012), i.e. what mechanisms have a crucial role in companies' efficiency and how they have to work. According to the previous research papers, each CG mechanism may have an ambiguous impact on companies' performance, mitigating and enhancing an agency problem at the same time (Chong-En Bai et al, 2004).

The impact of T&D level as a mechanism of CG is widely discussed in academic articles. Researches repeatedly find out that higher level of T&D contributes to higher valuation of companies (Gompers, 2003, Stiglbauer, 2010). The degree of T&D is often used by ranking institutions (Standard & Poor's, Moody, etc.) as a criterion for companies' reputation and management quality assessment. Chen et al. (2007) suggest that higher information transparency may help shareholders to reduce information asymmetries, providing better understanding of companies' strategy. Nevertheless, there are some concerns that excessive information transparency may lead to loss of competitive advantage as publicly available information may be used by other companies and rivals. Hence, the net effect of T&D practice is ambiguous and may be positive, negative or neutral, depending on the situation (Banerjee et al, 2015). Moreover, the related studies often define T&D as a metric, used to determine how a company adheres to the existing laws and standards in terms of financial information disclosure, i.e. if a company publishes its financial results and reports in a timely manner, etc. On the other hand, the OECD emphasizes the importance of timely and accurate disclosure of "all material matters regarding the corporation,

including the financial situation, performance, ownership, and governance of the company" (OECD, 2004). Consequently, the questions of how a company discloses information regarding its CG (its board structure, executives' payments, rights and responsibilities of control institutions, etc.) and what impact such information disclosure has on company's results still need to be answered.

2. Transparency and Disclosure on Corporate Governance

2.1. Theoretical Aspects and General Information

CG T&D refers to the availability of reliable information about firm's performance, its financial position, governance structure, investment opportunities and risks related to publicly traded firms (Bushman et al., 2004).

Overall, any information disclosure on CG may be divided into two categories, namely, mandatory and voluntary disclosure. There are enacted requirements and standards in terms of what kind of information must be publicly available. Mandatory disclosure usually includes reporting some basic accounting, financial and operational information. In some cases, special laws and The Corporate Governance Code of a country may force companies to provide non-financial information, e.g. ownership structure, board of directors' composition, etc. The degree of voluntary disclosure is usually determined at a company level. However, high T&D is recommended as the best practice for a company (Cheung et al., 2010). In fact, higher information transparency regarding companies' CG "improves common understanding of the structure, activities and policies of the organization. Consequently, the organization is able to attract investors" (Junarso T., 2006).

It has been suggested that there is a rising trend in the degree of T&D of voluntary disclosed information about CG. Healy and Palepu (2001) tried to identify forces that stimulate managers to disclose more information on a voluntary basis. Providing a comprehensive review of literature discussing voluntary disclosure, authors have found two main hypothesizes that may explain increasing incentives of managers to disclose more information: capital market transaction hypothesis and corporate control contest hypothesis. The first hypothesis suggests that by providing more information on CG a company may reduce information asymmetry and agency risks which in turn result in lower cost of external loans. The second hypothesis supposes that higher T&D is a good way to distract investors from bad firm performance and, thus, to reduce the risk of management job losses.

According to Lowenstein (1996), the level of T&D on CG may be considered as an indicator of CG quality in a company. The quality of T&D on CG practices is usually evaluated according to the Principles of Corporate Governance developed by the OECD in 2004 (OECD, 2004). Good CG quality implies a transparent ownership structure identifying any conflicts of interest that may occur between major stakeholders within a company, timely and accurate disclosure of financial information, board of directors' transparency, the disclosure of decision-making process in a company (Patel and Dalas, 2002). Therefore, higher T&D is usually observed in better governed firms. The similar conclusion is emphasized by Lowenstein, who suggests that information disclosure about companies' CG is considered to be the most efficient and effective mechanism to motivate managers to manage better (Lowenstein, 1996). As a result, T&D on CG in a company may be an effective tool to reduce the gap between interests of different sides of an agency problem and eliminate lack of information in order to decrease investors' uncertainty pertaining to investment decisions (Stiglbauer, 2010).

As CG quality varies among different countries due to some institutional characteristics that influence the effectiveness of CG mechanisms (La Porta et al., 1998, 2000), the extend of T&D in a company may also be influenced by countries' specific features and legal systems in general.

2.2. Development in T&D on CG in Russia

Poor CG quality has always considered to be one of the weak points in establishing an investment climate in Russia (OECD, 2004). However, over the past decade Russia has demonstrated significant improvements in many areas of CG, such as preparation of IFRS-based financial statements, rising proportion of independent directors in the board structure, extensive external audit involvement, better clarification of shareholder rights, etc. (RID, 2011). Changes in the quality of CG resulted in higher transparency levels of Russian companies. Nevertheless, Russian corporate environment is characterized by high ownership concentration in firms, significant state involvement in businesses and the problem of CEO duality, defined as a situation when a chairman of the board of directors is also a member of the management board (Lazareva, 2007). These features reflect the way how Russian companies disclose information about their CG.

The current requirements for disclosure of CG practices in Russia have developed from a long reform process which started back in the 1990s when the transition to a new economic reality occurred (RID, 2011). The basic principles of Russian CG system were documented in the JSC Law (1995). Although a significant number of amendments were added to comply with the international standards in this sphere and improve national CG practices, this document did not address many issues related to CG. On the other hand, the Corporate Governance Code, that was developed and finally approved in 2002, as well as Resolution No. 03-849/r issued in 2003 made a breakthrough in Russian CG quality. Consisting of 79 items, the Resolution covers all important points of the Corporate Governance Code and requires companies to disclose if they comply with this Code or to provide a detailed explanation if they do not (RID, 2003).

Although the RID pointed out that Russian companies have low T&D levels (RID, 2011), the situation has significantly changed comparing to the beginning of the millennium. The aforementioned documents recommend Russian companies to disclose information not only about their financial and operating results, but also about their board composition, shareholders' rights, processes of external and internal audits, companies' policy regarding environmental and social issues, etc.

Preparing an international report in 2011, the UNCTAD found that in general Russian companies follow mandatory disclosure requirements, however, the level of voluntary disclosure remains quite low (UNCTAD, 2011). Only few companies provide voluntary disclosed information about their beneficial owners, individual remuneration of directors as well as companies' policy on anti-takeover regulations and processes of related-party transactions approval. Therefore, there are future prospects for companies to enhance the level of T&D in Russia.

2.3. The T&D Index: Methods of Evaluation

It should be mentioned that it is hard to quantify the level of T&D. The difficulty related to T&D practices measurement is the main limitation of research in this sphere (Healy and Palepu, 2001). Previous research papers contain different methods of T&D evaluation, developed by authors. While there are some differences in methodologies, the main idea of all these constructed

indexes is to evaluate to what extend a company discloses information via annual reports, financial statements, corporate governance reports and other publicly available documents.

There is significant number of articles where authors construct their own Transparency Index based on the OECD standards (OECD, 2004), Corporate Governance Guidance of a country and some institutional characteristics. For example, Botosan (1997) and Stiglbauer (2010) created their own Transparency Indexes to assess the level of T&D on CG in the USA and Germany, respectively. Both indexes consist of 55 – 60 criteria and contain questions about companies' board structure and responsibilities, rights of shareholders, financial transparency.

Cheung et al. (2010) developed 56 criteria and evaluated the CG T&D for 100 major Chinese companies. The distinctive feature of this study is that the methodology adds qualitative dimension to the disclosure measures, e.g. if a company does not comply with a criterion, a "poor" score (score=1) is given. In case of meeting the minimum compliance standard, a company receives a "fair" score (score=2). When firms exceed minimum requirements and provide extra extended information, they get higher score (score=3). In contrast, most previous methods have only checked for the presence of a particular disclosure criterion.

Another group of research uses special rankings of T&D developed by international agencies. For example, Lang and Lundholm (1993, 2000) use metrics based on the AIMR database. However, this database is more focused on financial transparency than on other aspects of CG.

Chen et al. (2007), Patel and Dalas (2002) used Standards and Poor's (S&P) Transparency Index as a proxy for the assessment of disclosure practices in a company. The methodology contains 98 disclosure items, divided into three groups:

- Ownership structure and shareholders' rights
- Financial transparency
- Board and management composition and process.

If a company discloses a particular item in its annual report, as the primary source of corporate disclosure (Chen et al., 2007), it receives 1 point, and vice versa 0 points are given if it does not.

Another method of T&D evaluation was suggested by the United Nations Conference on Trade and Development (UNCTAD) in 2007. A list of 51 specific corporate governance disclosure items, classified into five categories, has been used by the UNCTAD as a benchmark of T&D quality in a number of both national and international studies. The method evaluates T&D in the following five categories:

- Financial transparency;
- Board and Management composition and process;
- Ownership structure and exercise of control rights;
- Corporate responsibility and compliance; and
- Auditing.

The method is based on the principles similar to the S&P ones: the disclosure of a certain item from the list adds to the total score 1 point. If a company does not provide any related information, no points are added.

Both rankings do not measure the substance of the reporting, which implies the assessment of the quality of disclosure and underlying CG practices. The bottom line is that such approach would be quite complicated, and the results would be rather subjective (UNCTAD, 2011). Furthermore, it is difficult to determine what "good" corporate governance practices mean

(Schnyder, 2012). Thus, the purpose of the aforementioned benchmarks is not to evaluate the quality of T&D on CG, but to determine if a reporting process occurred and how that process follows both international best practices and national requirements.

3. The Impact of T&D on Firm Performance: Empirical Findings

Previous research papers focusing on the effects of CG disclosure indicate a number of substantive and sometimes conflicting results. Consistent with a capital market transactions hypothesis, empirical findings suggest that higher disclosure on CG results in positive capital market outcomes (Collett and Hrasky, 2005).

Several studies emphasize that the degree of T&D directly affects information asymmetry risks of a company. Increased disclosure can effectively reduce information asymmetries and in turn provide lower cost of capital for a company (Lang and Lundholm, 1999, Diamond and Verrecchia,1991, Botosan, 1997). The bottom line is that high level of transparency may be attractive to large investors because of low uncertainty and high liquidity. Thus, the notion that higher disclosure level may provide access to loans and equity at lower capital costs is supported in the relevant literature.

A significant positive impact of T&D level on other measurements of companies' performance was found by researchers. Better CG disclosure not only reduces agency risks and raises investors' confidence, but also increases companies' market value (Newell and Wilson, 2002). La Porta et al. (2002) have documented the evidence of higher valuation of firms in countries where more transparent information on the rights of minority shareholders is provided. Higher firm valuation was also discussed by Land et al. (2012). Using data from 46 countries, authors demonstrate that rising T&D index may result in lower cost of capital, increased stock liquidity and, finally, higher Tobin's Q as a proxy for companies' value. Gompers et al. (2003), and Durnev and Kim (2005) report a positive link between disclosing CG practices and firm value either.

However, in some research papers authors could not find any relationships between T&D level and companies' value. In particular, Toskal (2004) suggested that a decrease of information asymmetry because of high level of disclosure can reflect in lower cost of equity capital of the firm but not in higher firm's value. This result is explained by the endogeneity problem as there may be many variables other than the level of T&D which have an impact on the value but cannot be observed. Moreover, a high level of disclosure and low costs of equity capital may not guarantee low total costs of capital, which directly influence firm value.

Lack of relationships between the T&D index and companies' value may also be explained by the fact that market valuation is generally related to only voluntary disclosure, but not to mandatory. Although mandatory disclosure remains to be important as there are some clearly established consequences of non-compliance, companies are not additionally rewarded for disclosing information on the mandatory basis. In other words, investors expect higher transparency in terms of voluntary disclosure (Cheung, 2010).

To sum up, the level of T&D on CG in a company is considered to be one of the most important tools to encourage better CG (UNKTAD, 2011). In fact, investors and market agents make their investment decisions based on the information they have; thus, sufficient transparency helps to choose more profitable and successful projects. Moreover, higher disclosure provides

better understanding of companies' structure and strategy either in general terms, or in terms of environmental and ethical standards (Ho and Wong, 2001).

Relevant literature on CG disclosure focuses on the importance of the level of T&D in a company but contains conflicting results on whether higher T&D level contributes to higher firms' value, therefore, further research of this sphere is required.

Research Question and Hypothesizes

While there is a significant number of research papers regarding CG quality and its effect on companies' performance, the research focus on how companies disclose information on their CG quality is comparatively new, thus, there is lack of agreement among researchers on the relationships between T&D level on CG in a company and its performance indicators. Ambiguous results of previous research papers, shown in the literature review of the current study, may be explained by two reasons. Firstly, there is no generally accepted methodology to evaluate the degree of information on CG disclosed by a company. Although all existing approaches, both developed by agencies and constructed by researchers individually, are based on the OECD principles, there are differences in the utilized items and methods of evaluation and calculation of the overall score. Therefore, using different methods researchers cannot obtain comparable results.

Secondly, researchers focusing on developed countries (the UK, the USA) found weak relations between T&D level and companies' performance because of the high level of corporate disclosure environment in these countries, generally. Thus, there is no considerable variability in T&D practices among the US or the UK companies. On the other hand, in the areas where the average level of T&D is low, differences in disclosure practices among companies are expected to be larger, making it possible to find significant marginal effects of T&D. It is particularly fair for Russia where different standards and recommendations started appearing only at the beginning of the current millennium, consequently, the level of T&D significantly varies within Russian companies and remains at the low points, despite considerable changes related to legal developments in this field. Therefore, Russian companies will be investigated in the current research.

Apart from conflicting results on the relationships between T&D and companies' performance, there is still an open question on how T&D of companies changes over time and what factors may have an impact on both these changes and the way how the level of T&D on CG affects companies' performance. It is pointed out that although Russia was included in the research on T&D effects several times, the results obtained 7 years ago (the last full-scale study of Russian companies was made by the RID in 2011) may be not relevant now for the following reasons. Firstly, Lazareva et al. (2007) point out that, generally, Russian companies are gradually improving their CG quality as they move into international capital markets. Therefore, good reputation and high market valuation, directly affected by CG quality (Black et al., 2006, Gompers et al, 2003, Chong-En Bai et al, 2004), are considered to be high-priority goals. Changes in CG quality might influence the degree of T&D on CG in Russian companies. Moreover, they also might have an impact on the relationships between T&D on CG and companies' performance. Secondly, changes in both the level of T&D on CG and the way it affects companies' performance may be caused by some exogenous macroeconomic factors, e.g. sanctions imposed on Russia in 2014-2015.

Thus, emphasizing the necessity of the current research for the aforementioned reasons, the following research question is proposed:

What influence does the level of T&D on CG have on Russian firms' performance and how does such influence change over time?

According to the literature on CG, good T&D mechanisms help to protect the rights of related parties and mitigate the situations of misbehavior among managers. It is suggested that higher T&D on CG reduces asymmetry of information and, consequently, agency risks, leading to lower cost of capital, better companies' reputation and performance. Hence, the first hypothesis is the following:

H1: The level of T&D on CG quality has a positive impact on Russian companies' value.

The relationship between T&D and companies' value may depend on companies' endogenous characteristics, such as their size or growth prospects. Thus, several additional hypothesizes were proposed.

H2: The effect of T&D on companies' performance indicators is higher for larger companies.

Large companies need to have better CG and higher T&D on their CG quality to ensure investors' confidence in positive returns and, consequently, to raise funds for their large-scale projects.

H3: The effect of T&D on companies' performance is higher for faster-growing firms.

Faster-growing firms may need external capital to sustain their growth, hence, they enhance their T&D levels to attract investors.

H4: The effect of T&D on companies' performance is stronger for higher leveraged companies.

Higher proportion of debt in the capital structure of a company increases possible risks, thus, such companies are more often monitored by market agents (Shleifer and Vishny, 1997). Consequently, companies with more disclosed information regarding their CG are evaluated higher because of lower uncertainty and risks.

As it was previously mentioned, by 2011 Russia has made a considerable step forward to T&D improvements, mainly explained by the adoption of Corporate Governance Code and the Resolution. However, since 2011 the level of T&D is expected to change significantly due to some macroeconomic factors. Sanctions imposed on Russian companies in 2014-2015 could result in the increase of the level of T&D. In fact, sanctions have made the process of raising funds more difficult for Russian companies. Limited access to European and American capital markets forced companies in the sanction list to disclose more information to attract new investors, e.g. from Asia, thus, the last two hypothesizes are the following:

H5: The level of T&D is higher in Russian companies included in the sanction lists.

H6: The effect of T&D on performance indicators is stronger in firms under sanctions.

Methodology

The chapter outlines the research design and contains the description of approaches used to study T&D on CG, its effect on Russian companies' performance and differences in both T&D level and its effect that could possibly occur during the five-year period from 2011 to 2016. The detailed information on all variables included and sample used in the current paper are also specified in this chapter.

Overall, the current research may be divided into four parts. As it was previously mentioned, this study has some distinguishing features. In particular, we try not only to determine the effect of T&D on CG in Russian companies on their performance, but also check if this effect depends on companies' financial characteristics. Moreover, we investigate whether the T&D level of Russian companies and its effect on companies' performance indicators have changed during 2011-2016 and whether sanctions imposed in 2014-2015 triggered these changes. Thus, to make research logical and clear, the following steps are proposed:

1. To classify companies according to their T&D level and performance characteristics.

This step allows to determine the average characteristics of companies in each cluster and make assumptions whether companies' performance may be associated with a particular level of T&D and what companies' characteristics may influence the aforementioned relationships. This step involves the use of cluster analysis.

2. To check if companies changed clusters over the period of time from 2011 and 2016 and study characteristics of such companies.

This step provides an opportunity to find if there were changes in the T&D level of Russian companies and if they have an impact on the relationships between such T&D level and companies' performance during the period in question. What type of companies change clusters is of particular interest in this step. In fact, it may be assumed that companies that were included in the sanctions list had changed their clusters, thereby, H5 hypothesis will be partly tested.

3. To determine the impact of T&D on CG on companies' performance.

The common approach to investigate the relationships between variables is the regression analysis that will be also employed in the current paper. To construct the regression model, it is necessary to determine dependent, independent and control variables.

Companies' performance indicators will play a role of dependent variables. Generally, there are accounting-based (e.g. ROE, ROA (Stiglbauer, 2010), EBIT-to-assets ratio (Ararat et al.,2017)) and market-based (e.g. market-to-book ratio (Cheung et al., 2010, Stiglbauer, 2010), cost of capital (Ashbaugh et al., 2004)) measures, that are used as proxies for companies' performance. The particular feature of the latter is that they reflect market perception of companies' risks. In this study two different proxies for companies' performance will be used: ROA, as an accounting performance measure, and Tobin's Q, as a market performance indicator to test consistency of the results.

The independent variable in the current study will represent the degree of T&D on CG in a company, estimated using the UNCTAD methodology. This approach is more relevant for the current study because, firstly, this methodology was initially constructed for developing countries and takes into consideration their distinguishing characteristics (UNCTAD, 2007). Secondly, this approach was used by the RID in 2011 (RID, 2011), thus, there is an opportunity to compare the level of T&D on CG in 2011 and 2016 and check respective hypothesizes.

To mitigate the endogeneity problem, control variables are also included in the model. Their choice is mainly based on the previous research papers. The detailed description of all variables with methods of calculation is presented in Appendix 1. To sum up, the regression model used in the current study is specified below.

$$C\_performance_{i,t} = \alpha + \beta \times TD_{i.t} + \gamma \times \overrightarrow{Control_{i,t}} + \varepsilon_{i,t} \quad (1)$$

Where:

$TD_{i,t}$ – T&D level of i company at the t moment according to the UNCTAD methodology (Appendix 2)

$\overrightarrow{Control_{i,t}}$ – a vector of control variables (Appendix 1)

α – const.

β, γ – coefficients before explanatory and control variables, respectively

ε – error term.

4. To test the impact of both endogenous (e.g. firms' size, leverage, and growth prospects) and exogenous factors (particularly, sanctions imposed in 2014-2015) on the effect that the level of T&D has on companies' performance.

The interaction effects between T&D and different mentioned above characteristics will be added in the regression model to check the differences in the T&D effect on companies' performance depending on the factors in question. To check the hypothesizes H2-H5 the significance of the coefficients before interaction effects will be tested. Thus, the following models are specified to check the hypothesizes H2-H5, respectively:

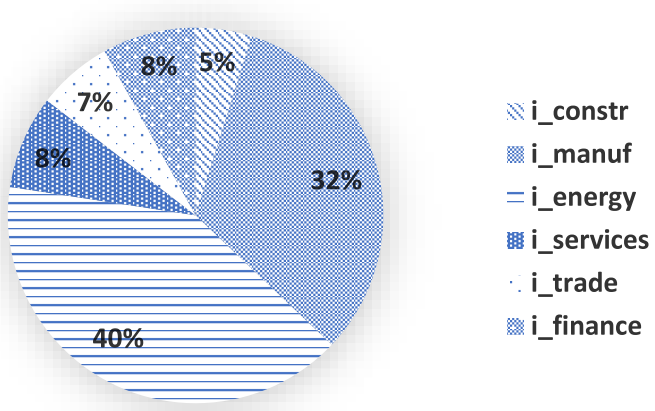
$$C\_performance_{i,t} = \alpha + \beta \times TD_{i.t} + \gamma \times \overrightarrow{Control_{i,t}} + \theta \times TD_{i.t} \times c\_size + \varepsilon_{i,t} \quad (2)$$

$$C\_performance_{i,t} = \alpha + \beta \times TD_{i.t} + \gamma \times \overrightarrow{Control_{i,t}} + \theta \times TD_{i.t} \times c\_growth + \varepsilon_{i,t} \quad (3)$$

$$C\_performance_{i,t} = \alpha + \beta \times TD_{i.t} + \gamma \times \overrightarrow{Control_{i,t}} + \theta \times TD_{i.t} \times c\_leverage + \varepsilon_{i,t} \quad (4)$$

$$C\_performance_{i,t} = \alpha + \beta \times TD_{i.t} + \gamma \times \overrightarrow{Control_{i,t}} + \theta \times TD_{i.t} \times d\_sanctions + \varepsilon_{i,t} \quad (5)$$

The sample employed in the research consists of 62 leading Russian companies traded on the MOEX from 6 different industries (Graph 1) and contains data for two years, 2011 and 2016. Thus, the panel data are used in this research to test hypothesizes empirically. The list of companies was suggested by the RID in their study in which they pointed out that these companies make a significant contribution to the national economy (RID, 2011). However, the initial sample taken from the RID study and consisting of 72 companies was reduced because some companies were closed by 2016, thus, it was impossible to evaluate their T&D level. For the purposes of this study, identical samples for 2011 and 2016 are required.



Graph 1. Industries' distribution

All financial data was mainly collected from the Ruslana database. The information on the level of T&D in 2011 was provided by the RID. Using content analysis and the UNCTAD methodology, we managed to evaluate the level of T&D in 2016. The main sources of information were companies' websites and their annual reports.

The sample contains 124 observations. Descriptive statistics presented in Table 1 provide more detailed information about companies included. On average, the T&D level constituted about 34 out of 51 points, but generally, the score varied within a significant range from 23 to 46 points in 2011. By 2016 on average the T&D level increased to 41 points. This change is statistically significant at the one-percent significance level according to the results of the test for equal means (Table 2). However, the variable still had a wide range of values from 32 to 50 points.

Table 1

Descriptive statistics

Variable	Year	Obs	Mean	Std. Dev.	Min	Max
TD	2011	62	34.42	4.98	23	46
	2016	62	41.37	4.48	32	50
C_size	2011	62	15.53	1.41	12.76	19.63
	2016	62	15.29	1.46	12.96	19.85
C_leverage	2011	62	0.55	0.22	0.10	0.99
	2016	62	0.67	0.31	0.13	1.78
Growth	2011	62	0.25	0.39	-0.35	2.69
	2016	62	0.32	0.28	-0.71	0.97
C_m_age	2011	62	2.04	0.57	0.69	2.99
	2016	62	2.58	0.35	1.95	3.22
ROA	2011	62	0.07	0.79	-0.13	0.35
	2016	62	0.07	0.12	-0.39	0.40
Q_Tob	2011	62	1.08	0.50	0.45	3.45
	2016	62	1.25	0.60	0.41	3.54

Possible explanation of the increased T&D among Russian companies may be technological development and digitalization. In fact, new channels are created because of technological innovations and digitalization, giving an opportunity to provide important information at lower costs (Healy and Palepu, 2000).

Table 2

Test for equal means

Variable	Obs	Mean	Std. Dev.	[95% Conf. Interval]	
TD	62	34.42	4.98	33.16	35.68
TD	62	41.37	4.48	40.23	42.51
Combined	124	37.90	4.87	36.85	38.94
Diff		-6.95		-8.64	-5.27
Diff = mean(TD_2011) – mean(TD_2016) H0: Diff = 0					t = -8.17
H1: Diff<0		H1: Diff ≠ 0		H1: Diff>0	
Pr(T<t) = 0.0000		Pr(|T|>|t|) = 0.0000		Pr(T>t) = 1.0000	

On average, Russian companies started using debt capital more intensively as its share in the overall balance increased from 55% to 67%. Some companies had negative equity value, in other words, their debts exceed the book value of their total assets, thus, their leverage value exceeds 1. Although an average company had positive growth prospects, the revenue of some firms in the sample declined, thus, negative delta resulted in negative growth opportunities.

Although companies significantly differ from each other as their characteristics, e.g. their size, age, etc. have a wide range of values, constructed boxplots have not shown any statistical outliers, thus, there were no observations removed.

Before testing the hypotheses, the correlation matrix was also constructed to check if there is multicollinearity between explanatory variables (Table 3). The table provided illustrates weak correlations between variables (correlation coefficients values do not exceed 0.5), thus, there is lack of statistically significant multicollinearity.

Table 3

Correlation matrix

	TD	C_size	C_leverage	Growth	C_m_age	ROA
TD	1.0000					
C_size	0.3111***	1.0000				
C_leverage	-0.0346	-0.0538	1.0000			
Growth	0.1689*	-0.0053	-0.0486	1.0000		
C_m_age	0.3013***	0.0639	0.0954	0.0748	1.0000	
ROA	0.1113	0.1503*	-0.3546***	0.1300	0.1218	1.0000

* – Significant at the 10% level. ** – Significant at the 5% level. *** – Significant at the 1% level.

Summing up, the data analysis provided has shown that there is no necessity to impose any restrictions on the sample, thus, the data collected may be used for model estimation and hypotheses check.

The statistical package Stata 12 will be used in the current research to analyze data and estimate regression models.

Empirical results

In this chapter, the results obtained from the cluster analysis and models estimation will be discussed.

At the first stage, we tried to divide companies into clusters according to their T&D level and performance measures. Firstly, the variables were normalized to eliminate the impact of large-scale variables and get more reliable results. The hierarchical cluster analysis was used. The distances between objects were measured by the Euclidean method, while the Ward's method was used as an amalgamation rule to determine the sufficiency of similar clusters to be united. This approach was chosen because of its popularity among researchers who repeatedly emphasized its efficiency (David et al., 1996). However, we did not manage to determine the optimal number of clusters analyzing dendrograms and using special stopping rules, namely the Calinski and Harabasz pseudo-F and Duda and Hart Je(2)/Je(1) indexes, as they give conflicting results and the number of clusters suggested by these rules was quite high, thus, we would have face difficulties in the interpretation.

To solve the problems, companies were divided into clusters according to their T&D level only. Moreover, to make the results easier for interpretation, it was assumed that companies may be divided into 3 clusters, depending on whether their T&D level is low, average or high. In this case the k-means approach was used. The descriptive statistics of companies from each cluster for 2011 and 2016 are presented in Table 4.

Overall, the results help to determine what companies are more transparent in terms of their CG quality. It is clearly observed that, firstly, companies listed on the MOEX for longer, tend to disclose less information, the possible reason being that they have already developed their positive reputation, thus, they do not have problems to attract investors. Vice versa, younger companies on the MOEX need to show their consistency to build investors' confidence. Consequently, they tend to disclose more information regarding their CG quality. Secondly, higher growth

Table 4

Descriptive statistics by clusters

Cluster		2011							2016						
		TD	c_size	c_lev~e	c_m_age	growth	ROA	Q_tob	TD	c_size	c_lev~e	c_m_age	growth	ROA	Q_tob
1	Min	23	12.760	0.107	1.099	-0.0367	-0.019	0.449	32	13.428	0.492	2.398	-0.585	-0.387	0.810
	Mean	26.875	14.639	0.603	2.129	0.167	0.077	1.091	33.2	14.292	0.816	2.617	0.103	-0.074	1.179
	Max	29	16.387	0.772	2.708	0.508	0.118	1.749	35	15.166	1.464	2.944	0.874	0.170	1.539
2	Min	30	13.265	0.238	0.693	-0.003	-0.126	0.497	36	13.096	0.174	2.079	-0.707	-0.066	0.408
	Mean	32.887	15.175	0.569	2.064	0.245	0.064	1.084	38.519	14.795	0.715	2.592	0.345	0.092	1.285
	Max	36	19.634	0.998	2.833	1.057	0.299	2.278	41	16.602	1.225	3.091	0.967	0.401	3.539
3	Min	37	14.233	0.098	1.386	-0.348	-0.009	0.529	42	12.958	0.134	1.946	-0.075	-0.195	0.523
	Mean	40.421	16.559	0.492	1.953	0.291	0.089	1.076	45.3	15.893	0.613	2.558	0.335	0.076	1.235
	Max	46	19.167	0.908	2.996	2.686	0.352	3.447	50	19.852	1.776	3.219	0.782	0.320	2.786

prospects are related to higher T&D in a company. Indeed, faster-growing firms may need more external capital to sustain their growth, thus, they increase their T&D to attract investors. Thirdly, higher leveraged firms have lower T&D level which may be explained by the fact that higher leveraged firms have already got external financing, thus, they do not need further external funds and, consequently, are not motivated to enhance their T&D. Moreover, a positive impact of companies' size on their T&D level may be observed. In fact, larger companies tend to disclose more information on their T&D as they need external loans for their large-scale projects. Interestingly, relationships between T&D level and Tobin's Q may differ from year to year. Particularly, in 2011 companies with higher level of T&D had lower market value, while by 2016 the trend had totally changed. Consequently, more formal approach is required to determine the relationships between these variables.

Summing up, detailed characteristics of companies in each cluster are obtained, thus, in case of other companies, some assumptions regarding their T&D level may be made depending on the indicators mentioned above if the level of T&D has not been estimated with the formal methodology. However, cluster analysis instruments do not allow to determine whether these companies' characteristics affect the relationships between T&D and performance, therefore the regression analysis will be employed later.

At the next research stage, we tested if there are companies that changed their clusters. Appendix 3 contains information on what companies belonged to each cluster in 2011 and 2016. Overall, 22 companies from the list moved to another clusters. Moreover, it must be said that in most cases companies moved to "higher" clusters, that correspond to more transparent groups. This trend complies with the results of the test for equal means made in the previous chapter, which indicated an increase in T&D level among Russian companies on average.

Therefore, it would be interesting to check what triggered companies to increase their T&D and whether these factors influenced the relationships between T&D level and performance. One explanation proposed earlier is sanctions imposed on Russian companies within the period in question. Table 5 below contains information on what companies changed their clusters and whether they were included in the sanctions list. Overall, six companies from the sample both changed their clusters and were included into the sanctions list. Whether setting sanctions on a particular company has a statistically significant impact both on its T&D level and the relationships between T&D and performance will be checked later.

Table 5

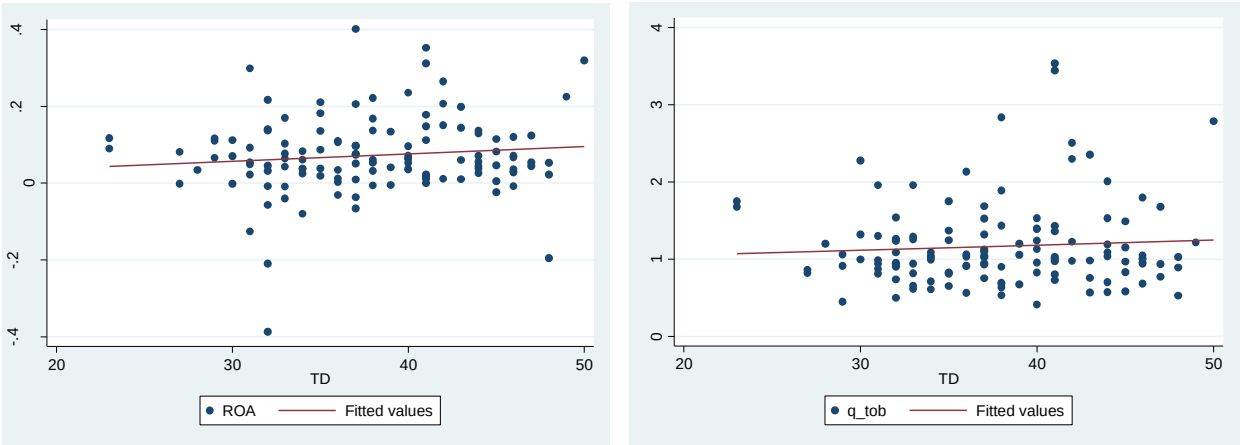
Changes in clusters

Company	2011	2016	Sanctions
JSC Russian Grids	2	3	NO
JSC Mining and Metallurgical Company Norilsk Nickel	2	3	NO
JSC Tatneft	2	3	NO
Aeroflot-Rossiiskie Avialinii	1	2	YES
JSC Severstal	2	3	YES
JSC United Aircraft Corporation	1	2	YES
JSC Dixy Group	1	2	NO
Mosenergo	2	3	NO

JSC Acron	2	1	NO
Kamaz	2	3	YES
Raspadskaya Ugolnaya Kompaniya	1	2	NO
JSC Cherkizovo Group	2	1	NO
JSC Sberbank	2	3	YES
Mezhregionalnaya Raspredelitelnaya Setevaya Kompaniya Volgi	2	3	NO
Limited Liability Company Gazprom Neftekhim Salavat	1	2	YES
Interregional Distribution Grid Company Of South ,JSC	2	3	NO
Sollers JSC	2	1	NO
JSC Pharmacy Chain 36.6	2	1	NO
JSC Ak Yakutskenergo	1	2	NO
Chelyabinskii Tsinkovyi Zavod	1	2	NO
Interregional Distributive Grid Company Of Northern Caucasus , JSC	2	3	NO
Polymetal Trading, Ltd	2	3	NO

The cluster analysis, employed during the first two research steps, points out the necessity of further investigation and implication of more formal methods to check the proposed hypothesizes using the regression analysis.

During the next step, we tried to determine the effect of T&D on Russian companies' performance. Before the regression model estimation, the scatter plots of companies' performance indicators and the T&D index was built (Graph 2).



a) b)

Graph 2. Scatter plots for a) ROA and b)Tobin's Q

The scatter plots illustrate weak relationships between the level of T&D and companies' performance measures. However, more formal approach will be implemented to determine if T&D statistically significantly affects companies' performance.

In this research, the fixed effect model is used to estimate the regression models with ROA and Tobin's Q dependent variables. In fact, companies' performance may depend on many factors, thus, it is difficult to take into consideration all of them. Consequently, there are still high chances

of the endogeneity problem appearance. The fixed effect model is widely used by researchers studying CG and T&D effects on companies' performance (Shenata, 2016, Cheung et al., 2010, Ararat et al.,2017) as it can decrease the endogeneity problem. However, special statistical tests (Wald test, Breusch-Pagan test and Hausman test) were also implemented to justify the use of fixed effect model.

The results of the estimated models are presented in Table 6. It must be noted that, firstly, TD variable was normalized to decrease dimensionality of data and, secondly, robust standard errors were used because of heteroscedasticity found by the White test. Moreover, in order to take into account time differences, a dummy variable per one year was imposed in the estimated model.

Table 6

Results of the initial model estimation

Variable	ROA	Tobin's Q
TD	0.00452 (0.02254)	-0.09442* (0.05542)
c_m_age	-0.00763 (0.06595)	-0.10600 (0.16209)
c_size	-0.04615 (0.03640)	-0.05878 (0.09073)
c_leverage	-0.07565 (0.06045)	0.57559*** (0.15061)
growth	-0.00682 (0.02936)	0.09728 (0.07218)
ROA		0.56416* (0.32839)
d_year	-0.00498 (0.04411)	0.20758* (0.10843)
const	0.85153 (0.59497)	0.69016 (1.48862)
R-within	0.0464	0.0895
Prob>F	0.8393	0.0001

* – Significant at the 10% level. ** – Significant at the 5% level. *** – Significant at the 1% level.

According to the Tobin's Q model, the degree of T&D is significant at ten-percent significance level. However, its effect has changed over time. While in 2011 higher T&D level in a company contributed to lower market valuation, by 2016 T&D positively influenced this companies' performance measure. The same pattern was also observed during the cluster analysis. Overall, previous studies on developing markets, conducted several years ago, also illustrated negative relationships between T&D and performance measures (Banerjee, 2014, Patel, 2002), however, they did not provide clear explanation of this fact. It may be assumed that these results might be caused by a weak legal system and low level of private protection, being distinguishing features of Russia as well. Nevertheless, constant legal system improvements could change the situation as in 2016 the positive relationship between these two variables is observed. On the other hand, there are no statistically significant relationships between T&D and ROA. This result is consistent with previous research papers (Stiglbauer, M., 2010; Toksal, A., 2004). In other words, it may be concluded that although higher T&D does not affect operating results, it does improve investors' perception of companies' reputation, with the respective impact on firm value. Overall,

the ROA model is statistically insignificant according to the F-test (prob>F = 0.8393). It may be explained by the fact that control variables (e.g. c_m_age) were primarily chosen for market-based indicators. The model with ROA was estimated additionally to check whether the results are consistent.

To check whether companies' characteristics and exogenous factors, particularly, sanctions, influence the relationships between T&D level and companies' performance, interaction effects were added in the initial model. Overall, eight additional models with different interaction effects and two dependent variables were estimated (equations 2-5). The results are provided in Table 7.

Generally, coefficients before interaction effects related to companies' financial characteristics are not statistically significant, neither in the ROA nor in the Tobin's Q model, thus, the related hypotheses cannot be verified. In other words, it is impossible to conclude whether the effect of T&D level on companies' performance is higher for larger firms, firms with higher growth prospects or leverage. It means that companies' financial characteristics do not affect the relationships between T&D levels and performance indicators, but there may be non-financial factors, e.g. independent directors' share, ownership structure, CEO duality, etc. It gives possible prospects for further investigation.

Similarly, the last hypothesis of whether there is a link between adding a company in the sanctions list and the relationships between T&D and performance cannot be verified because of statistical insignificance of the related coefficient. However, it may be explained that there are only few companies in the sample used that were included in the sanctions list. Moreover, sanctions were imposed on large companies that have already had high T&D level and firms' valuation, thus, it is

Table 7

Results of the additional models' estimation

Variable	2		3		4		5	
	ROA	Tobin's Q	ROA	Tobin's Q	ROA	Tobin's Q	ROA	Tobin's Q
TD	-0.01379	-0.00710	-0.00297	-0.08377	-0.00158	-0.02503	0.00126	-0.09883*
	(0.11447)	(0.28119)	(0.02330)	(0.05776)	(0.03574)	(0.08702)	(0.02344)	(0.05720)
c_m_age	-0.00659	-0.11094	-0.01269	-0.09842	-0.00898	-0.09059	-0.00561	-0.06501
	(0.06684)	(0.16418)	(0.06582)	(0.16323)	(0.06680)	(0.16268)	(0.06868)	(0.16762)
c_size	-0.05556	-0.01377	-0.03938	-0.06684	-0.04546	-0.06621	-0.04777	-0.06299
	(0.06838)	(0.16896)	(0.03669)	(0.09190)	(0.03685)	(0.09096)	(0.03703)	(0.09174)
c_leverage	-0.07478	0.57158***	-0.07191	0.57300***	-0.14037	1.31295*	-0.07811	0.61455***
	(0.06122)	(0.15238)	(0.06029)	(0.15137)	(0.29875)	(0.72890)	(0.06362)	(0.15740)
growth	-0.00640	0.09527	-0.37462	0.62881	-0.00695	0.09879	-0.00798	0.12155
	(0.02973)	(0.07305)	(0.30670)	(0.77058)	(0.02961)	(0.07215)	(0.06362)	(0.07682)
ROA		0.56647*		0.60130*		0.574269*		0.55606*
		(0.33119)		(0.33428)		(0.32833)		(0.33210)
d_year	0.00644	0.21456*	0.01008	0.21514*	0.00316	0.18694*	0.00468	0.16112*
	(0.04540)	(0.11152)	(0.04414)	(0.10949)	(0.04525)	(0.11018)	(0.04833)	(0.11795)
TD*c_size	0.02504	-0.11942						
	(0.15340)	(0.37686)						
TD*growth			0.13102	-0.18926				
			(0.10876)	(0.27316)				
TD*leverage					0.18415	-0.20961		
					(0.08322)	(0.20274)		
sanctions							0.04044	0.05489
							(0.06354)	(0.15565)
TD*sanctions							0.02833	0.04086
							(0.05244)	(0.12831)
const	0.99427	0.00740	0.86394	0.64062	0.88268	0.32699	0.87238	0.64242
	(1.06068)	(2.62595)	(0.59268)	(1.49742)	(0.61638)	(1.52859)	(0.60526)	(1.50522)
R-within	0.0468	0.4128	0.0709	0.4169	0.0472	0.4231	0.0535	0.4245
Prob>F	0.9067	0.0002	0.7537	0.0002	0.9047	0.0001	0.9259	0.0003

* – Significant at the 10% level. ** – Significant at the 5% level. *** – Significant at the 1% level.

difficult to observe significant effects. However, positive value of coefficients is observed, which means that sanctions imposed on a company may contribute to a higher effect of T&D on its performance. Therefore, we may conclude that for other companies' sample a positive impact may be found.

As for control variables, leverage, ROA and the dummy variable per year are statistically significant in all estimated models, while companies' size, years listed on the MOEX, growth prospects do not have a statistically significant influence on companies' performance.

Conclusion

CG quality remains to be of utmost importance in the academic environment in the light of rising agency problems and cases of mismanagement in large corporations. There is still no consensus in the question of CG effects on companies' performance, thus, researchers seek new explanations to come to define conclusions in this field. The current paper provides a research on T&D on CG in Russian companies and analyzes T&D effect on companies' performance indicators. T&D gains in significance among researchers as it may be a signal of CG quality. Thus, the literature review provided in this study describes general concepts regarding T&D, methods of T&D evaluation and the way how T&D level changed over time in Russian companies.

Overall, previous studies do not demonstrate a clear picture of T&D effects on companies' performance because of different methodological approaches and different data samples that lead to contradicting results. The current paper aims to investigate Russian companies taking into consideration the existing research experience and reduce the knowledge gap in this sphere.

The current research confirms the importance of high T&D for Russian companies. According to the results obtained, higher T&D may contribute to higher companies' value. However, we could not find a significant impact of T&D on CG on operating performance, particularly, on ROA. The results suggest that although there are no relationships between T&D and ROA, companies should improve their T&D level to improve investors' perception and, finally, increase their value. Consequently, the first hypothesis is partly verified.

We found that higher T&D level is observed in larger and less leveraged companies with higher growth prospects. Therefore, we assumed that these characteristics may have an impact on the relationships between T&D and companies' performance. Nevertheless, we have not managed to find any significant effects.

It was also assumed that sanctions imposed on Russian companies might result in higher T&D level and stronger relationships between T&D and companies' performance. Although the regression analysis indicated positive effects, they are not statistically significant, therefore, the related hypotheses cannot be accepted.

Although some significant results were obtained from this research, there are some limitations that provide prospects for further developments of the study. Firstly, other methods of T&D evaluation should be investigated as the relationships between T&D and companies' performance may depend on the way how T&D in a company is evaluated. Secondly, non-financial companies' characteristics that refer to Russian CG system should be included into the analysis. It may be assumed that the relationships between T&D and companies' performance may depend on these characteristics. Moreover, an alternative method to determine the effect of sanctions should be implemented. In this case, it is necessary to determine what characteristics of companies that were included in the sanctions list have changed and make some assumptions thereafter.

Despite the aforementioned limitations, the results of this research support the view that the way of how a company discloses information about its CG is significant as it influences its market evaluation. At this point, the findings reported in the current paper might be of interest for companies' management when planning information disclosure practices.

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Appendixes

Appendix 1

Description of variables

Variable	Designation in the model	Method of calculation	References
Dependent variables			
Return on assets[1]	ROA	EBIT/total assets	Ararat et al.,2017, Stiglbauer, 2010, Kandukuri et al., 2015, Sharif, Lai, 2015
Tobin's Q	q_tob	(market capitalization + total debt)/total assets	Ararat et al.,2017, Stiglbauer, 2010, Cheung et al., 2010, Kandukuri et al., 2015, Sharif, Lai, 2015, Black et al., 2006
Independent variable			
T&D score	TD	the UNCTAD methodology (Appendix 2)	Djodat and Nguyen, 2008, Colares et al., 2014, Samaha et al., 2012
Control variables			
Firm size	c_size	natural logarithm of total assets	Ararat et al.,2017, Stiglbauer, 2010, Cheung et al., 2010, Kandukuri et al., 2015, Sharif, Lai, 2015, Black et al., 2006
Years listed	c_m_age	Natural logarithm of (number of years since original listing on MOEX +1)	Ararat et al.,2017, Cheung et.al, 2010, Kandukuri et al., 2015
Financial leverage	c_leverage	Book value of total debt / Book value of total assets	Ararat et al.,2017, Stiglbauer, 2010, Cheung et al., 2010, Black et al., 2006
Growth prospects	growth	$(Sales_t-Sales_{t-1})/Sales_{t-1}$	Stiglbauer, 2010, Black et al., 2006
Industry	i_constr; i_manuf; i_energy; i_services i_trade i_finance	Dummy variables: 1 if a company belongs to particular industry; 0 otherwise	Stiglbauer, 2010, Black et al., 2006

[1] A control variable in the Tobin's Q model

Appendix 2

The UNCTAD methodology

№	Disclosure Item
	FINANCIAL TRANSPARENCY
1	Financial and operating results
2	Critical accounting estimates
3	Impact of alternative accounting decisions
4	Company objectives
5	Nature, type and elements of related-party transactions
6	Decision making process for approving related-party transactions
7	Rules and procedures governing extraordinary transactions
8	Board's responsibilities regarding financial communications
	OWNERSHIP STRUCTURE AND EXERCISE OF CONTROL RIGHTS
9	Ownership structure
10	Changes in shareholdings
11	Control structure
12	Control rights
13	Control and corresponding equity stake
14	Rules and procedures governing the acquisition of corporate control in capital markets
15	Anti-Takeover measures
16	Process for holding annual general meetings
17	Availability and accessibility of meeting agenda
	BOARD AND MANAGEMENT STRUCTURE AND PROCESS
18	Checks and balances mechanisms
19	Governance structures, such as committees and other mechanisms to prevent conflicts of interest
20	Composition and function of governance structures
21	Composition of the board of directors
22	Role and functions of the board of directors
23	Qualifications and biographical information on board members
24	Types and number of outside board and management positions
25	Duration of directors' contracts
26	Risk management objectives, system and activities
27	Existence of succession plan for senior executives and board members
28	Independence of the board of directors
29	Material interests of senior executives and board members
30	Existence of procedures for addressing conflicts of interest among board members
31	Professional development and training activities for board members
32	Availability of advisorship facility for board members or board committees
33	Determination and composition of directors' remuneration
34	Performance evaluation process for board members
35	Compensation policy for senior executives departing the firm as a result of a merger or acquisition
	AUDITING
36	Internal control systems
37	Process for interaction with internal auditors
38	Scope of work and responsibilities for internal auditors

39	Process for interaction with external auditors
40	Process for appointment of external auditors
41	Duration of current external auditors
42	Rotation of external auditors
43	External auditors' involvement in non-audit work and fees paid to auditors
44	Board confidence in the independence and integrity of external auditors
CORPORATE RESPONSIBILITY AND COMPLIANCE	
45	Policy and performance in connection with environmental and social responsibility
46	Impact of environmental and social responsibility policies on sustainable development
47	A Code of Ethics for the board and waivers to the ethics code
48	A Code of Ethics for company employees
49	Policy on "whistle blower" protection
50	Mechanisms protecting the rights of other stakeholders
51	Existence of employee elected director(s) on the board

Appendix 3

The cluster analysis results

№	Company	2011	2016
1	JSC NEFTYANAYA KOMPANIYA LUKOIL	3	3
2	JSC ROSNEFT OIL COMPANY	3	3
3	JSC MAGNIT	2	2
4	JSC INTER RAO UES	3	3
5	JSC RUSSIAN GRIDS	2	3
6	JOINT-STOCK FINANCIAL CORPORATION SISTEMA	3	3
7	JSC MINING AND METALLURGICAL COMPANY NORILSK NICKEL	2	3
8	JSC TATNEFT	2	3
9	JSC NOVOLIPETSK STEEL (NLMK)	3	3
10	JSC NOVATEK	3	3
11	JSC MOBILE TELESYSTEMS	3	3
12	JSC AEROFLOT-ROSSIISKIE AVIALINII	1	2
13	JSC SEVERSTAL	2	3
14	JSC FEDERAL HYDRO-GENERATING COMPANY - RUSHYDRO	3	3
15	JSC MAGNITOGORSK IRON & STEEL WORKS (MMK)	3	3
16	JSC UNITED AIRCRAFT CORPORATION	1	2
17	JSC LONG-DISTANCE AND INTERNATIONAL TELECOMMUNICATIONS ROSTELECOM	3	3
18	JSC DIXY GROUP	1	2
19	JSC MECHEL	3	3
20	JSC TMK	3	3
21	JSC FEDERAL GRID COMPANY OF UNIFIED ENERGY SYSTEM (JSC FGC UES)	3	3
22	JSC URALKALI	2	2
23	JSC RAO ENERGY SYSTEM OF EAST	2	2
24	JSC AVTOVAZ	1	1
25	JSC MOSENERGO	2	3
26	JSC COMPANY M.VIDEO	2	2
27	JSC NIZHNEKAMSKNEFTEKHIM	2	2
28	JSC CHELYABINSKII TRUBOPROKATNYI ZAVOD	2	2
29	JSC GOLD-MINING COMPANY POLUS	2	2
30	IRKUTSK JSC OF ENERGETICS AND ELECTRIFICATION	2	2
31	JSC OGK-2	2	2
32	JSC ACRON	2	1
33	JSC KAMAZ	2	3
34	JSC RASPADSKAYA UGOLNAYA KOMPANIYA	1	2
35	JSC CHERKIZOVO GROUP	2	1
36	JSC LSR GROUP	2	2
37	JSC INTERREGIONAL DISTRIBUTION GRID COMPANY OF CENTRE	3	3
38	JSC UNIPRO	3	3
39	JSC VSMPO-AVISMA CORPORATION	2	2
40	JSC ENEL RUSSIA	3	3
41	JSC TGC-1	2	2
42	JSC SBERBANK	2	3
43	JSC NOVOROSSIYSK COMMERCIAL SEA PORT	2	2

44	JSC PIK GROUP	2	2
45	JSC MEZHREGIONALNAYA RASPREDELITELNAYA SETEVAYA KOMPANIYA VOLGI	2	3
46	LIMITED LIABILITY COMPANY GAZPROM NEFTEKHIM SALAVAT	1	2
47	JSC INTERREGIONAL DISTRIBUTION GRID COMPANY OF SIBERIA	3	3
48	JSC INTERREGIONAL DISTRIBUTION GRID COMPANY OF SOUTH	2	3
49	PLC. FAR-EASTERN SHIPPING COMPANY	2	2
50	JSC LENENERGO	2	2
51	JSC SOLLERS	2	1
52	JSC PHARMACY CHAIN 36.6	2	1
53	JSC AK YAKUTSKENERGO	1	2
54	CO. SYNERGY	2	2
55	JSC CHELYABINSKII TSINKOVYI ZAVOD	1	2
56	JSC INTERREGIONAL DISTRIBUTIVE GRID COMPANY OF NORTHERN CAUCASUS	2	3
57	LTD POLYMETAL TRADING	2	3
58	JSC GALS-INVEST DEVELOPMENT	2	2
59	JSC VOZROZHDENIE BANK	3	3
60	JSC BANK VTB 24	3	3
61	JSC SAINT-PETERSBURG BANK	2	2
62	JSC INTERREGIONAL DISTRIBUTION GRID COMPANY OF URALS	2	2