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FIRM CHARACTERISTICS, CORRUPTION CONTROL AND MORAL HAZARD RELATED BEHAVIOUR: A CROSS-COUNTRY PERSPECTIVE FROM DEVELOPING ECONOMIES

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Abstract

Corruption is one of the substantial issues in the developing economies, where many of them severely suffer from. In that respect the topic is much worth investigating especially for the fastest growing developing economies, BRIC and Turkey. The major studies on corruption is mostly conducted on country level, however this paper claims to shed light on corruption on a broad based firm level by probing the link between firm characteristics, corruption control and moral hazard related behaviour for 466 non-financial firms belong to related economies between the years 2005 and 2014. Empirical findings indicate that firm characteristics tend to mitigate managerial extravagance which is used as an empirical determinant of moral hazard related behavior. From the industry level, the overall country average for all industries, reveal the inverse relationship between corruption control and discretionary expenditures as the level of corruption control increases while the discretionary expenditures decreases.

Keywords: agency theory, developing economies, corporate financial performance, panel data.

JEL Classification: C33, F63, G30, M21, O16, O7.

1. INTRODUCTION

Berle and Means (1932) were among the first to acknowledging the notion of the some main problems inherent in the separation of ownership and control. In 1976, Jensen and Meckling's study which is the classic work on the application of agency theory in finance, conceptualized these issues into a more formal context on the behaviour of principals and agents. The conflict of ownership and control due to asymmetric information and conflict of interest, also triggered problems on moral hazard and adverse selection (Ramakrishnan and Thakor 1982, Jensen 1986).

Ramakrishnan and Thakor (1982) also underline the economic theory of agency by assuming each agent to consistently act in a manner to maximize its personal interests. That leads to a deformation called managerial moral hazard. Some characteristic form of the managerial moral hazard can be observed in non-optimal investment decision, self-serving behaviour and managerial extravagance (Henry, 2006).

Rose-Ackerman (1978) is first to set the agency model for corruption in terms of corruption between elected officials and bureaucrats. He states that when the existence of a discretionary power, rent-seeking behaviour arise and economic rents associated with this power and the weak legal/judicial system co-exists, corruption might arise. Furthermore, when this three agents; the political elites, the administrators and the legislators differ with the sources of these powers (principals), then discretionary power arise (Jain, 2001, p.77). Johnson et al. (1998) use four proxy for discretionary power in terms of regulation, regulatory discretion, bureaucratic quality and economic freedom with data on 49 countries. They state that more discretionary power and regulations for officials leads to more corruption.

As a consequence of the corporates' bribery implications, conflict of interest between managers and shareholders may be more severe (Wu, 2005). Countries with less corruption levels, are more capable of handling agency problems that might occur between insiders and outsiders (Giannetti, 2003). From this point; in addition of firm characteristics, the level of corruption control has significant impacts on moral hazard behavior.

The corruption is defined by the World Bank as the act of official authorities opposed to common good or improper usage of public office for personal interest (World Bank, 2007). Another frequently seen definition of corruption is paying bribes to government officials for personal benefits. The corruption in public sector is a sign of dysfunction of the government whereas in private sector it denotes a non-functioning corporate governance. The connection in public and private sectors is visible in highly corrupted countries, as the private firms have to pay bribe to public officials to maintain the existence and expansion of their firms (Chakraborty, 2015).

Shleifer and Vishny (1993) state in their pioneering work that in some less developed countries corruption is so high and costly for development. It is a burden in most of the developing countries, and as being the biggest developing economies in growth and size, BRIC and Turkey deserves special attention for further investigation.

From this point of view, this study aims to observe the corruption control level of firms operating in BRIC countries and Turkey and to test whether there is an inverse relationship with the managerial moral hazard behaviour. Several empirical researches have been conducted to examine the correlation of macroeconomic variables with the corruption level for specific countries, and only a few have stressed to explore the corruption on firm and industry basis. This study is unique in terms of combining the country data with the extensive number of firms operating within in order to evaluate how the firm characteristics in terms of

profitability, size, liquidity and leverage affect managerial behaviour typically associated with moral hazard.

The remainder of this study is organized as follows; after literature review, sample and all variables are introduced in research design. Then the magnitude of co-movement between corruption control and highest proxy observed in moral hazard behaviour in the form of managerial extravagance has been analysed in order to find the correlation among industries. Empirical results section provides the findings of the empirical models model utilized in the study and the last section concludes the research and gives some concerns related with the further studies.

2. LITERATURE REVIEW

Jensen and Meckling (1976) pioneer work of agency theory deals with the contradiction that occurs in the mismatch between the goals and desires of the principle and the agent representing the owners and the managers of the firm. The conflict of interest that occurs among various parties within the organization leads to two types of information asymmetry; namely, adverse selection and moral hazard. They argue that principal cannot acquire information on the agent's performance without a cost and these monitoring costs cannot fully contain adequate information according to moral hazard. Based on prominent studies, this study considers two direct measure of managerial moral hazard related behaviour.

Moral hazard related behaviour indicates the over investments on operating expenses in terms of net sales similar with the previous literature namely; Singh and Davidson (2003); Florackis and Ozkan (2004); Fleming et al. (2005); Ertuğrul (2005); Truong (2006); Chen and Yur-Austin (2007); Hijazi and Conover (2011). In addition managerial extravagance is utilized as a specific moral hazard proxy in some studies (Chen and Yur-Austin, 2007). High levels of operating expense to net sales may be harmful for shareholder wealth maximization and deteriorate financial performance.

Jensen (1986) states that firms with high level of free cash flow are likely to invest it in negative net present value projects. Firms with high free cash flow encourage managers to see greater opportunity for overinvesting in operational costs and this excess cash flow can make managers to give non-optimal decisions and may arise the conflict between managers and owners. Investment opportunities play a remarkable role for free cash flow levels and This kind of firms are more likely to suffer agency problems in terms of moral hazard related behavior (Henry 2006; Truong 2006; McKnight and Weir 2009, Hijazi and Conover 2011; Chen et al. 2012; Park and Jang. 2013).

Firm specific variables have such an impact on moral hazard related behavior. Jensen (1986) emphases that owners increase debt to align the conflicts of interest between owners and managers. Moreover, he states that debt level also decreases the amount of free cash flow in managers' control, and the company becomes obliged to reenter the debt market to raise new capital. Firm leverage has an impact on agency costs as debt financing may enhance the conflict of interest

between shareholders and creditors as well in the previous literature like Jensen (1992); Jensen and Meckling (1976); Harris and Raviv (1991), Ang et al. (2000); Ertuğrul (2005); Henry (2006); Chen and Yur-Austin (2007).

Agency costs may be more severe for firms operating in countries which suffers from severe corruption (Donadelli et al., 2014). In addition for defining a common sense of corruption, ascertaining, quantifying and interpreting the corruption data in a country level is also essential but at the same time a difficult task. Nevertheless, the measurement of corruption level is defined with certain parameters in the literature. The most frequently used indicators for evaluating the perceived corruption level are; World Governance Indicators' (WGI) Corruption Control Index and Transparency International's Corruption Perception Index (TICPI) in which TICPI and WGI both aggregate information from multiple surveys into a single indicator for the country/territory. Besides this, these two well-known measures provide interviewees' direct experience on bribery in a multiple dimensional way. The other data related with corruption at the country level are; Transparency International Global Corruption Barometer, Global Integrity Index, International Country Risk Guide of Political Risk Services Group's and Global Competitiveness Index of World Economic Forum's.

As it processes with the greatest number of sample size for the evaluation of corruption on country level, this study utilized World Bank's WGI corruption control index for the quantification of country based corruption, in a similar fashion with the ongoing studies of Ullah (2014), Donadelli et al. (2014) and Lemma (2015). In his study, Lemma (2015) explores 556 non-financial firms from ten African countries, he generates a model that interacts firm financing, ownership structure, and perceived corruption with WGI control of corruption data between the years 1996 and 2010. He reveals that perceived corruption is significant in shaping debt financing and ownership structure decisions of firms in Africa.

Furthermore, Donchev and Ujhley (2007) state that the experience-based indices have to be used in order to reveal different types of corruption experience rather than corruption perceptions, and some other studies Jain (2001); McArthur and Teal (2002); Gaviria (2002), Athanasaouli et al. (2012); Sahakyan and Stiegert (2012) give reference to the previous survey results.

Additionally, there have been numerous studies analyzing control of corruption on macro level. Ahlin and Pang (2007) research its interrelation with financial development and conclude that the level of investment expands in the environments where the level of corruption is minimized and financial development is maximized. Moreover, La Porta et al. (1998) underline the positive correlation of corruption control with the economic development. Ahmad and Ali (2010) reveal the connection between control of corruption and the performance in financial sector in 38 developed and developing economies for the period between 1995 and 2005 by utilizing TICPI data. They find out that corruption is one of the several factors that determines the performance of financial sector and exemplified that a one unit rise in the corruption index (means lower level of corruption) results with 5.31 units of expansion in the domestic credits to private sector.

Another study (Goel, 2012) elaborates the level of corruption in government using TICPI by focusing on the business regulations, taxation practices of several countries. The outcome of this study pinpoints that not the taxation but the regulation has the positive correlation with the control of corruption and the effects of non-monetary regulatory costs have remarkable effects than monetary costs. An ongoing study of Bryant et al. (2016) also use TICPI as a proxy for national corruption, investigate the linkage between human capital investment, the level of corruption and the global economic integration.

As to the corruption studies on firm level, Safavian et al. (2001) examine widespread microenterprises of Russia where the excessive political pressure and business control have caused bribery and side payments to become a norm. The survey data consists of 200 micro level Russian firms in the year 1999, and one of the findings state that the corruption reported by those enterprises are mostly the ones applying for external financing. A more recent study of Shlapentokh (2013) provides more insights on Russian environment as he indicates that the corruption in Russia severely diminishes labour ethics especially among younger generations, as he adds that the business youth in Russia firmly believe that the bribery and connections are inevitable to become a successful enterprise. For Brazil, Halter et al. (2009) state that transparency and increasing ethical culture are two effective mechanisms to reduce corruption and to remove negative reputation that the Brazilians have in business ethics. They also reveal that Brazilian practitioners do not respond to anti-corruption measures sufficient enough.

Cazurra (2016) states the corruption types, its measures, consequences and controls. Additionally he expresses some alternative proposals on how to utilize corruption in expanding the prominent theories like agency theory, resource dependence theory, transaction cost economics theory and neo-institutional theory. Moreover, some other empirical researches evaluate the nexus between corruption and competition and reveal that competitive industries have lower corruption than the others (Treisman, 2000; Nicholson 2007).

In the detailed study of Donadelli et al. (2014), the connection between stock return, agency problem and corruption is discussed on the basis of firm, industry and country level. They encounter a stronger negative relationship between average stock return and the level of corruption in corruption-sensitive industries in which agency problems also get worse. Sahakyan and Stiegert (2012) investigate this linkage from industry level perspective. They reveal that corruption is perceived as more favorable among firms which are younger, relatively larger and those of which are not challenged by significant competition.

Another area of literature is in the linkage between control of corruption and the governance mechanisms. Chakraborty (2015) compares the corporate governance mechanisms in more and less corrupt countries and tries to explore the relationship. In his study, 10 Asian and 51 developed countries have been analyzed between 2007 and 2011 and he finds an adverse relation with the corruption and corporate governance in most of his comparisons.

Engelen (2015) investigates the effects of managerial entrenchment, monitoring and managerial incentives on managerial behaviour, mostly identified with moral hazard, on quoted German companies during 2006 and 2010. He depicts that excessive compensation is substantially associated with excessive agency costs deriving from managerial moral hazard. Thus, he concludes that German companies are inclined to have severe agency problems.

Existing studies generally states measurement of the consequences of managerial moral hazard using accounting-based performance metrics. This study, utilizes managerial extravagance and free cash flows percentages in terms of total assets as a proxy for managerial behaviour on moral hazard. Another aspect of the study is to determine how the firm characteristics in terms of profitability, size, liquidity and leverage affect managerial behaviour typically associated with moral hazard. Furthermore, this paper also sheds light on the effect of corruption control on this behaviour.

There is a limited publication on the quantification of moral hazard behaviour and further focusing on the link together with the firm characteristics, corruption control and moral hazard behaviour in these selected group of developing economies. This study proposes to fulfil this gap by providing above mentioned perspective for the developing economies perspective.

3. RESEARCH DESIGN

A. Sample

This paper utilizes an initial sample of 466 non-financial firms for BRIC and Turkey covering 10 year time span from 2005-2014. The breakdown of the nonfinancial firms per country is as follows; 40 nonfinancial firms listed on the Brazil BOVESPA Stock Index, 50 nonfinancial firms listed on the Eastern Europe MICEX Main Russian Index, 102 nonfinancial firms listed on the Bombay Stock Exchange, 121 nonfinancial firms listed on the Shanghai Stock Exchange and 153 nonfinancial firms listed on Borsa Istanbul (BIST). Accordingly, firms that lack consecutive data in terms of financial characteristics are also eliminated from the initial dataset and outliers have been winsorized according to 1 % and 99 %.

Bloomberg Professional Database is utilized to extract the data. STATA 11 software package program is used.

B. Variables

Table 1 below provides the summary of the variables, abbreviations and definitions used in the study.

[Table 1 about here]

Dependent Variables

Managerial extravagance and the free cash flows generated by the firm have been used in this study to proxy for managerial moral hazard behaviour in line with previous studies.

Managerial extravagance ratio is the first proxy, SGA is calculated as Selling, General, and Administrative (SG&A) Expense to net sales which indicates how effectively the firm's management controls discretionary expenses. It is used as a measure for managerial agency induced excessive pay and perquisite consumption. In some studies this ratio is stated as discretionary expenditure ratio (Singh and Davidson, 2003; Florackis and Ozkan, 2004; Ertuğrul, 2005; Fleming et al., 2005; Truong, 2006; Hijazi and Conover, 2011; Rashid, 2013) and for others it is stated as managerial extravagance proxy (Chen and Yur-Austin, 2007). The same notion is used in this study. Higher the ratio indicated superfluous management consumption which is detrimental to corporate earnings and higher agency conflict due to outside equity is a reflection of higher managerial discretionary expenses.

The ratio of free cash flows to total assets is the second proxy for managerial moral hazard related behavior and *FCFTA* is measured as the operating cash flow minus capital expenditures divided by total assets. Jensen (1986) depicts that excess free cash flows increase the conflict of interest between principals and agents (Henry, 2006; Truong, 2006; Lefort and Walker, 2007; Chang et al. 2007; McKnight and Weir, 2009; Junwei et al. 2011; Chen et al. 2012).

There are other agency cost proxies used in literature in terms of moral hazard related behavior. First one is the operating expense ratio which states how effectively the firm's management controls operating costs (Ang et al. 2000; Zgang and Li 2008; Wellalege and Locke 2009). Furthermore, asset turnover ratio has been used as an inverse agency cost proxy in order to state efficiently a firm manages its assets (Ang et al. 2000; Miller 2009; Henry 2010; Kutlu Furtuna 2013; Engelen 2015). Due to the lack of proper data related with the BRIC and Turkey, related two proxies has been proposed as suitable for depicting these form of behavior related with the manager shareholder conflict.

Explanatory Variables

Firm Characteristics

Managerial moral hazard related behavior variables are indeed highly sensitive to firm characteristics. Therefore, profitability, financial structure, liquidity level and size are selected as a motivation by the related literature and the availability of data.

Firm profitability referred as *roe* determines how much profit can be generated from the firm's investments in equity. Returns from equity is seen a more robust profitability variable considering return on assets and return on sales (Truong 2006, Aras and Kutlu Furtuna, 2015). Jensen and Meckling (1976) state that higher debt level may increase the moral hazard behaviour of the manager and the cost of taking extra risk can enhance the agency cost levels providing a control mechanism

for reducing managerial extravagance and free cash flow investment. Debt composition characteristics can be detrimental to the moral hazard related behaviour as Myers (1977) emphases the role of short-term debt in mitigating the underinvestment problem. In this study, firm debt level referred as *lev* is also used. Firm liquidity position referred as *quickratio* is utilized as another measure of firm characteristics. As this ratio excludes inventories from current assets may be a sound indication of a firm's ability to meet its short-term debt obligations. Finally, firm size referred as *lnasset* in analyzing the impact of firm characteristic on moral hazard related behavior in line with previous studies Jelinek and Stuerke (2009), Miller (2009), Hijazi and Conover (2011), Wellalege and Locke (2012).

Corruption Measurement

This section provides some background on corruption measurement conducted by private organization. A well-known corruption index is TICPI, which quantifies the perceived level of corruption of public sectors on country level, based on the professional evaluation all around the world since 2012 (IACA Report, 2015). TICPI index gives the scores of countries on their public sectors' level of corruption from 0 to 100, where 0 denotes the least transparent and heavily corrupt countries and 100 indicates the most transparent and clean countries. The results compiled from 168 countries shows that, two-third of the enlisted countries have scored lower than 50 as of 2015, with the overall average 43. On the other hand the average of Western Europe and EU is remarkably high (67). All of the BRIC countries evaluated in this study achieved the score under the world average which is an indicator of critical corruption issues on their public sectors, and Turkey has the highest score compared to BRIC (42) but slightly less than world average.

Another unit of measure of corruption level is the World Governance Indicators (WGI) which also achieved acknowledgement among academicians and economist since 1996 (World Bank Governance Report, 2015). The executor of this index, World Bank, enlists the countries with the scale between -2.5 to 2.5, where the control of corruption increases from negative to positive values. By the end of 2015, WGI index has covered 209 countries corruption control data.

In Table 2, top 10 most transparent and the most corrupt countries have been enlisted with their scores based on WGI and TICPI. The main focus of the study, BRIC countries' and Turkey's status has been also highlighted.

[Table 2 about here]

As mentioned earlier, this study utilizes WGI index as a corruption control measurement for BRIC countries and Turkey. The average corruption control scores of the related countries for the ten years period between 2005 and 2014 are demonstrated below in Table 3.

[Table 3 about here]

In this sample, Turkey receives the highest average score indicating the lowest corruption with the strongest control of corruption while Russia has the lowest, which denotes to have the highest corruption with the weakest control of corruption during these years. However, Russia's corruption control score is in a positive trend together with China and India whereas it is getting worse in both Turkey and Brazil in the recent years.

Apart from the firm characteristics, these control of corruption level of related countries referred as *corruptcontrol* is used as country-specific variable.

Control of Corruption Level versus Managerial Extravagance

For the purpose of analyzing the nature of corruption control and moral hazard behaviour on different industries on selected countries, this study utilized the order of magnitude of the co-movement between corruption control and managerial extravagance, which is found to be the most effective proxy for moral hazard behaviour. With the same methodology applied by Donadelli et al. (2014) who investigated the correlation between average industry stock return with the corruption level, this study facilitates this notion for the average control of corruption levels and average moral hazard related behaviour proxy as managerial extravagance.

Table 4 depicts the total number of observation per industry per country for ten years period. The highest number of observation belongs to Capital Goods as 1.580 during the related years whereas the lowest number of observation belongs to Transportation Industry as 150. In terms of country comparison, the highest number of observation belongs to Turkey whereas the lowest belongs to Brazil.

[Table 4 about here]

Nine most common industries are selected for all countries during these periods. These industries are namely *Energy, Materials, Capital Goods, Transportation, Automobiles & Components, Retailing, Food, Beverage & Tobacco, Pharmaceuticals, Biotechnology & Life Sciences and Telecommunication Services*.

The correlation of the average corruption control with the average managerial extravagance ratio of BRIC and Turkey's above mentioned industries for the period between 2005 and 2014 are demonstrated in Figure 1 as a scatter diagram. The vertical axis represents the average SGA ratio whereas the horizontal axis indicates the corruption control level.

[Figure 1 about here]

In the first chart, the average of *all industries* have been pointed out per country. The overall results indicate an inverse correlation between the corruption control and the managerial extravagance which represents the proxy for moral hazard behaviour in a way that the increase in corruption control which also means the decrease in the level of corruption (up to maximum 2.5), results with diminishing managerial extravagance.

The results give a strong impression that these industries have an impact on moral hazard behaviour. Turkey is the sole country to obtain a positive level in corruption control which also means the highest corruption control level. Additionally with 0.2635 average score, the country has the lowest moral hazard behaviour level among the selected countries. On the other hand, firms in India achieves the highest moral hazard level (0.7466), meaning 75% of revenue generation is transferred to discretionary expenditures, indicates a totally different SGA structure than other countries (Russian firms SGA average is 0.4152, Brazilian firms average 0.2845 and Chinese firms average is 0.2735).

The first three industries surpassing the average SGA level per country is mentioned as below;

- In Brazil; *Energy, Pharmaceuticals Biotechnology & Life Sciences, Capital Goods*

- In Russia; *Transportation, Capital Goods, Energy*.

- In India; *Energy, Transportation, Telecommunication.*

-In China; *Transportation, Food Beverage & Tobacco, Pharmaceuticals Biotechnology & Life Sciences.*

- In Turkey; *Retail, Food, Beverage & Tobacco, Pharmaceuticals.*

Similar co-movement exists on *Automobiles & Components, Capital Goods, Energy, Telecommunication and Transportation*. For these industries, an inverse relationship is observed between corruption control and managerial extravagance which means as the corruption control increases (level of corruption decreases), managerial extravagance decreases inversely.

However, the remaining industries namely, *Food, Beverage & Tobacco, Materials, Pharmaceuticals Biotechnology & Life Sciences and Retail* the relationship between corruption control and moral hazard behaviour proxy is linear which indicates the rise in the corruption control would lead to an increase in managerial extravagance. This result might be interpreted as SGA may not correspond to the managerial extravagance for some industries. In another word, these higher expenses may be due to industry specific reasons or firm specific reasons like acquisition activity rather than managerial extravagance. Anderson et al. (2003, p. 47) state for some industries, this costs may be *"so sticky, that is whether costs increase more when activity rises than these costs decrease when activity falls by an equivalent amount."* In the empirical part of their analysis, they also reveal that these costs increase on average 0.55 % per 1% increase in sales however decrease only 0.35 % per 1 % decrease in sales for 7.629 firms between the years 1979 and 1998. In this study, for the related industries, SGA expenses move proportionally with sales cannot be empirically valid when the data include both sales increases and decreases. Therefore, in the case of sudden necessities in sales,

managers may keep up higher this kind of expenditures and then discretionary expenditures change with sales in these industries have to be clearly evaluated.

C. Empirical Model

The empirical model to be estimated is as follows.

$$yit = \alpha 0 + \alpha 1 roeit + \alpha 2 levit + \alpha 3 quickratioit + \alpha 4 lnassetit + \alpha 5 corrupcontroltit + \varepsilon_{it}$$

where *yit* refers to the measures of managerial extravagance (SGA) and free cash flows to total assets (FCFTA) respectively and all other variables are as outlined above.

In this study, firm characteristic in terms of profitability, financial structure, liquidity level and size is used. Firm profitability referred as *roe*, firm debt level referred as *lev*, firm liquidity position referred as *quickratio*, firm size referred as *lnasset* and besides the firm characteristics the control of corruption level referred as *corruptcontrol.*

For the superiority of controlling for firm- and time-invariant variables, panel data analysis that pools cross sectional observations over several time periods is utilized. This analysis technique allows the unobservable and consistent heterogeneity in specific to each firm (Wooldridge, 2002). Several estimation techniques has been tested for the empirical model in this paper. A number of techniques are utilized to empirically test the impact of firm characteristic, control of corruption level on the managers' moral hazard related behavior. Hausman (1978) test applied for determining which model to be used. Fixed effects panel data analysis which allows to control unobserved heterogeneity across the sample firms (Baltagi, 2005) is conducted to investigate this relationship with the ten-year panel structure.

4. EMPIRICAL RESULTS

This part reveals the fixed effect panel regression analysis which investigate the influence of firm characteristics and control of corruption level on the moral hazard behaviour.

The findings of both model demonstrate in Table 5 that all firm characteristics and corruption control level have significant influence on moral hazard related behaviour proxied by managerial extravagance, SGA and FCFTA. Firm characteristics in terms of profitability, *roe* has been found a negative and significant influence on managerial extravagance ratio. This is also consistent with strongly performing firms showing lower moral hazard related behaviour (Fleming et al., 2005).

[Table 5 here]

Firm leverage, *lev* has been found a negative and significant influence on this ratio which is an indication of a firm's solvency and reflects the percentage of total funds provided by creditors. Moreover, Zhang and Li (2008) investigate the impact of capital structure on agency cost levels for 323 UK large public corporations between the years 2004 and 2005 utilizing univariate and multivariate tests. They use operating expense to sales as an indicator of managerial moral hazard behavior and also find negative relationship between leverage and agency costs.

Firm characteristics in terms of liquidity, *quickratio* has been found a negative and significant influence on managerial extravagance ratio. This contributes to the understanding that more liquid firms can mitigate managerial extravagance.

However, firms with high profitability, leverage and quick ratio levels have been found positive and significant influence and control of corruption level has been found any significant influence on FCFTA in the second model. The reason for that is FCFTA variable may not be a suitable proxy between the related periods. For developed countries, excess cash flow can deteriorate investment decisions and excess cash flow because of the financial constraint may not be a robust managerial moral hazard related behavior proxy.

The findings based on panel data reveal that firm size has a significant influence on both managerial extravagance and FCFTA. Similar results are revealed in Hijazi and Conover (2011) whereby examining the relationship between SGA and corporate governance control mechanisms, find a positive relationship between firm size and managerial extravagance. Athanasouli et al. (2012) investigate the relationship between corruption and firm performance in Greece using firm level data and find a positive relationship between firm size in terms of sales and discretionary expenditures. They conclude that easily access to capital markets and market power makes larger firms more higher moral hazard related behaviour rather than smaller ones. On contrary, Chen and Yur-Austin (2007) and Fleming et al. (2005); state that excessive perquisite consumption is lower in larger and profitable firms than the others, hence strongly performing firms has an effective external monitoring mechanism which may lower excessive consumption levels.

The findings of the first model analysis reveal that corruption control tends to decrease moral hazard behaviour for BRIC countries and Turkey in the related time span. Findings state that the higher corruption control level indicates the lower the level of moral hazard related behaviour in terms of managerial extravagance encountered by the firm.

5. CONCLUSIONS

Corruption and uncontrollable moral hazard related behavior, two interrelated concepts exacerbate each other. Corrupted environment might trigger uncontrollable moral hazard behavior or uncontrollable moral hazard related might produce corruption. In either way, the impact to the firms' performance, shareholders' wealth and to internal and external stakeholders would be detrimental especially for the firms and industries in the developing markets where this

relationship is much more fragile. Therefore, this study proposes to explore that linkage between the firms and industries operating in the biggest developing economies in growth and size, BRIC (Brazil, Russia, India, and China) and Turkey.

This paper's aim is threefold. First, exploring how the firm characteristics in terms of profitability, size, liquidity and leverage affect managerial behaviour associated with moral hazard. Second, observing corruption control level versus managerial extravagance as a proxy for uncontrollable moral hazard behaviour to explore industrial differentiation and last one is investigating the link between corruption control level and moral hazard behaviour in those of BRIC and Turkey.

In the study, the firm characteristics in terms of profitability, financial structure, liquidity level and size is tested in fixed effect panel regression analysis to investigate the influence of firm characteristics and corruption control level on the moral hazard behaviour. Empirical model results demonstrate strongly performing firms, firms with high financial leverage, small sized and more liquid firms tend to mitigate managerial extravagance which is used as an empirical determinant of moral hazard related behavior.

The model findings also reveal that the corruption control tends to decrease moral hazard behavior for BRIC countries and Turkey in the related time span. It has to be noted that excess cash flow can deteriorate investment decisions and excess cash flow because of the financial constraint may not be a robust managerial moral hazard related behavior proxy rather than managerial extravagance.

Apart from the firm level, this study has been conducted to verify the linkage between corruption control and moral hazard behavior on industry basis. For that purpose, the order of magnitude of the co-movement between control of corruption and managerial extravagance, which is found to be the most effective proxy for moral hazard behavior has been analyzed. The overall country average for all industries, reveal the inverse relationship between corruption control and discretionary expenditures as the level of corruption control increases while the discretionary expenditures decreases.

However, the relationship of corruption control and managerial extravagance becomes more complex and decomposed in industry and country specific analysis. Some industries exhibit inverse relationship (Automobiles & Components, Capital Goods, Energy, Telecommunication and Transportation) and it is linear for the others (Food, Beverage & Tobacco, Materials, Pharmaceuticals Biotechnology & Life Sciences and Retail). The linear result might be an indicator that SGA may not correspond to the managerial extravagance for these industries. Industry specific strategic factors and highest proportion of these expenses in revenue must be interpreted carefully in order to make evaluations. As a further study, corruption-sensitive and non-corruption sensitive industries can be revealed from this perspective.

The findings reveal the overwhelming importance of discretionary powers versus discretionary expenditures in terms of managerial extravagance in selected developing economies. The research data prioritize Turkey as a sole country to

obtain a positive level in corruption control which also means the highest corruption control level. Additionally the country has the lowest moral hazard behavior level among the selected countries. On contrary, firms in India achieves the highest moral hazard level, meaning a huge portion of the revenue generation (75%) is transferred to discretionary expenditures that indicates a totally different SGA structure than other countries.

Although the data for each 466 firms is tracked for ten years, this paper does not interpret the results on a firm based private corruption level but on the public corruption perspective, mainly due to the lack of micro-level data. Further studies shall be conducted to reveal management perception on corruption by means of field surveys and questionnaires. Additionally, extending the study with non-listed firms and financial sector could add more insights to the current literature.

I firmly believe that the studies dealing with corruption especially in emerging countries should be expanded and diversified, in order to develop effective anti-corruption strategies on country, industry and firm basis, and hope that this study might add a new dimension to the problematic.

End Notes

Earlier version of this paper: *"The Nexus between Discretionary Expenditures and Corruption: Industry Level Perspectives from BRIC and Turkey"* was presented in the IISES Business and Economics Conference, November 2016, Istanbul Turkey.

REFERENCE

Ahlin, C., & Pang, J. (2007). Are financial development and corruption control substitutes in promoting growth? *Journal of Development Economics, 86*(2), 414-433.

Ahmad, N., & Shahid, A. (2010). Corruption and financial sector performance: A cross-country analysis. *Economics Bulletin, 30(*1), 303-308.

Anderson, M. C., Banker, R. D., & Janakiraman, S. N. (2003). Are selling, general and administrative costs "sticky"? *Journal of Accounting Research, 41*(1), 47–63.

Ang, J., Cole, R., & Lin, J. (2000). Agency costs and ownership structure. *The Journal of Finance, 55*(1), 81–106.

Aras, G., & Kutlu Furtuna., O. (2015). Does governance efficiency impact equity agency costs? Evidence from Turkey. *Emerging Markets Finance and Trade, 51*(2), 84-100.

Athanasouli D., Goujard, A., & Sklias, P. (2012). Corruption and firm performance: Evidence from Greek firms. *International Journal of Economic Sciences and Applied Research, 5*(2), 43-67.

Berle, A. A., & Means, G. C. (1991). The modern corporation & private property. With a new introduction by Murray Weidenbaum & Mark Jensen. New Brunswick, N.J., U.S.A.: Transaction Publishers (Originally published in 1932).

Bessire, D. (2005). Transparency: A two-way mirror?. *International Journal of Social Economics, 32(*5), 424-439.

Bryant, C. E. & Javalgi, R.G. (2016). Global economic integration in developing countries: The role of corruption and human capital investment. *Journal of Business Ethics, 136*(437), 437-450.

Cazurra, A. C. (2016). Corruption in International Business. *Journal of World Business, 51*, 35–49.

Chakraborty I. (2015). How does corruption influence corporate governance? A cross-country perspective. *Money & Finance Icra Bulletin*, 67-87.

Chang, S. C., Chen, S. S., Hsing, A. & Huang, C. W. (2007). Investment opportunities, free cash flow, and valuation effects of secured debt offerings. *Review of Quantitative Finance and Accounting, 28*, 123-145.

Chen, X. C. & Yur-Austin, J. Y. (2007). Re-measuring agency costs: The effectiveness of blockholders. *The Quarterly Review of Economics and Finance, 47*, 588-601.

Chen, X. C., Lu, H. & Sougiannis, T. (2012). The agency problem, corporate governance and the asymmetrical behavior of selling, general, and administrative costs. *Contemporary Accounting Research, 29*(1), 252–282.

Clarke, R. G. & Xu, L. C. (2004). Privatization, competition, and corruption: How characteristics of bribe takers and payers affect bribes to utilities. *Journal of Public Economics, 88*, 2067-2097.

Davidson, W. N., Bouresli, A. K. & Singh, M. (2006). Agency costs, ownership structure, and corporate governance in pre-and post-IPO firms. *Corporate Ownership and Control, 3(*3), 88-95.

Donadelli, M., Fasan, M. & Magnanelli, B. S. (2014). The agency problem, financial performance and corruption: Country, industry and firm level perspectives. *European Management Review, 11*, 259–272.

Donchev, D., & Ujhely, G. (2007). *Do corruption indices measure corruption?* (Working Paper Series), Harvard University Economics Department.

Engelen, C. (2015). The effects of managerial discretion on moral hazard related behavior: German evidence on agency costs. *Journal of Management Governance, 19*, 927-960.

Ertuğrul, M. (2005). *Essays on agency problems and corporate governance*. (Unpublished PhD Thesis). The University of Connecticut, USA.

Fama, F. (1980). Agency problems and the theory of the firm. *The Journal of Political Economy, 88*(2), 288-307.

Fleming, G., Heaney, R. & McCosker, R. (2005). Agency costs and ownership structure in Australia. *Pacific-Basin Finance Journal, 13*, 29-52.

Florackis, C. & Ozkan, A. (2004). *Agency costs and corporate governance mechanisms: Evidence for UK firms*. (Working Paper Series). University of York, UK.

Gaviria, A. (2002). Assessing the effects of corruption and crime on firm performance: Evidence from Latin America. *Emerging Markets Review, 3*, 245–268.

Gianetti, M. (2003). Do better institutions mitigate agency problems? Evidence from corporate finance choices. *The Journal of Financial and Quantitative Analysis, 38*, 185-212.

Gujarati, D. N. (2004). *Basic econometrics*. 3rd Edition. McGraw-Hill/Irwin Publications.

Goel, R. K. (2012). Business regulation and taxation: Effects on cross-country corruption. *Journal of Economic Policy Reform, 15*(3), 223–242.

Halter, M. V., Arruda, M. C., & Halter, R. (2009). Transparency to reduce corruption?: Dropping hints for private organizations in Brazil. *Journal of Business Ethics, 84*(3), 373-385.

Harris, M. & Raviv, A. (1991). The theory of capital structure. *The Journal of Finance, 46*(1), 297-354.

Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica*. *46*(6), 1251-1271.

Henry, D. (2006). Agency costs, corporate governance and ownership structure: Evidence from Australia. *Proceedings of the 2006 Annual Meeting of the Financial Management*, Orlando, FL, October 2006.

Henry, D. (2010). Agency costs, ownership structure and ownership governance compliance: A private contracting perspective. *Pacific-Basin Finance Journal, 18,* 24-46.

Hijazi, B. M., & Conover, J. A. (2011). Empirical performance of accounting measures of direct agency costs. *Research in Finance,* 27, 223-272.

Jain, A. K., (2001). Corruption: A review. *Journal of Economic Surveys, 15*, 71–121.

Jelinek, K., & Stuerke, P. S. (2009). The nonlinear relation between agency costs and managerial equity ownership: Evidence of decreasing benefits of increasing ownership. *International Journal of Managerial Finance, 5*(2), 156-178.

Jensen, M. & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*, 305–360.

Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance and takeovers. *American Economics Review, 76*, 323–339.

Johnson, S., Kaufmann, D., & Zoido, P. (1998). Regulatory discretion and the unofficial economy. *American Economic Review, 88(*2), 387-392.

Junwei, W., Guiqin, L. & Ping, H. (2011). Study on the relationship between agency costs and governance mechanisms: Evidence from China's A-share listed companies. *M&D Forum Studies,* 258-271.

Kutlu Furtuna, O. (2013). *The impact of corporate governance mechanisms and ownership structure on agency costs. Evidence from Turkey*. (Unpublished PhD Dissertation). Marmara University,

La Porta, R. F., Lopez-de-Silanes F., Shleifer A., & Vishny, R. W. (1998). Law and finance. *The Journal of Political Economy, 106(*6), 1113-1155.

Lefort, F., Walker, E. (2007). Do markets penalize agency conflicts between controlling and minority shareholders? Evidence from Chile, *The Developing Economies, 3*, 283-314.

Lemma, T. T. (2015). Corruption, debt financing and corporate ownership. *Journal of Economic Studies, 42*(3), 433-461.

McArthur, J., & Teal, F. (2002). *Corruption and firm performance in Africa*. (Working Paper Series), Centre for the Study of African Economies, University of Oxford.

McKnight, P. J. & Weir, C. (2009). Agency costs, corporate governance mechanisms and ownership structure in large UK Publicly Quoted Companies: A panel data analysis. *Quarterly Review of Economics and Finance, 49,* 139–158.

Miller, S. E. (2009). Governance mechanisms as moderators of agency costs in a Pre-SOX Environment. *Journal of Business & Economics Research, 7(10).*

Nicholson, M. W. (2007). Quantifying antitrust regimes. *Erasmus Law and Economics Review, 3,* 41-62.

Park, K., & Jang, S. S. (2013). Capital structure, free cash flow, diversification and firm performance: A holistic analysis. *International Journal of Hospitality Management, 33*(51), 63.

Piper L. (2015). The BRICS Phenomenon: From regional economic leaders to global political players. (Working Paper), Published by: BRICS Initiative for Critical Agrarian Studies.

PWC (2015). *The world in 2050: Will the shift in global economic power continue?*

Ramakrishnan, R. T .S., & Thakor, A. V. (1982). Moral hazard, agency costs and prices in a competitive equilibrium. *Journal of Financial and Quantitative Analysis, 17*(4), 503-532.

Rashid, A. (2013). CEO duality and agency cost: Evidence from Bangladesh, *Journal of Management & Governance, 17*, 989-1008.

Rose-Ackerman, S. (1978). *Corruption: A study in political economy*. NY: Academic Press.

Safavian, M. S., Graham, D.H. & Gonzalez-Vega, C. (2001). Corruption and microenterprises in Russia. *Word Development, 29*(7), 1215-1224.

Sahakyan, N. Stiegert K. W. (2013). Corruption and firm performance. *Eastern European Economics, 50*(6), 5–27.

Shlapentokh, V. (2013). Corruption, the power of state and big business in Soviet and post-Soviet regimes, *Communist and Post-Communist Studies, 46*, 147–158.

Shleifer, A. & Vishny, R. W. (1993). Corruption. *Quarterly Journal of Economics, 108*, 599–619.

Singh, M., & Davidson, W. A. (2003). Agency costs, ownership structures and corporate governance mechanisms. *Journal of Banking and Finance, 27*, 793–816.

Transparency International (2015) Report, Corruption Perceptions Index.

Transparency International 2013 Report, Global Corruption Barometer.

Treisman, D. (2000). The causes of corruption: A cross-national stud. *Journal of Public Economics, 76*, 399-457.

Truong, T. (2006). Corporate boards, ownership and agency costs: Evidence from Australia. *The Business Review, 5*(2), 163-167.

Ullah, B. (2014). Firm growth around the World: financial constraints, corruption and privatization. (Unpublished Doctoral Dissertation), The University of Texas at El Paso.

Wellalage, N. H. & Locke, S. (2011). Agency costs, ownership structure and corporate governance mechanisms: A case study in New Zealand Unlisted Small Companies. *International Research Journal of Finance and Economics, 78*, 178-192.

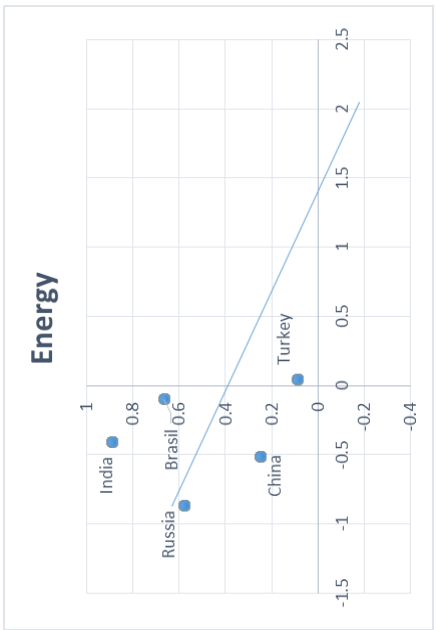
World Bank, (2007). Performance accountability and combating corruption. Edited by Anwar Shah, Public Sector Governance and Accountability Series.

World Bank, Worldwide Governance Indicators Project, WGI Report (2015).

Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data*. Cambridge: MIT Press.

Wu, X. (2005). Corporate governance and corruption: A cross-country analysis. *Governance: An International Journal of Policy, Administration and Institutions, 18*(2), 151-170.

Zhang, H. Li, S. (2008). The impact of capital structure on agency costs: Evidence from UK public companies. *South Australia Center Research Papers*, 1-18.



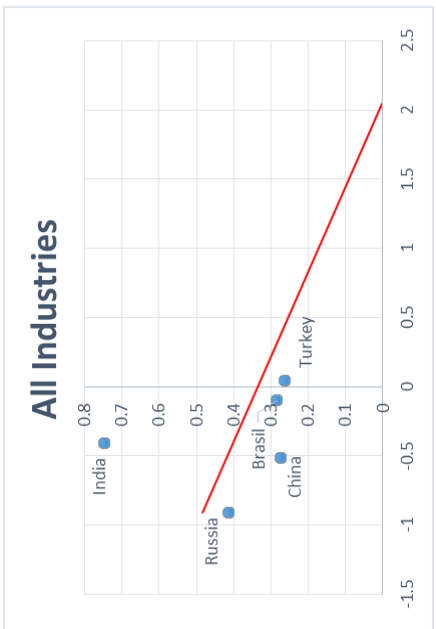
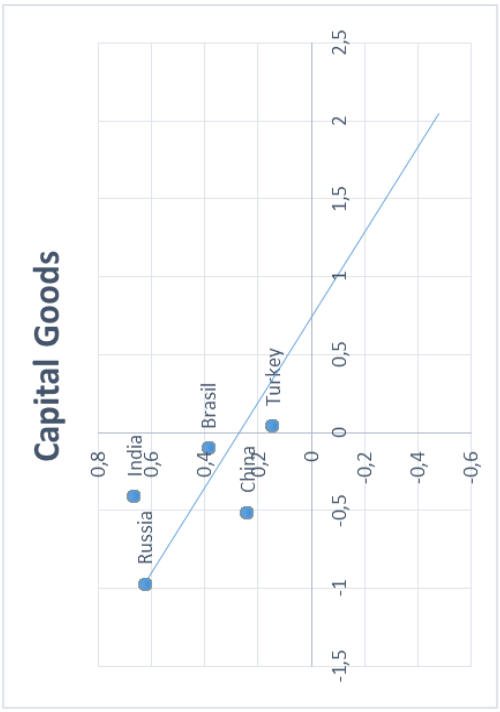


Figure 1. *Scatterplot of Corruption Control Level versus Managerial Extravagance with Regression Line*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Russia
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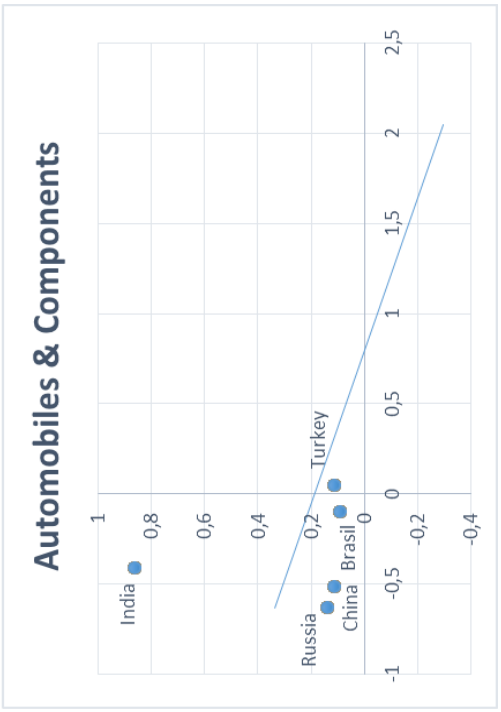
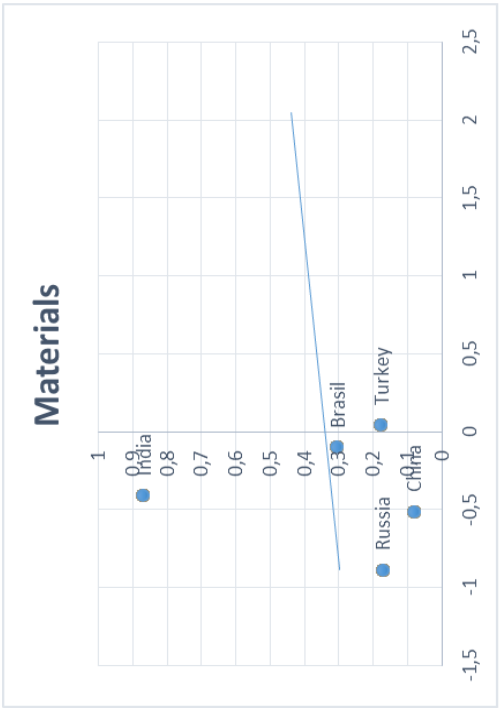
China
Turkey


Automobiles & Components
India
Russia
China
Brasil
Turkey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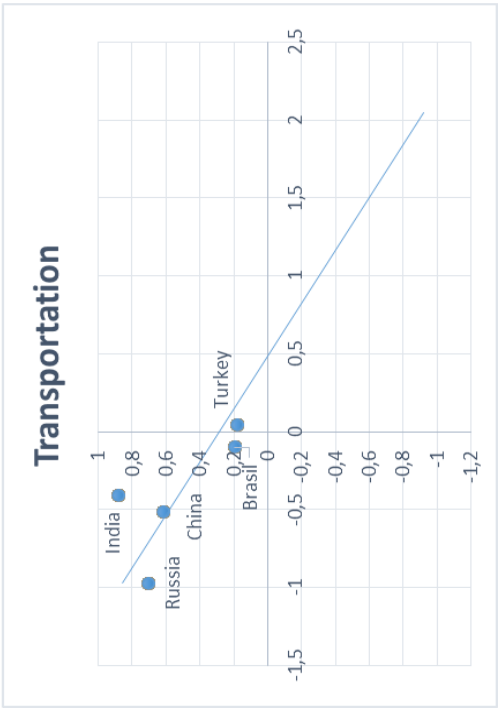
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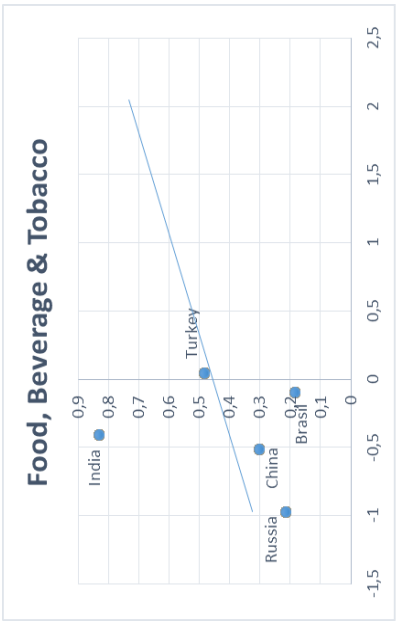
Russia
China
Brasil
Turkey


Food, Beverage & Tobacco
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Turkey
China
Russia
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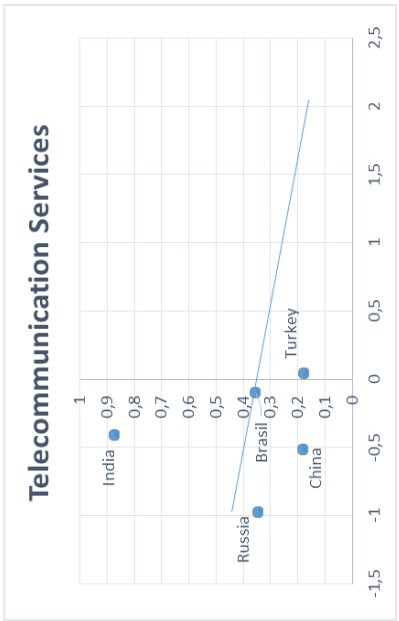
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Turkey
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Brasil
Russia
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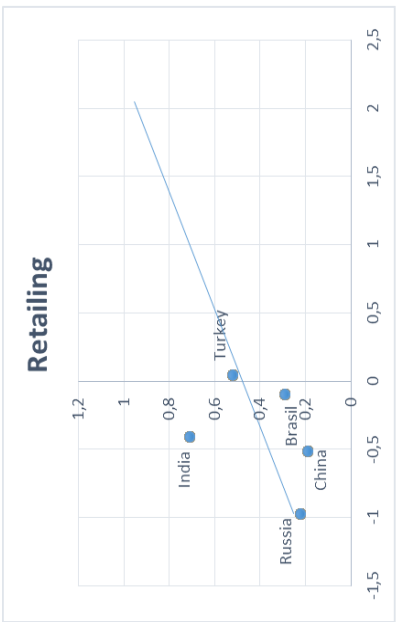
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Turkey
Brasil
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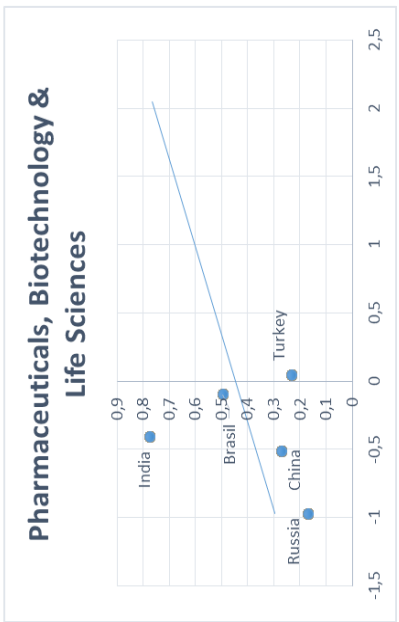
Pharmaceuticals, Biotechnology & Life Sciences
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Table 1. *Summary of the Dependent and Independent Variables*

Variable	Abbreviation	Definition
Dependent Variables		
Managerial Extravagance	SGA	The ratio of Selling General and Administrative Expenses to total sales in year *t* for firm *i*
Free Cash Flows to Total Assets	FCFTA	The ratio of Free Cash Flows to total assets in year *t* for firm *i*
Corporate Characteristics		
Profitability	roe	The ratio of net income divided by shareholder's equity in year *t* for firm *i*
Leverage	lev	The ratio of total debt to total assets in year *t* for firm *i*
Liquidity	quickratio	The ratio of current assets minus inventories divided by current liabilities in year *t* for firm *i*
Size	lnasset	Natural log of total assets in year *t* for firm *i*
Country level		
Control of corruption level	corruptcontrol	WGI Corruption control level in year *t* for country

Table 2. *2015 Country Rankings on Corruption Level based on WGI and TICPI Indices*

World Bank Governance Indicators Control of Corruption (WGI) 2015			Transparency International Corruption Perception Index (TICPI) 2015		
Rank	Country/ Territory	Control of Corruption	Rank	Country/ Territory	Score
Top					
1	New Zealand	2,27	1	Denmark	91
2	Denmark	2,26	2	Finland	90
3	Norway	2,23	3	Sweden	89
4	Switzerland	2,19	4	New Zealand	88
5	Finland	2,18	5	Netherlands	87
6	Sweden	2,14	6	Norway	87
7	Singapore	2,12	7	Switzerland	86
8	Luxembourg	2,09	8	Singapore	85
9	Liechtenstein	2,08	9	Canada	83
10	Netherlands	2,07	10	Germany	81
BRIC & Turkey					
97	Turkey	-0,12	66	Turkey	42
111	China	-0,33	76	Brazil	38
117	Brazil	-0,38	76	India	38
128	India	-0,46	83	China	37
168	Russia	-0,87	119	Russia	29

Table 2. *2015 Country Rankings on Corruption Level based on WGI and TICPI Indices (continued…)*

World Bank Governance Indicators Control of Corruption (WGI) 2015			Transparency International Corruption Perception Index (TICPI) 2015		
Rank	Country/ Territory	Control of Corruption	Rank	Country/ Territory	Score
Bottom					
200	Zimbabwe	-1,39	158	Guniena-Bissau	17
201	Sudan	-1,45	158	Venezuala	17
202	Angola	-1,45	161	Iraq	16
203	Guniena-Bissau	-1,51	161	Libya	16
204	Syrian Arab Republic	-1,55	162	Angola	15
205	Yemen	-1,55	163	South Sudan	15
206	Libya	-1,61	165	Sudan	12
207	South Sudan	-1,61	166	Afghanistan	11
208	Somalia	-1,69	167	Korea (North)	8
209	Equ. Guinea	-1,84	167	Somalia	8

World Bank, Worldwide Governance Indicators Project, WGI Report, 2015; Transparency International (2015), Corruption Perceptions Index

Table 3. *Ten Years of Corruption Control Scores based on WGI for BRIC and Turkey*

	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	***average***
BRAZIL	-0,17	-0,14	-0,12	-0,02	-0,12	0	0,15	-0,07	-0,12	-0,38	***-0,099***
RUSSIA	-0,78	-0,85	-0,95	-1.05	-1.09	-1.06	-1.04	-1.02	-1	-0,87	***-0,89***
INDIA	0,14	-0,3	-0,42	-0,36	-0,48	-0,51	-0,57	-0,56	-0,56	-0,46	***-0,408***
CHINA	-0,64	-0,51	-0,59	-0,54	-0,54	-0,6	-0,56	-0,48	-0,36	-0,33	***-0,515***
TURKEY	-0,02	0	0,09	0,08	0,07	0,03	0,06	0,17	0,11	-0,12	***0,047***

Table 4. *Total Number of Observation per Industry per Country between 2005 and 2014*

Industry / Country	**BRAZIL**	**RUSSIA**	**INDIA**	**CHINA**	**TURKEY**
Energy	30	100	80	150	30
Materials	100	120	170	200	380
Capital Goods	100	140	380	510	450
Transportation	10	30	20	50	40
Automobiles & Components	20	30	90	70	120
Retailing	30	10	20	40	140
Food, Beverage & Tobacco	70	30	70	80	280
Pharmaceuticals, Biotechnology & Life Sciences	10	10	150	80	30
Telecommunication Services	30	30	40	30	60
Total	400	500	1020	1210	1530

Table 5. *Fixed Effects Regression Model Results*

	Dependent Variables	
	Estimated Coefficients (z value)	
	SGA	**FCFTA**
Variables		
Roe	-0.0017 (-7.81)***	0.0019 (12.46)***
Lev	-0.0009 (-4.15)***	0.0012 (-9.24)***
Quickratio	-0.0056 (-2.72)***	0.0052 (4.07)***
Lnasset	0.0186 (7.23)***	0.0021 (1.89)*
Corruptcontrol	-0.0381 (-2.89)***	-0.0064 (-0.75)
Constant	0.2094 (8.27)***	-0.0104 (-1.07)
Number of observations	3639	3584
Number of groups	552	551
Wald chi2	151.16	434.52
Prob>chi2	0.0000	0.0000

Dependent variable is SGA and FCFTA over 2005-2014.
Standard errors can be seen in parentheses.
Coefficients significant at 1%, 5%, and 10% levels are labeled as ***, **, and *.