



**The effect of formal and informal institutions on
firms' performance: An analysis of emerging
economies**

International Business Master

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Leiria, June of 2019



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Dissertation under the supervision of Professor Nuno Manuel Rosa Reis, and Professor
João Neves de Carvalho Santos

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Dedication

I dedicate this research to my dear professors Nuno Manuel Rosa Reis and professor João Neves de Carvalho Santos. In my opinion, dedicating all my effort and accomplishments to you may be the least I can do. Also, I dedicate this research to my family and friends, for all their support.

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Abstract

Institutions significantly shape the strategy and performance of firms in emerging economies. Institutions consist of both informal and formal constraints. Also, it is very clear that treating institutions as “background” will not advance strategy research on emerging economies very far. Thus, by proposing a conceptual model with the relationship between formal and informal institutions, and firms' performance, this research aims to understand the effect of institutions on performance in emerging economies. By analyzing 241 firms in the stock exchange indexes from the BRICS economies, I provide empirical evidence for the effect of institutions on firms' performance. Therefore, I found a negative relationship between formal and informal institutions, and firms' performance. Furthermore, I found a positive moderating effect of firms' size on the relationship between institutions and performance. Hence, by answering the research question, the results contribute to the body of research on the institutional theory in emerging economies.

Keywords: BRICS; Emerging Economies; Firms' Performance; Firms' Size; Formal Institutions; Informal Institutions.

Contents

Originality and Copyright	iii
Dedication	iv
Acknowledgments	v
Abstract	vii
List of Figures	x
List of Tables	xi
List of Abbreviations and Acronyms	xii
1. Introduction	1
2. Literature Review	5
2.1. Defining institutions	5
2.2. Formal institutions and informal institutions	6
2.3. Operationalizing institutions	8
2.4. Institutions and firms' performance	8
2.5. Firms' size and institutions	10
2.6. Emerging Economies	11
3. Conceptual Model	13
3.1. Formal institutions and firms' performance	13
3.2. Informal institutions and firms' performance	14
3.3. Firms' size, formal and informal institutions, and firms' performance	15
4. Method	19
4.1. Sample	19
4.2. Variables	20
4.3. Procedure	24
5. Results	27
5.1. Descriptive Statistics and correlations	27

5.2. Linear Regression Models	28
5.3. Robustness Tests	31
6. Discussion	35
7. Conclusion	39
7.1. Theoretical contributions.....	39
7.2. Managerial implications	40
7.3. Limitations and future research.....	40
References.....	43
Appendix A.....	49

List of Figures

Figure 3.1 - Conceptual Model	17
Figure 5.1 – Firms' Size, Formal Institutions, and Firms' Performance	30
Figure 5.2 - Firms' Size, Informal Institutions, and Firms' Performance	31

List of Tables

Table 4.1 - Variables	24
Table 5.1 - Descriptive Statistics	27
Table 5.2 - Correlations	28
Table 5.3 - Regression Models	29
Table 5.4 - Regression Models - Return on Assets.....	32
Table 5.5 - Regression Models - Economic Freedom Index	33
Table 5.6 - Regression Models - Social Trust	34
Table 8.1 - Countries Weights.....	49
Table 8.2 - Global Competitiveness Index Scores 2015-2016	50

List of Abbreviations and Acronyms

BRIC	Brazil, Russia, India, China
BRICS	Brazil, Russia, India, China, South Africa
EFI	Economic Freedom Index
ESTG	School of Technology and Management
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GLOBE	Global Leadership & Organizational Behavior Effectiveness
Max	Maximum
Min	Minimum
MNE's	Multinational Enterprises
OLS	Ordinary Least Squares
QQ-Plot	Quantile-Quantile Plot
RoE	Return on Equity
SIC	Standard Industrial Classification
Std Deviation	Standard Deviation
USD	United States Dollars
VIF	Variance Inflation Factor

1. Introduction

Institutions significantly shape the strategy and performance of firms in emerging economies (Peng, Sun, Pinkham & Chen, 2009). According to North (1991:97), “institutions are humanly devised constraints that structure political, economic and social interaction”. Institutions consist of both informal and formal constraints (North, 1991). Furthermore, institutions directly influence firms as they aim to formulate and implement strategies (Peng et al., 2009). Therefore, questions of how macro-level institutions influence transactions costs and firms' performance have been relatively unexplored, remaining largely as background (Meyer, Estrin, Bhaumik & Peng, 2009).

Institutional environments that may facilitate economic activity and reduce uncertainty may be underdeveloped in emerging economies (Kim & Song, 2017). Defining emerging economies may be a difficult task, however I may define emerging economies as countries with rapid economic growth and low income (Kim & Jung, 2009). Thus, the lack of intermediary firms, lack of regulatory systems, lack of contract-enforcing mechanisms, and high levels of information asymmetry may be some of the characteristics of an emerging economy (Miller, Lee, Chang, & Le Breton-Miller, 2009; Meyer et al., 2009). Therefore, researchers are increasingly probing into emerging economies whose institutions differ significantly from those in the developed economies (Peng, Wang & Jiang, 2008; Meyer et al., 2009).

It is very clear that treating institutions as “background” will not advance strategy research on emerging economies very far (Peng et al., 2009). There is a dearth of knowledge on the distinct and potentially variable impact of formal and informal institutions on performance (Golesorkhi, Mersland, Randøy & Shenkar, 2019). Moreover, empirical research is lacking as to when and how institutional voids affect economic behavior of individual firms (Kim & Song, 2017). Furthermore, there has been little evidence showing how firm size influence firm performance in specific institutional environments (Li & Sun, 2017). Therefore, understanding how institutions matter, under what circumstances, to what extent, and in what ways, should be the next step in further adding to the literature (Peng et al., 2009).

Thus, the research question is: How do informal and formal institutions influence firms' performance in emerging economies? By proposing a conceptual model with both formal and informal institutional aspects, I aim to understand the distinct effect of both formal and

informal institutions on firms' performance. Furthermore, by proposing the emerging economies as the empirical setting, I aim to understand how institutional voids affect individual firms. On the other hand, by proposing a moderating effect of firms' size, I aim to understand how firms' size influence the relationship between institutions and performance. Therefore, the main objective of this research is to understand the effect of formal and informal institutional development on firms' performance, in emerging economies.

To test my contention, I use a sample of 241 firms from five emerging economies. The five emerging economies are Brazil, Russia, India, China and South Africa. The BRICS economies make an interesting testing ground due to their expected importance in the world economy (Wilson & Purushothaman, 2003). Thus, in each country, I collect information on each firm that is traded in the main stock exchange index. I identify five main indexes: iBovespa (Brazil), Micex (Russia), Sensex (India), Shanghai SE (China), and FTSE/JSE 40 (South Africa). Furthermore, I gather all the information through a secondary source of data, namely each firms' financial report (e.g. income statement and balance sheet). Therefore, by collecting data for the years 2015, 2016, and 2017, I obtained a total of 723 observations included in the research. Hence, as the statistical procedure, I use a linear regression model to obtain the results on the effect of formal and informal institutions, on firms' performance.

In terms of the main findings, I find that the formal institutional development has a significant and negative effect on the firms' performance. Furthermore, I find that the informal institutional development has a significant and negative effect on the firms' performance. On the other hand, I find a significant and positive moderating effect of firms' size on the relationship between formal institutional development and firms' performance. Moreover, I find a significant and positive moderating effect of firms' size on the relationship between informal institutional development and firms' performance.

I contribute to the body of research on the institutional theory in emerging economies by several ways. First, I enrich the institutional theory by providing a conceptual analysis on the relationship between formal and informal institutions, and firms' performance (Meyer et al., 2009; Li & Sun, 2017). Second, I show the importance of including both formal and informal institutions in the analysis of firms' institutional embeddedness (Marano, Arregle, Hitt, Spadafora & van Essen, 2016). Third, I contribute to the growing body of literature emphasizing the need to understand the distinct attributes and economic outcomes of

informal and formal institutions (Golesorkhi et al., 2019). Fourth, our empirical effort answers the call to explore the interaction between macro institutional effects with the micro level firm level effects (Deng & Zhang, 2018). Hence, this research adds novel insights into the institutional development literature on emerging economies (Deng & Zhang, 2018).

In the following chapters, I start by presenting an organized literature review for all the concepts included in this research. After that, I present the conceptual model with all the identified hypothesis and their respective arguments. Later in the method section, I explain in detail the sample technique used, the variables and the procedure. Then I present the results, followed by the discussion section where I discuss the contradictory results. At the end, I finish the research by presenting the main conclusions, the limitations, future research, and managerial implications.

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2. Literature Review

2.1. Defining institutions

Institutions, considered to be the “rules of the game” (North, 1990:1), are constraints created by human beings to structure the political, economic and social interaction (North, 1991; Meyer, 2001). Institutions may guide certain behaviors or actions by providing incentives and disincentives in acting appropriately (Lewellyn & Bao, 2014). Thus, institutions may function as a mechanism which may provide steadiness and order, as they impose restrictions by defining acceptable human behavior (Scott, 1995). On the other hand, by creating boundaries (e.g., legal, moral and cultural boundaries), institutions may allow economic actors to classify human behavior as unacceptable (Scott, 1995). Therefore, reduced uncertainty in transactions may occur under institutional environments that may apply rules and restrictions (North, 1991; Peng et al., 2009; Kim & Song, 2017). Hence, institutions, in addition to standard economic constraints, may impose incentives to perform according to acceptable human behavior, influencing the feasibility of engaging in economic activity (North, 1991; Scott, 1995; Meyer, 2001; Lewellyn & Bao, 2014).

As firms attempt to forge and implement strategies, institutions may portray a critical character guiding human behavior (Scott, 1995; Peng et al., 2008), and economic decision making (Muralidharan & Pathak, 2017). By enabling or constraining the deployment of strategic resources and capabilities, institutions may influence firms' ability to generate and maintain their competitive advantages (Marano et al., 2016). Moreover, the institutional environment directly defines “what arrow a firm has in its quiver” (Ingram & Silverman, 2002:20) to create competitive advantages (Peng et al., 2008). Therefore, institutional development defines whether firms can access resources and knowledge to develop or maintain their competitive advantages (Deng & Zhang, 2018). Hence, institutions have been proved to influence firms in their decisions on internationalization (Lewellyn & Bao, 2014; Deng & Zhang, 2018), entrepreneurship (Muralidharan & Pathak, 2017), entry mode (Meyer, 2001; Brouthers, 2002; Meyer et al., 2009), deal abandonment (Dikova, Sahib & Van Witteloostuijn., 2010; Kim & Song, 2017), and performance (Cuervo-Cazurra & Dau, 2009; Li & Sun, 2017; Golesorkhi et al., 2019).

Countries differ relatively in the development of their institutions (Lewellyn & Bao, 2014), as institutions are nation-specific characteristics of the environment (Dikova et al., 2010).

The existence of an effective rule of law, stable government, transparency of the government, integrity of judiciary, public access to information, lack of corruption, freedom of economic transactions, low political risk, contracts and property rights may be some of the examples that may define the development of an institutional environment (Meyer, 2001; Lewellyn & Bao, 2014). On one hand, I consider an institutional environment to be developed if it supports the effectiveness of the market by providing freedom in economic activity (Meyer et al., 2009). On the other hand, I consider an institutional environment to be underdeveloped if it fails to safeguard the effectiveness of markets (Meyer et al., 2009). Therefore, laws and regulations of a country may change over time, to improve the functioning of its market (Cuervo-Cazurra & Dau, 2009). Hence, the institutional development may help reduce the agency costs of monitoring and restraining managerial misbehavior (Cuervo-Cazurra & Dau, 2009), leading to greater security in transactions (Mantzavinos, North & Shariq, 2004).

2.2. Formal institutions and informal institutions

Formal institutions are defined as the “constitutions, laws [and] property rights” (North, 1991:97). Formal institutions are demanded by government authorities (e.g., courts) and established through official channels (e.g., legislatures) (Helmke & Levitsky, 2004). Thus, formal institutions may be defined as laws established in channels accepted as official (Helmke & Levitsky, 2004). Furthermore, formal institutions may be considered an exogenous product imposed towards the society (Mantzavinos et al., 2004). However, I may distinguish the concept of formal institutions from other concepts of formal institutions. Following North (1990) I call for the need that scholars may differentiate the actors (e.g., players) from the rules they follow (Helmke & Levitsky, 2004). Thus, formal organizations (e.g., unions and political parties) may be distinguished from formal institutions (Helmke & Levitsky, 2004). Hence, I may consider formal institutions as laws (North, 1991) enforced by a third party, often the government (Helmke & Levitsky, 2004).

Informal institutions are defined as the “sanctions, taboos, customs, traditions, [and] codes of conduct” (North, 1991:97). Informal institutions are demanded and established outside the public view (Helmke & Levitsky, 2004). Thus, informal institutions are social norms and codes of conduct that may guide human behavior, generally unwritten, that are established in channels expressed as unofficial (Helmke & Levitsky, 2004; Lewellyn & Bao, 2014). Furthermore, informal institutions may be considered an endogenous product created

internally in each society (Mantzavinos et al., 2004). However, I may distinguish the concept of informal institutions from other concepts of informal institutions. Following North (1990) I call for the need that scholars may differentiate the actors (e.g., players) from the rules they follow (Helmke & Levitsky, 2004). Thus, informal organizations (e.g., mafias and clans) should be distinguished from informal institutions (Helmke & Levitsky, 2004). Hence, I may consider informal institutions as self-enforcing norms and codes of conduct in a given society (Helmke & Levitsky, 2004; Singh, 2007).

The conception of culture as an informal institution is commonly acknowledged in the literature (Lewellyn & Bao, 2014). "Culture can be defined as the collective programming of the mind which distinguishes the members of one category of people from those of another" (Hofstede, 1984:389). Moreover, society was shaped into different groups of people with distinct attributes, that set them apart from other human associations (House, Javidan, Hanges & Dorfman, 2002). Therefore, I may further define informal institutions as "culturally shared understandings associated with cultural values, and social expectations about appropriate actions which are based on dominant practices or norms prevalent in a given society or culture" (Muralidharan & Pathak, 2017:290). Hence, the institutional construct may encompass cultural dimensions (Singh, 2007), thereby considering culture as a common part of the environment within firms operates (Singh, 2007). Thus, I may consider that the cultural dimensions may define the informal institutional environment of a given society or country (Peng et al., 2008).

Informal institutions may be created because formal institutions are deficient (Helmke & Levitsky, 2004). Formal institutions may guide human behavior, but they cannot enclose all actions (Helmke & Levitsky, 2004). Consequently, within a given formal institutional context, players may develop informal institutions that focus on actions that were not foreseen by formal institutions (Helmke & Levitsky, 2004). Thus, complementary and substitutive informal institutions may emerge within weak institutional environments that may lack formal authority (Helmke & Levitsky, 2004). Complementary and substitutive informal institutions may also serve as a support mechanism for formal institutions, establishing incentives to adhere to formal institutions (Helmke & Levitsky, 2004). Therefore, informal institutions may be enough to provide discipline in interpersonal relationships (Mantzavinos et al., 2004), thereby facilitating economic activity and providing continuity for firms to get through formal institutional transitions (Peng et al., 2009). Although informal institutions are critical to guide interpersonal relationships under weak

formal institutions, it may be the combination of formal and informal institutions that influence strategic decisions (Singh, 2007; Peng et al., 2008). Hence, it may be important to include both concepts of formal and informal institutions on the conceptual constructs (Marano et al., 2016).

2.3. Operationalizing institutions

Authors proposed different but complementary approaches to conceptualize dimensions to define institutions (North, 1991; Scott, 1995). I may divide institutions into formal and informal constraints (North, 1991). On the other hand, Scott (1995) suggested I may divide institutions into regulative, normative and cultural-cognitive dimensions. However, dividing institutions into formal and informal constraints (North, 1991) may be complementary to Scott's view of three supportive pillars (regulative, normative and cultural-cognitive) (Scott, 1995; Peng et al., 2009). Hence, I intend to use North (1991) classification by dividing institutions into formal and informal institutions, due to the simplification of the conceptual model, as it is commonly used in the literature (see Peng et al., 2009; Dikova et al., 2010; Lewellyn & Bao, 2014; Golesorkhi et al., 2019).

Furthermore, the concept of distance has evolved, and an approach to define institutional distance has emerged (Berry, Guillén & Zhou, 2010). Nine dimensions of institutional distance were identified: economic, financial, political, administrative, cultural, demographic, knowledge, connectedness, and geographic distance (Berry et al., 2010). However, Berry et al. (2010) approach may be complementary to the Ghemawat (2001) CAGE framework, which construe a four-dimensional distance model of cultural, administrative, geographic and economic distance. Therefore, as institutions regulate economic activity in the areas of politics (e.g., transparency), law (e.g., regulatory regime), and society (e.g., norms and attitudes) (Peng et al., 2008), all approaches might include the generalized concepts of institutions. However, as I am not aiming to analyze any relationship between the home and host country institutional environment, I may not use the concept of distance in this research.

2.4. Institutions and firms' performance

The definition of firm performance is a surprisingly open question with few studies using consistent definitions and measures (see Kirby, 2005; Richard, Devinney, Yip & Johnson, 2009). However, performance measurement is described as the process of quantifying

action, where measurement stands for quantification and action correlates with performance (Neely, Gregory & Platts, 1995). Thus, performance may be defined as the efficiency and effectiveness of actions (Tangen, 2004). Therefore, in this research I adopted the following two definitions: (a) "performance measurement can be defined as the process of quantifying the efficiency and effectiveness of action" (Neely et al., 1995:80); (b) "a performance measure can be defined as a metric used to quantify the efficiency and/or effectiveness of an action" (Neely et al., 1995:80). Hence, measuring performance is essential in allowing researchers and managers to evaluate how firms evolve and perform over time (Richard et al., 2009).

The diversity of approaches was further complicated by variation in the use of single, multiple, and aggregated measures (Richard et al., 2009). Thereby, I may identify four types of firm-level performance measures that have been used: (1) accounting-based measures, (2) market-based measures, (3) sales growth, and (4) survey-based measures (Marano et al., 2016). Accounting-based measures such as return on equity, return on assets, return on sales, return on investment, profit margin, and profit (Marano et al., 2016). Market-based measures such as stock market performance, market to book value, Tobin's Q, and excess market value (Marano et al., 2016). Survey-based measures which captures respondent's perceptions of firm performance (Marano et al., 2016). Hence, what stands out is the lack of clarity in the theoretical background of the performance concept and the absence of methodological consistency in the performance measurement (Richard et al., 2009).

Institutions shape transaction and production costs (Meyer, 2001), thereby influencing strategic choices and firms' performance (Li & Sun, 2017). However, distinct institutional environments may shape economical performances towards different directions (e.g., decline, stagnation or growth) (North, 1991). Therefore, resources are needed to define and enforce contracts (Brouthers, 2002). Contracts are an expensive and ineffective control mechanisms due to distance, communication problems and lack of measurable outputs (Brouthers, 2002). Thus, transaction costs are a critical determinant of economic performance (North, 1991; Marano et al., 2016). Especially under individual wealth-maximizing behavior, transaction costs are even more decisive to firms' performance, because (1) of the difficulty in foreseen all the contingencies in the contract (Brouthers, 2002), and (2) the inefficiency to obtain a fair price due to greater levels information asymmetry (North, 1991; Brouthers, 2002). Hence, developed institutions raise the benefits of cooperation or the costs of defection, thereby reducing transaction and production costs, influencing positively the firms' performance (North, 1991; Kim & Song, 2017).

Firms' performance is the result of engaging economic activity according to formal institutions (North, 1991; Mantzavinos et al., 2004). Developed formal institutions may provide reduced uncertainty by enabling firms' economic activities, resulting in less opportunistic behavior, lower transaction costs, greater effectiveness of contracts and greater possibilities to achieve the desired rewards (North, 1991; Brouthers, 2002; Lewellyn & Bao, 2014; Marano et al., 2016). Moreover, developed regulations may provide firms access to specific resources, which in turn will strengthen their ability to profit and develop competitive advantages in their operations (Marano et al., 2016). Thus, firms may capitalize on advantages generated by developed formal institutions (Li & Sun, 2017). Hence, developed formal institutions are critical for economic growth as they lower transaction costs (Deng & Zhang, 2018), thereby influencing positively firms' performance.

Firms' performance is also the result of engaging economic activity according to informal institutions (North, 1991; Mantzavinos et al., 2004). Developed informal institutions, translated into developed cultural dimensions, are essential for developing relationships, as relationships are basically socially constructed (Johanson & Vahlne, 2009). Therefore, the cultural characteristics of a society may have implications in the way firms view the benefit of having interpersonal relationships and the way they focus on learning, building trust, developing commitment, and identifying and exploiting opportunities (e.g., benefits of cooperation or costs of defection) (Johanson & Vahlne, 2009). Hence, developed informal institutions may lower transaction costs, by providing information dissemination, access to specific assets, reducing the possibility of contractual disputes, and providing low-cost mechanisms for dispute resolution (Khanna & Rivkin, 2001), thereby influencing positively firms' performance (Johanson & Vahlne, 2009).

2.5. Firms' size and institutions

Under an institutional perspective, larger firms may gain support from local government (Li & Sun, 2017), and may have greater levels of trust (Lu, Song & Shan, 2018) and legitimacy (Scott, 1995). On one hand, larger firms may gain institutional support and advantages as larger firms may have greater bargaining power due to local employment and economy, thereby receiving special treatment from the government (Li & Sun, 2017). Thus, firms may have particularly strong incentives to invest in relationships with political-bureaucratic structures (Khanna & Rivkin, 2001). Therefore, the institutional support from local government may help larger firms to overcome formal institutional voids, from a greater

source of information, special treatment, and resources, thereby influencing positively firms' performances (Li & Sun, 2017).

On the other hand, larger firms may have greater levels of trust and legitimacy, as trust and legitimacy may serve as an alternative source of rule development and social enforcement (Lu et al., 2018). "Social trust is a society-level construct that refers to people's expectation about the trustworthiness of the generalized and abstract other" (Lu et al., 2018:762). Also, "legitimacy is the generalized perception or assumption that the actions of an entity are desirable, proper, or appropriated within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995: 574). Thus, social trust and legitimacy enables economic actors to establish mutual expectations of regular and honest behavior (Lu et al., 2018). Therefore, the level of social trust and legitimacy, may lead to greater chances of having important interpersonal relationships (Johanson & Vahlne, 2009; Lu et al., 2018). Moreover, interpersonal relationships facilitate information transmission, cooperation, knowledge transfer, access to resources, exploiting opportunities and the enforcement of sanctions within a society (Johanson & Vahlne, 2009; Lu et al., 2018). Outcomes that promote efficiency, productivity and effectiveness may be produced when both commitment and trust and legitimacy are both present (Johanson & Vahlne, 2009), thereby influencing positively firms' performance (Scott, 1995).

2.6. Emerging Economies

Defining emerging economies may be a difficult task, as there is no consensus in the existing literature (Kim & Jung, 2009). However, I may define emerging economies "as countries [which] have low income and rapid economic growth based on economic liberalization policies" (Kim & Jung, 2009:2). In emerging economies institutional differences are more salient, and its deficiency is more striking (Li & Sun, 2017; Peng et al., 2009). Therefore, defining both formal and informal institutions as background variables may be insufficient to acknowledge strategic behaviors and firms' performances, as institutional voids are more common and prominent (Peng et al., 2008; Kim & Song, 2017). Hence, it may be important to study the possible effects of institutions in emerging economies.

In emerging economies, economic transactions may be notably costly (Khanna & Rivkin, 2001), because institutions are underdeveloped (Kim & Song, 2017). In emerging economies, market failures may arise as an economically profitable transaction for both

spectrum of the agents (e.g., the seller and the buyer), fails to be accomplished due to increased indirect costs, thereby outweighing the net benefit (Khanna & Rivkin, 2001). Also, the lack of intermediary firms, lack of regulatory systems, lack of contract-enforcing mechanisms, and high levels of information asymmetry may be some of the characteristics of an emerging economy (Meyer et al., 2009; Miller et al., 2009). Moreover, markets (e.g., labor, product, technology) are also susceptible to deficiencies in emerging economies (Khanna & Rivkin, 2001). Therefore, institutional voids and market failures are common in emerging economies (Kim & Song, 2017).

Formal and informal institutions are underdeveloped in emerging economies (Kim & Song, 2017). On one hand, formal institutions are underdeveloped due to information problems, imperfect contract enforcement, inability to enforce property rights, and flawed regulatory structures (Khanna & Palepu, 2000). Thereby, increased transaction costs may be a consequence of underdeveloped formal institutions (Khanna & Palepu, 2000). On the other hand, informal institutions are underdeveloped due to increased information asymmetries, as firms face higher risk related to their partners (Meyer et al., 2009). Thereby, firms may need to spend more resources searching for information, to address underdeveloped informal institutions (Meyer et al., 2009). Therefore, institutional environments that can facilitate economic activity and reduce uncertainty may be underdeveloped in emerging economies (Kim & Song, 2017).

3. Conceptual Model

Institutions create both opportunities and challenges for firms which may influence firms' performance (Li & Sun, 2017). A higher level of institutional development may help firms capitalize on advantages generated by developed institutions (Li & Sun, 2017). Also, developed institutions may lower transaction costs by facilitating efficient transactions, thereby promoting economic growth (Deng & Zhang, 2018). On the other hand, underdeveloped institutions may lead firms to engage in costly transactions and in less efficient transformations (Li & Sun, 2017). Moreover, underdeveloped institutions may increase environmental complexity, thereby increasing uncertainty and ambiguity regarding firms' future (Deng & Zhang, 2018). Therefore, I argue that the development of both formal and informal institutions may improve firms' performance, especially in emerging economies whereas institutional voids are persistent (Deng & Zhang, 2018).

Firms' size may moderate the effect of institutions on firms' performance. On one hand, larger firms may receive special treatment from the government (Li & Sun, 2017). Thus, firms may gain institutional support and advantages from the government, thereby overcoming formal institutional voids (Li & Sun, 2017). On the other hand, trust and legitimacy may allow firms to achieve interpersonal relationships, thereby reducing liability of outsidership (Johanson & Vahlne, 2009). Thus, being an "insider" may help firms overcome informal institutional voids (Johanson & Vahlne, 2009). Therefore, I argue that larger firms may have a greater ability to overcome institutional disadvantages, hence achieving better performances (Li & Sun, 2017).

3.1. Formal institutions and firms' performance

Formal institutions such as legal systems, regulations, government, and court systems provide defensive mechanisms in economic activity, thereby influencing firms' performance (Deng & Zhang, 2018; Golesorkhi et al., 2019). Formal institutional voids such as regulatory uncertainty, political risk, corrupted court systems, and government interference may contribute to additional costs (Marano et al., 2016; Deng & Zhang, 2018). Also, ineffective formal institutions may give rise to higher transaction costs and coordination costs due to making the use of contracts as a control mechanism expensive and ineffective (Golesorkhi et al., 2019). In turn, underdeveloped formal institutions may inhibit firms to transfer

business practices between partners and constraint firms' ability to use valuable resources (Golesorkhi et al., 2019). Therefore, formal institutional development significantly shapes the performance of firms (Li & Sun, 2017).

Developed formal institutions and business regulations facilitate firms' economic activities (Marano et al., 2016). On one hand, by limiting opportunistic behaviors and uncertainty in market transactions, developed formal institutions may reduce firms' transaction costs (Marano et al., 2016). In turn, these regulations may produce stronger national economies as they may provide additional resources to firms (Marano et al., 2016). The additional resources may help firms develop skills and competitive advantages, thereby strengthening their ability to profit from economic operations (Marano et al., 2016). On the other hand, developed formal institutions may increase the effectiveness of the use of contract as control mechanisms, thus reducing the transaction costs (North, 1991). Thus, developed formal institutions may reduce uncertainty, resulting in less potential of opportunism, lower transactions costs and offer greater chances for firms to achieve better performances (Lewellyn & Bao, 2014). Therefore, I argue that developed formal institutions may have a positive effect on firms' performance due to lower information asymmetry, reduced uncertainty and lower transaction costs in general. Hence, I hypothesize the following:

H₁: In emerging economies, the greater the formal institutional development the greater the firm's performance.

3.2. Informal institutions and firms' performance

Informal institutions, such as interpersonal norms that guides relationships, may play a larger role in influencing firms' strategies and performance (Peng et al., 2008). Developed informal institutions may reduce uncertainty in social interaction, as firms may have more complete information about the behavior of other individuals and firms (Dikova et al., 2010). Thus, the development of informal institutions may influence the actual economic agreement, guiding human behavior in social interactions (North, 1990; Dikova et al., 2010). Therefore, I argue that the development of informal institutions may explain whether firms value the benefits of cooperation in interpersonal relationships (North, 1991).

Markets are “networks of relationships in which firms are linked to each other in various, complex and, to a considerable extent, invisible patterns” (Johanson & Vahlne, 2009: 1411). Furthermore, I may consider a firm that has at least one interpersonal relationship with

another economic agent to be an “insider” (Johanson & Vahlne, 2009). Thus, I argue that an “insider” firm may obtain the benefits of cooperation (North, 1991), such as access to information, specific assets, long-term relationships and lower contract disputes (Khanna & Rivkin, 2001). Also, networks may be a source of opportunities, when both trust and commitment come into play (Johanson & Vahlne, 2009). On the other hand, I argue that an “outsider” firm may suffer the costs of defection (North, 1991), as “outsiders” may value the opportunistic behavior (Khanna & Rivkin, 2001). Furthermore, “outsiders” may lack information dissemination, access to resources, and may have increased contract disputes, thereby influencing negatively the firms' performance. Thus, firms lacking interpersonal relationships might have a decreased chance of overcoming institutional voids in emerging economies, when compared to firms with interpersonal relationships. Therefore, I argue that firms in developed informal institutions environments may attribute a greater value to the benefits of cooperation, thus achieving a better performance. Hence, I hypothesize the following:

H₂: In emerging economies, the greater the informal institutional development the greater the firm's performance.

3.3. Firms' size, formal and informal institutions, and firms' performance

A larger firm may overcome formal institutional voids easier than smaller firms (Li & Sun, 2017). In underdeveloped formal institutions, political risk, corruption, and government interference are some of the major issues that firms need to address (Lewellyn & Bao, 2014; Deng & Zhang, 2018). Furthermore, underdeveloped formal institutions may increase uncertainty regarding firms' future (Deng & Zhang, 2018). Thus, a larger firm, which may have greater impact on local economy due to greater employment rates and performance results, may also have greater influence and bargaining power with local governments (Li & Sun, 2017). Therefore, the local government may offer access to specific information, special treatment, and access to resources (Li & Sun, 2017). Thereby, the institutional support from the government may help firms overcome formal institutional voids (Li & Sun, 2017). Thus, larger firms may achieve greater performance as opposed to smaller firms. However, the benefit of institutional support from local government will be greater in underdeveloped formal institutional environment as opposed to developed formal

institutional environment, due to increased institutional voids (Li & Sun, 2017). Hence, I hypothesize the following:

H_{3a}: In emerging economies, firms' size negatively moderates the effect of formal institutional development on firms' performance, such that the effect of formal institutions on firms' performance is weaker as formal institutional development increases.

On the other hand, a larger firm may also obtain a greater ability to overcome informal institutional voids (Li & Sun, 2017). In underdeveloped informal institutions, informal constraints to organizational behavior may include reputation, trust and legitimacy (Dikova et al., 2010). Thus, increased legitimacy and trust may increase firms' reputation in economic transactions (Dikova et al., 2010). Furthermore, legitimacy and trust are not a commodity to be possessed but rather a condition to be achieved (Scott, 1995). Thus, I argue that a larger firm may achieve greater levels of legitimacy and trust due to their size and importance in local economy. Both trust and legitimacy, when achieved, may increase firms' social relationships and economic transactions, thereby reducing the liabilities of outsidership (Johanson & Vahlne, 2009). Therefore, firms will perform better if they pursue both legitimacy and trust (Brouthers, 2002), due to the increased benefits of cooperation from networks. Hence, I argue that a larger firm size may positively moderate the effect of informal institutions on firms' performance, such as the firms' performance will be further increased under greater levels of legitimacy and trust. Thus, I hypothesize the following:

H_{3b}: In emerging economies, firms' size positively moderates the effect of informal institutional development on firms' performance, such that the effect of informal institutions on firms' performance is stronger as firms' size increases.

Figure 3.1 summarizes the hypothesized relationships.

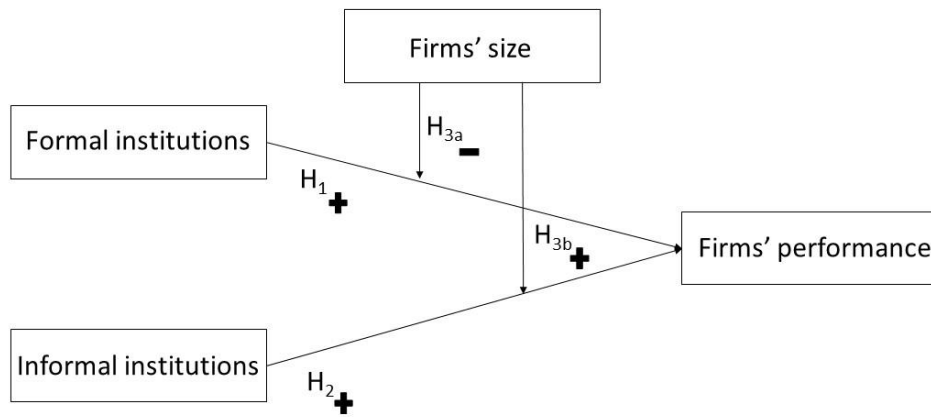


Figure 3.1 - Conceptual Model

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4. Method

4.1. Sample

The sample consisted of public traded firms from five emerging economies. These five emerging economies are Brazil, Russia, India, China and South Africa (BRICS). Over the next 50 years, the BRIC economies could become a much larger force in the world economy (Wilson & Purushothaman, 2003). It is anticipated that by 2050, the economies of Brazil, Russia, India, and China will be larger than that of the United States, Japan, Germany, United Kingdom., France, and Italy (G6) (Wilson & Purushothaman, 2003). Furthermore, the BRIC economies are the four biggest emerging economies, which combined they account for two fifths of the total Gross Domestic Product (GDP) of all emerging economies (Gay, 2016). In 2011 South Africa was included in the list, thereby creating the top 5 emerging economies (BRICS). The relative and absolute economic importance of BRICS is expected to continue to rise for the foreseeable future (Wilson & Purushothaman, 2003). Also, the five emerging economies are well distributed across different continents: Latin America, Asia, East Europe and Africa (Kim & Song, 2017). Thus, as there are extremely limited research efforts, particularly on Brazil, Russia, and India (Bruton, Ahlstrom & Obloj, 2008), I decided to use the BRICS economies as the empirical setting for this study.

Information on the public traded firms was gathered from the main stock exchange index in each country. Firms whose shares are listed on a stock exchange are more likely to provide more information than non-listed firms for two reasons (Raffournier, 1995). First, they must comply with market regulation authorities, thereby providing the minimum disclosure requirements (Raffournier, 1995). Second, listed firms may also voluntarily provide supplementary information to increase investors' confidence in generating better financing conditions (Raffournier, 1995). Thus, I included only public traded firms due to information availability (e.g., more complete and accurate data) (Cuervo-Cazurra & Dau, 2009). On the other hand, I decided to include firms traded in the main stock exchange indexes as a selection criterium (cf. Abor, 2005). Moreover, firms included in those indexes are usually defined as the largest companies and this methodology of studying the largest firms has been commonly used in the literature (e.g., Innes, Mitchell & Sinclair, 2000; Thomsen & Pedersen, 2000). Thus, I included the following indexes: iBovespa (Brazil), Micex (Russia),

Sensex (India), Shanghai SE (China), and FTSE/JSE 40 (South Africa). Therefore, after identifying each firm that belongs to each index, I gathered information from a secondary source of data, namely each firms' financial annual report, which allowed me to analyze both the income statement and the balance sheet.

The sample consisted of 723 observations between 2015 and 2017. I decided to include a 3-year observation instead of only 1-year observation, as 1-year observations are more susceptible to particularly events that may happen in each country. Thus, I identified a total of 241 firms: 59 firms (Brazil), 35 firms (Russia), 25 firms (India), 87 firms (China), and 35 firms (South Africa). For each firm, I gathered information for the year of 2015, 2016 and 2017, thereby a total of 723 observations. However, firms with negative equity were later removed from the sample to protect the research from "false positives" observations, as firms with negative net profit and negative equity may have a positive return of equity. Final sample thus included 709 observations.

4.2. Variables

Dependent Variable. The dependent variable "Firms' performance" was measured using the account-based measure Return on Equity (Ding, Zhang & Zhang, 2008). Account-based measures have been commonly used in the literature (see Ding et al., 2008; Lu et al., 2018; Golesorkhi et al., 2019). I may define Return on Equity (RoE) as the extent to which firms manage their own capital effectively (Heikal, Khaddafi & Ummah., 2014). Furthermore, Return on Equity measures the profitability of the investment that has been made by the shareholders of the company (Heikal et al., 2014). Return on Equity is expressed in percentage and it is calculated using the following formula: (1) $RoE = \frac{Net\ Profit}{Equity} \times 100$.

On the other hand, Return on Equity, as opposed to Return on Assets, is arguably more suitable because Return on Assets may give you a misleadingly low return for any firm that has substantial debt (Damodaran, 2007). Thus, by increasing its debt, a firm also increases its assets due to the increased cash that comes in, not revealing the quality of their investments (Damodaran, 2007). Therefore, as I aim to understand the effect of formal and informal institutions on firms' profitability, Return on Equity provides a more accurate approach to understand how efficient firms are in managing their own capital (Heikal et al., 2014), in those institutional environments.

Independent Variables. The independent variable “Formal institutions” was measured using the Global Competitiveness Index (GCI). The Global Competitiveness Index (GCI), the Economic Freedom Index (EFI), and the World Bank Database Indicators are often suggested in the literature as good proxies of formal institutions (Golesorkhi et al., 2019). Furthermore, they have been proved to be highly correlated (Golesorkhi et al., 2019) as formal institutional indicators generally tend to overlap each other (Dow & Larimo, 2011; Golesorkhi et al., 2019). Therefore, I used the Global Competitiveness Index in this study. Thus, the GCI provides aggregated annual data across 140 countries around the world on policies and practices that characterizes the rapidly evolving context in each country (Schwab, 2011). Furthermore, GCI provides 12 items that I used as indicators for formal institutions and the openness of the institutional environment (Golesorkhi et al., 2019), thus I identified the following items: (a) basic requirement subindex, which includes (1) institutions, (2) infrastructure, (3) macroeconomic environment, and (4) health and primary education; (b) efficiency enhancers subindex, which includes (5) higher education and training, (6) goods market efficiency, (7) labor market efficiency, (8) financial market development, (9) technological readiness, and (10) market size; and (c) innovation and sophistication factors subindex, which includes (11) business sophistication, and (12) innovation (Schwab, 2011). Therefore, the aggregated values were obtained by multiplying the weights (%) by the values of each subindex for each country (Appendix A). Hence, the GCI aggregated score range from 1 to 7, as score 1 stands for an underdeveloped formal institutional environment and score 7 stands for a more developed formal institutional environment.

The independent variable “Informal institutions” was measured using the GLOBE cultural scores (see Dikova et al., 2010; Daniel, Liesiewicz & Pourjalali, 2012; Lewellyn & Bao, 2014; Marano et al., 2016; Muralidharan & Pathak, 2017; Golesorkhi et al., 2019). “GLOBE is a multi-phase, multi-method project in which investigators spanning the world are examining the interrelationships between societal culture, organizational culture, and organizational leadership” (House et al., 2002:4). The GLOBE project has 9 cultural dimensions: Uncertainty Avoidance, Future Orientation, Power Distance, Collectivism I, Humane Orientation, Performance Orientation, Collectivism II, Gender Egalitarianism, and Assertiveness (House et al., 2002). Also, the GLOBE study reported two culture manifestations: “As Is” and what “Should Be”, thus I used the values “As Is” because I focus on the effects of informal institutions that are influencing firms and not those who were

supposed to affect firms (House et al., 2002). Furthermore, I choose to use the GLOBE project because it has moved beyond Hofstede's approach, and has constructs and scales that are more comprehensive, and have been empirically verified (Dikova et al., 2010). Hence, the GLOBE dimensions range in a scale from 1 to 7, which score 1 stands for a low score for the respective cultural dimension and score 7 stands for a high score for the respective cultural dimension.

As suggested in the literature, I selected the dimensions that are most important for the issue I'm studying (Daniel et al., 2012). Thus, I performed a factor analysis on the 9 cultural dimensions, and I obtained 3 factors: factor 1 (Uncertainty Avoidance, Power Distance, Future Orientation, and Performance Orientation), factor 2 (Collectivism I, Humane Orientation, Collectivism II, and Assertiveness), and factor 3 (Gender Egalitarianism). However, I ran a confirmatory factor analysis on the factor 1 obtained, and I concluded that the "Power distance" does not fit the factor as I obtained a Cronbach's alpha of 0,288. Hence, I removed the cultural dimension "Power Distance". I ran again a confirmatory factor analysis on the 3 dimensions (Uncertainty Avoidance, Future Orientation, and Performance Orientation), and I obtained a single factor with 84,941% total variability and a Cronbach's alpha of 0,856.

I argue that the factor 1 represents the factor characterized by the dimensions that may have the most influence on firms' performance (Daniel et al., 2012). Uncertainty avoidance is defined as "the extent to which members of an organization or society strive to avoid uncertainty" (House et al, 2002:5). Furthermore, firms in countries with lower uncertainty avoidance may have better responsiveness, strategic flexibility, and tolerance for improvisational activities that help them to adapt to and perform more effectively within the requirements and expectations of local conditions (Marano et al., 2016). Future orientation is defined as "the degree to which individuals in organizations or societies engage in future-oriented behaviors such as planning, investing in the future and delaying gratification" (House et al., 2002:6). Thus, planning and investing may work towards long-term outcomes and relationships, as this may enable capital accumulation through investments in interpersonal relationships with long-term payoffs (Marano et al., 2016). Performance orientation "refers to the extent to which an organization or society encourages and rewards group members for performance improvement and excellence" (House et al., 2002:6). Moreover, if individuals are motivated to succeed and view economic success because of their choices, they are more likely to work toward commitment, innovation and undertaking

opportunities within interpersonal networks (Johanson & Vahlne, 2009; Tabellini, 2010). Therefore, "Uncertainty avoidance", "Future orientation" and "Performance orientation" were used to describe the informal institutional environment.

Moderating variable. The moderating variable "Firms' size", defined as the economical size of a given firm, was measured using the average total assets of the firm (Kim, Moon & Yin, 2016). Average total assets of the firm values were obtained in millions of firms' currency, and later was computed to the logarithm of average total assets due to statistical reasons. The information was obtained through a secondary source of data, namely the financial annual report, where I accounted for the assets value for year $t-1$ and t , thereby calculating the total average assets $[(t-1 + t)/2]$.

Control Variables. I controlled for the effect of the GDP per capita (GDP per capita), country exports (Exports), firm's industry (Industry) and firm growth rate (Growth Rate). I collected the data for the GDP per capita in the World Bank Database and the values are indicated in constant USD. Due to statistical reasons, the variable GDP per capita was computed to the logarithm of the GDP per capita. I collected data for the country's exports in the World Bank Database and the values are indicated in % of total GDP. I classified the data for the firm level industry according to the 4 digits SIC (Standard Industry Classification) code. I collected the data for the firm level growth rate in the financial annual report of each firm and the values represent the variation in % of year over year sales growth rate. Moreover, I created dummy variables to control for the effect of the years.

Table 4.2 presents the variables used in this research.

Table 4.1 - Variables

Type	Variable	Measure	Reference
Dependent Variable	Firms' performance	Return on Equity (RoE) $RoE = \frac{Net\ Profit}{Equity} \times 100$	(Ding et al., 2008)
Independent Variable	Formal institutions	The Global Competitiveness Index (GCI), using the 12 dimensions aggregated in 3 sub-indexes. Ranging from 1 to 7.	(Golesorkhi et al., 2019)
Independent Variable	Informal institutions	The GLOBE study, using Uncertainty Avoidance, Future Orientation and Performance Orientation. Combine in a factor analysis. Each cultural dimension ranges from 1 to 7.	(Dikova et al., 2010; Daniel et al., 2012; Lewellyn & Bao, 2014; Marano et al., 2016; Muralidharan & Pathak, 2017; Golesorkhi et al., 2019)
Moderating Variable	Firms' size	Logarithm of Average Total Assets (Millions of local currency).	(Kim et al., 2016)
Control Variable	GDP per cap	Logarithm of Gross Domestic Product per capita (in constant USD).	(Meyer et al., 2009; Marano et al., 2016)
Control Variable	Exports	Total exports in percentage of GDP (%).	(Cuervo-Cazurra & Dau, 2009)
Control Variable	Industry	4 digits SIC industry code	(Deng & Zhang, 2018)
Control Variable	Growth Rate	Year over year sales growth rate (%)	(Marano et al., 2016)

Source: The author.

4.3. Procedure

I estimated an OLS (Ordinary least squares) linear regression model to examine the effects of formal and informal institutions on firms' performance. The level of analysis consists on the firm level, as I was studying the firms' performance. In order to use the linear regression model, I should validate the identified assumptions namely the multivariate normality, homoscedasticity, no multicollinearity, and no autocorrelation (Marôco, 2018). I plotted the QQ-plot for the residuals, and I conclude that the observed values follow the principal diagonal (Marôco, 2018). Thus, there is not enough evidence to conclude that the residuals don't follow a normal distribution. Furthermore, the residuals have a mean value zero

guaranteed by the least square method used in the regression model (Marôco, 2018). Also, I plotted a scatterplot with the residuals and the predicted values, and I conclude that the errors have constant variance. Thus, the graph shows no heteroskedasticity problem. Moreover, I obtained the VIF values for all the variables used in the model. I obtained VIF values lower than 2, then I conclude that the variables show no multicollinearity problems (Marôco, 2018). Moreover, I obtained the correlation values for all the variables and I obtained values lower than 0,5, thus I conclude that there are no autocorrelation problems (Marôco, 2018). Hence, I conclude that all the assumptions required by the liner regression model were validated to further use the model.

The model 1 included only the control variables. The model 2 included the control variables and the independent variable formal institutions. The model 3 included the control variables and the independent variable informal institutions. The model 4 included the control variables, the independent variable formal institutions, and the moderating variable firms' size. The model 5 included the control variables, the independent variable informal institutions, and the moderating variable firms' size. The model 6 represented the full model with all the included variables. Therefore, the OLS regression models for the dependent variable was estimated as follows:

Firms' Performance (Model 1)

$$= \alpha + \beta_1 (GDP \text{ per capita}) + \beta_2 (Exports) + \beta_3 (Industry) + \beta_4 (Growth \text{ Rate}) + \beta_5 (2015) + \beta_6 (2016) + \varepsilon$$

Firms' Performance (Model 2)

$$= \alpha + \beta_1 (GDP \text{ per capita}) + \beta_2 (Exports) + \beta_3 (Industry) + \beta_4 (Growth \text{ Rate}) + \beta_5 (2015) + \beta_6 (2016) + \beta_7 (Formal \text{ institutions}) + \varepsilon$$

Firms' Performance (Model 3)

$$= \alpha + \beta_1 (GDP \text{ per capita}) + \beta_2 (Exports) + \beta_3 (Industry) + \beta_4 (Growth \text{ Rate}) + \beta_5 (2015) + \beta_6 (2016) + \beta_7 (Informal \text{ institutions}) + \varepsilon$$

Firms' Performance (Model 4)

$$\begin{aligned} &= \alpha + \beta_1 (\text{GDP per capita}) + \beta_2 (\text{Exports}) + \beta_3 (\text{Industry}) \\ &+ \beta_4 (\text{Growth Rate}) + \beta_5 (2015) + \beta_6 (2016) \\ &+ \beta_7 (\text{Formal institutions}) + \beta_8 (\text{Firms' size}) \\ &+ \beta_9 (\text{Firms' size} * \text{Formal institutions}) + \varepsilon \end{aligned}$$

Firms' Performance (Model 5)

$$\begin{aligned} &= \alpha + \beta_1 (\text{GDP per capita}) + \beta_2 (\text{Exports}) + \beta_3 (\text{Industry}) \\ &+ \beta_4 (\text{Growth Rate}) + \beta_5 (2015) + \beta_6 (2016) \\ &+ \beta_7 (\text{Informal institutions}) + \beta_8 (\text{Firms' size}) \\ &+ \beta_9 (\text{Firms' size} * \text{Informal institutions}) + \varepsilon \end{aligned}$$

Firms' Performance (Model 6)

$$\begin{aligned} &= \alpha + \beta_1 (\text{GDP per capita}) + \beta_2 (\text{Exports}) + \beta_3 (\text{Industry}) \\ &+ \beta_4 (\text{Growth Rate}) + \beta_5 (2015) + \beta_6 (2016) \\ &+ \beta_7 (\text{Formal institutions}) + \beta_8 (\text{Informal institutions}) \\ &+ \beta_9 (\text{Firms' size}) + \beta_{10} (\text{Firms' size} * \text{Formal institutions}) \\ &+ \beta_{11} (\text{Firms' size} * \text{Informal institutions}) + \varepsilon \end{aligned}$$

Where α is the constant, β_i is the coefficient of the linear regression for the respective set of the independent variable, and ε is the error. The linear regression model was adequate to the research because the dependent variable is a continuous numerical variable. Therefore, the OLS linear regression model may be more suitable due to the interpretation of the results, in this case, the coefficient analysis of the results.

5. Results

5.1. Descriptive Statistics and correlations

Table 5.1 provides means, standard deviations, minimum and maximum for the dependent variable, independent variables, moderating variable and control variables. The firms' performance measured by the return on equity shows a mean value of 15,637%, a minimum value of -210,82% and a maximum value of 442,33%. Moreover, firms' sales growth rate account for a mean growth rate of 15,172%. On the country level analysis, countries development on formal institutional environment have a mean value of 4,504 on a scale from 1 to 7. However, our sample shows that the formal institutional environment ranges from 4,1 to 4,9. In terms of informal institutional environments, I had different levels of development, as the results obtained range in scale from -2,061 to 1,216, with the mean value set to zero and standard deviation set to one.

Table 5.1 - Descriptive Statistics

Variables	N	Mean	Std Deviation	Min	Max
Firms' performance	717	15,637	29,371	-210,820	442,330
GDP per capita	723	8,903	0,517	7,470	9,340
Exports	723	20,701	5,927	12,500	30,700
Industry	720	4197,380	2044,510	0219	9631
Growth Rate	718	15,172	106,552	-82,210	2188,560
Formal institutions	723	4,504	0,286	4,100	4,900
Informal institutions	723	0,000	1,000	-2,061	1,216
Firms' size	723	11,957	2,263	5,916	17,404

Source: The author.

The table 5.2 provides correlations and VIF values for the variables used in the models. I obtained VIF values lower than 2 for all the variables. Moreover, in terms of the correlation coefficients, I obtained coefficients lower than 0,5 in a scale from 0 to 1. As suggested in the literature, VIF values lower than 5 and correlation coefficients lower than 0,7 show no evidence of multicollinearity problems (Marôco, 2018).

Table 5.2 - Correlations

Variables	VIF	1	2	3	4	5	6	7	8
1. Firms' performance		1,000							
2. GDP per capita	1,607	-0,013	1,000						
3. Exports	1,081	0,094*	-0,062	1,000					
4. Industry	1,061	0,032	-0,018	-0,090*	1,000				
5. Growth Rate	1,023	0,022	-0,005	-0,012	-0,014	1,000			
6. Formal institutions	1,470	-0,051	-0,079*	0,110**	0,008	0,103**	1,000		
7. Informal institutions	1,899	-0,076*	-0,431**	0,102**	0,140**	0,035	0,447**	1,000	
8. Firms' size	1,428	-0,064	-0,333**	0,184**	0,076*	-0,057	0,174**	-0,057	1,000

Note: * p<0,1; ** p<0,05; *** p<0,01.

Source: The author.

5.2.Linear Regression Models

Table 5.3 reports all the models used for testing the identified hypotheses. Thus, model 1 provides information related only to the control variables. Model 2 provides information related to the results on hypothesis 1. Model 3 provides information related to the results on hypothesis 2. Model 4 and 5 provides information related to the results on hypothesis 3a and 3b respectively. Model 6 provides information related to the full linear regression model, with all the included variables.

Table 5.3 - Regression Models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	4,187	40,494	27,614	300,349***	61,021**	232,331
GDP per capita	-0,195	-0,473	-3,054	-3,700	-5,615**	-7,596**
Exports	0,501***	0,547***	0,557***	0,718***	0,955***	0,974***
Industry	0,001	0,001	0,001	0,001	0,001*	0,001*
Growth Rate	0,006	0,008	0,007	0,009	0,080	0,009
2015	-1,426	-1,594	-1,592	-1,623	-2,463	-2,184
2016	2,373	2,655	2,270	2,799	1,949	2,136
Formal institutions		-7,750**		-56,488**		-33,733
Informal institutions			-3,568***		-27,060***	-22,748***
Firms' size				-19,829**	-1,589***	-14,894
Firms' size * Formal institutions				4,115**		2,908
Firms' size * Informal institutions					1,804***	1,397**
N	709	709	709	709	709	709
F-Value	1,647	1,979*	2,595**	2,728***	5,174***	4,371***
R ²	0,140	0,190	0,250	0,340	0,062	0,065
Adjusted R ²	0,005	0,010	0,016	0,021	0,050	0,050

Note: * p<0,1; ** p<0,05; *** p<0,01.

Source: The author.

Regarding model 2, I tested hypothesis 1. I hypothesized that the greater the formal institutional development, the greater the firms' performance will be. Thus, I expected a positive relationship between formal institutional development and firms' performance. Then, I obtained a negative but significant ($p<0,05$) coefficient for the variable formal institutions, showing contrary signal. Therefore, hypothesis 1 is not confirmed, meaning that the greater the development of formal institutions, the lower the firms' performance will be.

Regarding model 3, I tested hypothesis 2. I hypothesized that the greater the informal institutional development, the greater the firms' performance will be. Thus, I expected a positive relationship between informal institutional development and firms' performance. Then, I obtained a negative but significant ($p<0,01$) coefficient for the variable informal institutions, showing contrary signal. Therefore, hypothesis 2 is not confirmed, meaning that the greater the development of informal institutions, the lower the firms' performance will be.

Regarding model 4, I tested hypothesis 3a. I hypothesized that firms' size negatively moderates the relationship between formal institutions and firms' performance. Thus, I expected a negative moderating effect of the variable firms' size on the effect of formal institutions on firms' performance. Then, I obtained a positive but significant ($p < 0,05$) coefficient for the moderating variable firms' size, showing contrary signal. Therefore, hypothesis 3a is not confirmed, meaning that the firms' size positively moderates the effect of formal institutions on firms' performance.

Regarding model 5, I tested hypothesis 3b. I hypothesized that firms' size positively moderates the relationship between informal institutions and firms' performance. Thus, I expected a positive moderating effect of the variable firms' size on the effect of informal institutions on firms' performance. Then, I obtained a positive but significant ($p < 0,01$) coefficient for the moderating variable firms' size, showing the expected signal. Therefore, hypothesis 3b is confirmed, meaning that the firms' size positively moderates the effect of formal institutions on firms' performance.

Figure 5.1 and 5.2 provides graphical results on hypothesis 3a and 3b respectively.

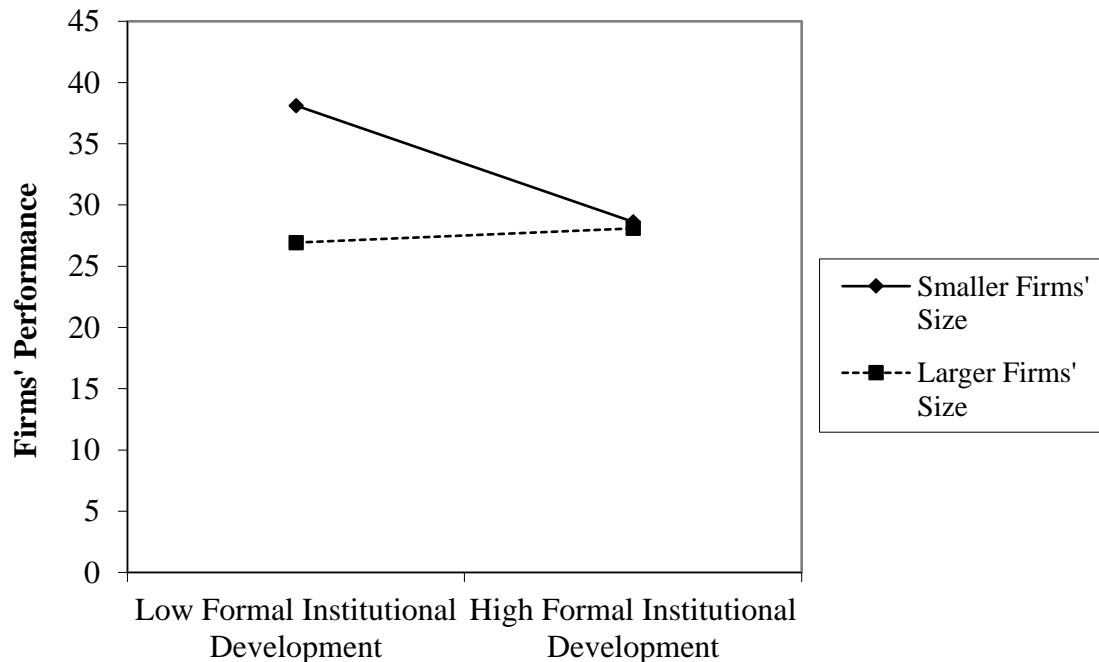


Figure 5.1 – Firms' Size, Formal Institutions, and Firms' Performance

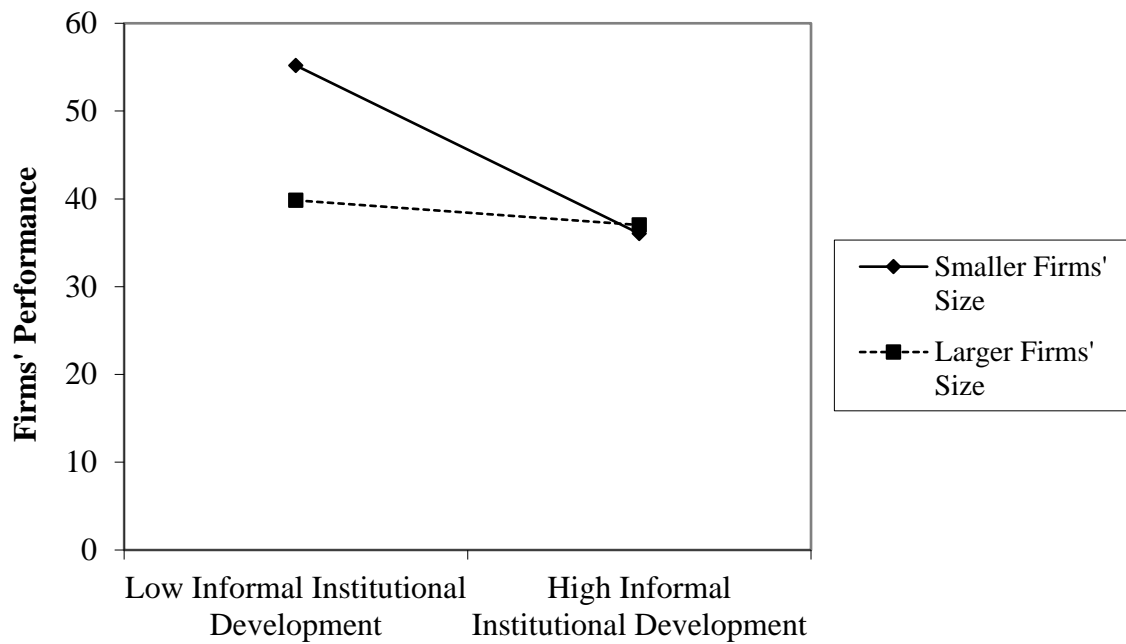


Figure 5.2 - Firms' Size, Informal Institutions, and Firms' Performance

5.3. Robustness Tests

I performed robustness tests to describe the validity of our models. By proposing three different measurement approaches for both the dependent and independent variables, I aim to describe that our models are not sensitive to alternative measures. Thus, the following tables, provide the results using the alternative measures. Therefore, table 5.4 provide the alternative measure for the dependent variable firms' performance, table 5.5 provide the alternative measure for the independent variable formal institutions, and table 5.6 provide the alternative measure for the independent variable informal institutions.

Table 5.4 - Regression Models - Return on Assets

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	15,872***	36,804***	23,704***	81,790**	63,439***	152,230***
GDP per capita	-1,477**	-1,647***	-2,430***	-3,388***	-5,260***	-6,305***
Exports	0,161***	0,186***	0,177***	0,266***	0,295***	0,305***
Industry	2,804E-5	3,823E-5	0,000	0,000	0,000**	0,000*
Growth Rate	0,002	0,004	0,003	0,002	0,001	0,002
2015	-0,744	-0,846	-0,797	-1,201	-1,385	-1,242*
2016	-0,240	-0,069	-0,262	-0,274	-0,530	-0,443
Formal institutions		-4,444***		-8,315		-17,437**
Informal institutions			-1,160***		-2,271*	-0,502
Firms' size				-3,062	-1,465***	-8,380***
Firms' size * Formal institutions				0,421		1,510**
Firms' size * Informal institutions					0,049	-0,162
N	715	715	715	715	715	715
F-Value	2,754**	4,675***	3,919***	11,115***	14,669***	12,572***
R ²	0,023	0,044	0,037	0,124	0,158	0,164
Adjusted R ²	0,015	0,035	0,028	0,113	0,147	0,151

Note: * p<0,1; ** p<0,05; *** p<0,01.

Source: The author.

As a robustness check, I used Return on Assets to replace Return on Equity as the measure of firm performance and I repeated the analyses (Ding et al., 2008). I obtained significant ($p<0,01$) and negative results on the relationship between formal and informal institutions, and firms' performance. However, I found no significant effect on the moderating effect of firms' size on the relationship between formal and informal institutions, and firms' performance. Thus, the results, which are presented in Table 5.4, are broadly consistent with those reported in Table 5.3. Therefore, this suggests the findings are not sensitive to alternative performance measures (Ding et al., 2008).

Table 5.5 - Regression Models - Economic Freedom Index

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	4,187	30,363	27,614	192,824*	61,021**	22,046
GDP per capita	-0,195	0,066	-3,054	-2,314	-5,615**	-5,264**
Exports	0,501***	0,633***	0,557***	0,876***	0,955***	1,008***
Industry	0,001	0,001	0,001	0,001*	,001*	0,001*
Growth Rate	,006	0,006	,007	0,003	0,080	0,007
2015	-1,426	-2,246	-1,592	-3,011	-2,463	-3,095
2016	2,373	1,435	2,270	0,987	1,949	1,255
Formal institutions		-0,560		-2,824		0,654
Informal institutions			-3,568***		-27,060***	-27,396***
Firms' size				-10,720	-1,589***	2,636
Firms' size * Formal institutions				0,162		-0,078
Firms' size * Informal institutions					1,804***	1,864***
N	709	709	709	709	709	709
F-Value	1,647	1,777*	2,595**	2,776***	5,174***	4,280***
R ²	0,140	0,017	0,250	0,035	0,062	0,063
Adjusted R ²	0,005	0,008	0,016	0,022	0,050	0,048

Note: * p<0,1; ** p<0,05; *** p<0,01.

Source: The author.

I also used Economic Freedom Index to replace the scores from the Global Competitiveness Index as the measure of formal institutional environment and I repeated the analyses (Golesorkhi et al., 2019). I found a negative but not significant effect of formal institutions on firms' performance. However, the negative effect of formal institutions on firms' performance is consistent with the effect obtained in table 5.3. Furthermore, I obtained a positive but not significant moderating effect of firms' size on the relationship between formal institutions, and firms' performance. Thus, the results, which are presented in Table 5.5, are broadly consistent with those reported in Table 5.3. This suggests the findings are not sensitive to alternative formal institutional environment measures.

Table 5.6 - Regression Models - Social Trust

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	4,187	40,494	9,294	300,349***	71,862**	295,102
GDP per capita	-0,195	-0,473	-0,604	-3,700	-3,969*	-3,740
Exports	0,501***	0,547***	0,589***	0,718***	0,755***	0,662***
Industry	0,001	0,001	0,001	0,001	0,001	0,001
Growth Rate	0,006	0,008	0,008	0,009	0,008	0,009
2015	-1,426	-1,594	-1,521	-1,623	-2,093	-1,891
2016	2,373	2,655	2,345	2,799	2,076	3,091
Formal institutions		-7,750**		-56,488**		-54,379
Informal institutions			-9,868*		-70,957**	-5,047
Firms' size				-19,829**	-3,095***	-15,742
Firms' size * Formal institutions				4,115**		3,062
Firms' size * Informal institutions					5,305**	1,664
N	709	709	709	709	709	709
F-Value	1,647	1,979*	1,927*	2,728***	2,584***	2,278**
R ²	0,140	0,190	0,019	0,340	0,032	0,035
Adjusted R ²	0,005	0,010	0,009	0,021	0,020	0,019

Note: * p<0,1; ** p<0,05; *** p<0,01.

Source: The author.

I also used Social Trust to replace the scores from the GLOBE project as the measure of informal institutional environment and I repeated the analyses (Lu et al., 2018). I obtained a significant ($p<0,1$) and negative relationship between informal institutions and firms' performance. Furthermore, I obtained a significant ($p<0,05$) and positive moderating effect of firms' size on the relationship between informal institutions, and firms' performance. Thus, the results, which are presented in Table 5.6, are broadly consistent with those reported in Table 5.3. This suggests the findings are not sensitive to alternative informal institutional environment measures.

6. Discussion

The main objective of this dissertation is to understand the effect of formal and informal institutional development on firms' performance in emerging economies. By answering the research question, the results contribute to the body of research on the institutional theory in emerging economies. First, I enrich the institutional theory by providing a conceptual analysis on the relationship between formal and informal institutions, and firms' performance (Meyer et al., 2009; Li & Sun, 2017). Most research have been focusing on studying the effect of institutions on internationalization (Deng & Zhang, 2018), entry-modes (Meyer, 2001), entrepreneurship (Muralidharan & Pathak, 2017), and deal abandonment (Dikova et al., 2010). Thus, few studies aimed to understand the effect of formal and informal institutions on firms' performance (e.g., Golesorkhi et al., 2019). Therefore, by providing a conceptual model on the relationship between formal and informal institutions, and firms' performance, I enrich the institutional theory.

Second, I show the importance of including both formal and informal institutions in the analysis of firms' institutional embeddedness (Marano et al., 2016). Most studies have included only the formal aspects of institutions (Kim & Song, 2017) or the informal aspects of institutions (Muralidharan & Pathak, 2017). However, very few studies have included both the formal and informal aspects of institutions (Marano et al., 2016). Therefore, I follow the call from Marano et al., (2016) to show the importance of including both formal and informal institutions in the analysis of firms' institutional embeddedness, by providing a conceptual model with both formal and informal institutional aspects.

Third, I contribute to the growing body of literature emphasizing the need to understand the distinct attributes and economic outcomes of informal and formal institutions (Golesorkhi et al., 2019). Following the work of Golesorkhi et al. (2019), I aimed to understand the economic outcomes of formal and informal institutions. However, emerging economies as the empirical setting have been relatively ignored, as Golesorkhi et al. (2019) used only developing economies. Therefore, I contribute to the literature by understanding the economic outcome of formal and informal institutions, especially on emerging economies.

Fourth, our empirical effort answers the call to explore the interaction between macro institutional effects with the micro level firm level effects (Deng & Zhang, 2018). Thus, I provide an empirical effort with the macro institutional development effect on the micro

level firms' performance, on emerging economies. Hence, this research adds novel insights into the institutional development literature on emerging economies (Deng & Zhang, 2018).

In this research I illustrate how formal and informal institutional development affect firms' performance in emerging economies. Institutions generate conditions that push firms to develop resources and capabilities that can sustain or hinder their competitive advantages (Marano et al., 2016). In emerging economies, where institutional voids are common and institutions are underdeveloped (Kim & Song, 2017), firms' performance is affected by increased transaction costs and increased information asymmetry (Khanna & Palepu, 2000; Meyer et al., 2009). I empirically found that formal and informal institutional development have a significant and negative effect on firms' performance. Furthermore, I argue that this research has contradictory results due to firm's ability to develop copying skills (Marano et al., 2016). Moreover, the probability of dealing with a defector (e.g. opportunistic behavior) in weak institutional environments increases, especially when firms may have many interpersonal relationships (Mantzavinos et al., 2004). Thus, firms with developed copying skills, when deployed into their operations, they may generate competitive advantages over firms operating in countries with stronger regulations (Marano et al., 2016). Therefore, I argue that those competitive advantages achieved from greater copying skills may be translated into better performance over other firms.

Alternatively, firms' size has a significant moderating effect on the relationship between the institutional development and firms' performance. I empirically found that firms' size has a significant and positive moderating effect on the relationship between formal institutions and firms' performance. Furthermore, I argue that this research has contradictory results due to greater capabilities from larger firms. Even under more developed formal institutional environments, larger firms with a wider range of alternative strategies and financial instruments at their disposal, they might better identify and exploit investment opportunities (Benito-Osorio, Colino, Guerras-Martín & Zúñiga-Vicente, 2016). Furthermore, to some extent, smaller firms may seek more familiar local markets to reduce possible liability of newness and foreignness, thereby reducing the exploiting opportunities (Benito-Osorio et al., 2016). Thus, I argue that in underdeveloped formal institutions, larger firms may increase their performance due to support from local government (Li & Sun, 2017). However, the benefit was expected to diminish as formal institutions develops. In this case, we argue that firms' performance may continue to increase as larger firms may have greater exploiting opportunities over smaller firms. Therefore, we conclude that firms' size positively

moderates the effect of formal institutions on firms' performance, as the effect is further improving firms' performances.

On the other hand, I empirically found that firms' size has a significant and positive moderating effect on the relationship between informal institutions and firms' performance. Firms require more than material resources and technical information if they are to survive in their informal institutional environments (Scott, 1995). Thus, firms may also need social acceptability and credibility (Scott, 1995). Furthermore, I argue that under those circumstances, larger firms with increased trust and legitimacy may be achieving more interpersonal relationships over smaller firms, thereby overcoming informal institutional voids. Therefore, I corroborate to describe that firms' size has a positive moderating effect on the relationship between informal institutions and firms' performance.

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7. Conclusion

7.1. Theoretical contributions

In this research I answer the following research question: How do formal and informal institutions influence firms' performance in emerging economies? As suggested in the literature, treating institutions as a "background" variable will not advance the existing knowledge very far (Peng et al., 2009), thereby making this research question a relevant topic. Furthermore, as the importance of emerging economies to the global economy is expected to continue to rise (Wilson & Purushothaman, 2003), using the emerging economies as the empirical setting makes it very interesting. Thus, by analyzing 241 firms over three years (723 observations) in the stock exchange indexes from the BRICS economies, I provide empirical evidence for the effect of institutions on firms' performance. Moreover, I use a linear regression model to identify how institutions influence firms' performance. Therefore, I conclude that both formal and informal institutional development have a negative effect on firms' performance. Furthermore, I find that firms' size positively moderates the effect of both formal and informal institutions on firms' performance. Hence, I conclude that I accomplish the main objective of the study, thereby I corroborate to understand the effect of formal and informal institutional development on firms' performance.

I contribute to the body of research on the institutional theory in emerging economies in several ways. First, I enrich the institutional theory by providing a conceptual analysis on the relationship between formal and informal institutions, and firms' performance (Meyer et al., 2009; Li & Sun, 2017). Second, I show the importance of including both formal and informal institutions in the analysis of firms' institutional embeddedness (Marano et al., 2016). Third, I contribute to the growing body of literature emphasizing the need to understand the distinct attributes and economic outcomes of informal and formal institutions (Golesorkhi et al., 2019). Fourth, our empirical effort answers the call to explore the interaction between macro institutional effects with the micro level firm level effects (Deng & Zhang, 2018). Hence, this research adds novel insights into the institutional development literature on emerging economies (Deng & Zhang, 2018).

7.2. Managerial implications

In terms of managerial implications, I identify several contributions to managers and society in general. On one hand, this research may call to the need that managers must identify the institutional development in each country that they are operating in. Furthermore, this research may also help managers crafting their strategies to the internationalization process to emerging economies, as there may be institutional voids and market failures in those countries. On the other hand, this research may help society in general, as I posit that the contradictory results may come from the opportunistic behavior and copying skills. Thus, especially in underdeveloped institutional environments, competitors may use the weak property right system to further improve their performances. Therefore, I call for the society's attention to the need to further protect their economic activities from the opportunistic behavior that may exist. Hence, our research may not only improve the literature, but also may help firms and society as I identified several managerial applications to my research.

7.3. Limitations and future research

I identify several limitations in my research that may be further improved. First, five emerging economies may not be enough to provide robust evidence on the effect of institutional development on firms' performance. Therefore, future research may include more/other emerging economies to further corroborate to describe the institutional environment. As suggested in the literature, expanding the scope of the research to countries with more diverse levels of institutional development may offer an interesting extension (Kim & Song, 2017).

-Second, firms from the main stock exchange index may not be representative of the entire population of firms in a country, as most publicly traded firms may belong to MNE's and conglomerates. Therefore, future research may include firms with distinct characteristics of our sample, to further verify the results obtained.

-Third, a 3-year window may not be enough to analyze possible institutional changes in emerging economies, as institutions may change but not on a small window of time. Therefore, future research may increase the time frame to 10-, 15- or even 20-year window. As suggested in the literature, 21-year observation period is long enough to observe different stages of institutional development (Kim & Song, 2017).

-Fourth, I used only 3 dimensions of the GLOBE study to define the informal institutions. Therefore, future research may include more/other cultural dimensions as it may further improve the characterization of informal institutional development.

-Fifth, I assumed that all subregions have the same institutional environment. Therefore, future research may change the scope to a subregion level of analysis (Li & Sun, 2017). Especially in China, institutional environment differences may be notable due to different level of economic freedom (Li & Sun, 2017). As suggested in the literature, researchers may accommodate institutional conditions that vary not only between countries, but also within the host economy (Li & Sun, 2017). -Hence, I provide several future research avenues, as there is much more to research to further improve the institutional theory literature, especially in emerging economies.

Furthermore, I identify two distinct future research avenues such as using developed economies as the empirical background and testing for the moderating effect of belonging to a network. On one hand, by changing the empirical setting to developed economies, it may help researchers understand the distinct effects of institutional development on firms' performance. Moreover, it would be possible to create a comparison analysis between emerging and developed economies. On the other hand, by identifying which firms belong to a network in emerging economies, it may help us understand the advantage or the disadvantage of belonging to a network in overcoming institutional voids. Therefore, I provide other future research avenues, as there is much more to research on.

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Appendix A

The GCI methodological procedure includes a classification of each country according to stages of development: Stage 1 (factor-driven), stage 1 to stage 2, stage 2 (efficiency-driven), stage 2 to stage 3, and stage 3 (innovation-driven) (Schwab, 2011). Thus, according to the sample, I have the following classifications: Brazil (stage 2 to stage 3), Russia (stage 2 to stage 3), India (stage 1), China (stage 2), and South Africa (stage 2). Therefore, this classification was used to define the right weights for each subindex (a. basic requirements, b. efficiency enhancers, and c. innovation and sophistication factors) (Table 8.1).

Table 8.1 - Countries Weights

	Brazil	Russia	India	China	South Africa
Basic requirements	33,5%	30,2%	60%	40%	40%
Efficiency enhancers	50%	50%	35%	50%	50%
Innovation and sophistication	16,5%	19,8%	5%	10%	10%

Source: The author.

Table 8.2 presents the values for 12 dimensions used in the Global Competitiveness Index. I provide data for years 2015-2016, for the 5 emerging economies used, namely Brazil, Russia, India, China, and South Africa.

Table 8.2 - Global Competitiveness Index Scores 2015-2016

	Brazil	Russia	India	China	South Africa
Basic requirements	4,1	4,9	4,4	5,4	4,3
1° Pillar: Institutions	3,2	3,5	4,1	4,1	4,4
2° Pillar: Infrastructure	3,9	4,8	3,7	4,7	4,1
3° Pillar: Macroeconomic Environment	4,0	5,3	4,4	6,5	4,5
4° Pillar: Health and Primary Education	5,1	5,9	5,5	6,1	4,2
Efficiency enhancers	4,2	4,5	4,2	4,7	4,5
5° Pillar: Higher Education and Training	3,8	5,0	3,9	4,3	4,1
6° Pillar: Goods Market Efficiency	3,7	4,2	4,2	4,4	4,6
7° Pillar: Labor Market Efficiency	3,7	4,4	3,9	4,5	3,8
8° Pillar: Financial Market Development	4,0	3,5	4,1	4,1	5,0
9° Pillar: Technological Readiness	4,4	4,2	2,7	3,7	4,6
10° Pillar: Market Size	5,8	5,9	6,4	7,0	4,9
Innovation and sophistication	3,6	3,5	3,9	4,1	4,1
11° Pillar: Business Sophistication	4,1	3,8	4,2	4,3	4,4
12° Pillar: Innovation	3,2	3,3	3,6	3,9	3,7
Global Competitiveness Index	4,1	4,4	4,3	4,9	4,4

Source: The author.