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Risk Governance Structure and Firm Level Competitiveness: Evidence from India

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Abstract

Firm's competitiveness is considered to be a primary force in deciding its fate, and as firm's working environment is fraught with risks it needs robust risk governance structures to ensure its competitiveness. Therefore, this paper attempts to examine the relationship between firm's competitiveness and quality of risk governance structures. For the purpose, the paper first develops a normative risk governance index (a measure of quality of risk governance structures) based on eleven variables; then, using the data of 429 non-financial companies that constituted NIFTY 500 index, over a 10 year period i.e. from 2005 to 2015, multiple regression model has been run. The results indicate that there is positive relation between quality of governance structure and firm's competitiveness. It is noteworthy that a number of control variables, such as, age, size, R&D intensity, leverage, growth rate, recession dummy and industry dummies have been include to ensure completeness of the model. Further, to demonstrate the robustness of results, another set of regression has been run where the competitiveness has been measured as per the widely acknowledged financial performance facet. These results lend further support to the index developed in the study as well as to the hypothesis. In view of this, the study is expected to have useful implications for companies as well as policy-makers.

Keywords: Risk governance structure, governance, competitiveness, market share, ROA, ROE, profitability

1. Introduction

Increasing volatility, uncertainty, complexity and ambiguity(VUCA) in the business world, are perpetuating risks (Benett and Lemoine, 2014).The prominent among them being the risk related to maintenance of market share(Saurina & Lopez, 2007).If the company is unable to maintain its market share, gradually it will lose value, and will eventually go out of business. Particularly, in Indian context, the thrust on foreign direct investment and schemes to encourage start-ups are surely going to result in increased competition. Therefore, competing and sustaining are the new challenges faced by the Indian firms (Haldar et al, 2016). Consequently, there is a greater need for firms to achieve and maintain competitiveness and even enhance it (e.g., Momaya 2001).

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Firm level competitiveness can be defined as the ability of a firm to design, produce and or market products, superior to those offered bythe competitors (D'Cruz,1992). Competitiveness is often viewed in terms of competency, where a firm's internal factors, such as, strategy and structure are believed to be the key to their competitive success (Doz and Prahalad, 1987; Hamel and Prahalad, 1989, 1990, Ambastha and Momaya, 2004, Haldar et al, 2016). Since a company is an artificial person, it cannot function on its own and its direction and control vests in the hands of its directors.Therefore, the governance structure, in general, and risk governance structure in particular, are expected to play a key role in effective and efficient risk management. Risk governance may be defined as 'the ways in which directors authorize, optimize, and monitor risk taking in an enterprise. It includes the skills, infrastructure (i.e., organization structure, controls and information systems), and culture deployed as directors exercise their oversight' (International Finance Corporation (IFC), 2012).

In view of the above, the responsibility of protecting the company from various risks, including, the risk related to competition (competitiveness)lies with the Board. Thus, afirm's competitiveness is intricately connected to its governance mechanisms in general and risk governance structure in particular.

This paper thus, attempts to examine the relationship between risk governance structure and competitiveness. It is believed to be a novel contribution to literature as none of the previous studies have attempted to bring together the elements of risk, governance and competitiveness. In theprocess, the study puts forth a first of its kind index- a risk governance index- as a measure of quality of governance structure. The usefulness and potential of the index can be gauged from the fact that the index was envisioned in 2013 when constitution of the risk management committee was not mandatory for Indian firms, but the index suggested it should be a mandatory provision to ensure effective and efficient risk management and subsequently SEBI made mandatory therisk management committee towards the latter half of 2014. Therefore, the index is not only the first of its kind but a forward looking proposition with implications for companies as well as policy-makers.

Further, the regression results provide evidence in support of the index as there has been found to be a significant and positive relation between the growth in market share of the firm and quality of governance structure. To ensure robustness of results, financial performance (as measured by ROA, ROE and firm's profitability) measures have also been taken as a proxy for firm's competitiveness; and yet there is a positive and significant relationship between competitiveness and quality of risk governance structure.

For better exposition, the paper has been divided into five sections. Section 1 gives a brief introduction of the subject followed by the literature review. Section 3 discusses the research design. Findings and analysis are presented in Section 4 and finally section 5 concludes the study by offering insights on the future research areas.

2. Literature Review and Hypothesis Development

Increasing volatility, uncertainty, complexity and ambiguity in business environment coupled with new regulations and government initiatives are making firms more vulnerable than ever before. These aspects are primarily manifested in terms of risk related to decline in market share or the ability of the firms to maintain their competitiveness.

It is pertinent to note that competitiveness, being a multi-dimensional concept, carries varying connotations. It could be viewed from three dimensions - country-level, industry-level or firm-level. Porter says 'it is the firms, not nations, which compete in markets' (Porter, 1998). Firm Level Competitiveness can be defined as the ability of firm to design, produce and or market

products superior to those offered by competitors, considering the price and non-price qualities (D'Cruz,1992).

From strategic and operational perspective the sources of competition could be categorised as Assets, Processes and Performance (Momaya,2001). The ability to sustain and increase the market share is a primary indicator of a firm's strategic intent, orientation of management and robustness of structures and processes that ensure effective and efficient utilisation of assets.

While the specific governance structures and characteristics vary among companies there is a universal consensus that well-governed companies are more capable of sound business judgement as good governance structures provide a framework for efficient, transparent, and accountable decision making. The genesis of this belief lies in the fact that the term 'Governance' is derived from the Latin word 'Gubernare' which means 'to steer usually applying to the steering of a ship' (Sharma, 2011). Thus, governance implies direction and control. Therefore, governance structures provide a way of reconciling divergent interests, planning for strategy and succession, accessing capital, cultivating the corporate image, and ensuring legal compliance. Corporate governance introduces internal controls that foster accountability and disclosure. Augmented with ethical codes of conduct and the leadership's tone from the top, proper corporate governance mechanisms are an important risk mitigation tool that can translate decisions into tangible benefits.

It is interesting to note that a number of studies have attempted to examine the relationship between firm's financial performance and corporate governance. Gompers, et al. (2003), constructed a governance index, Gompers, Ishii, Metric index (GIM index), using the provisions listed by Investor Responsibility Research Centre (IRRC) (comprising of anti-takeover measures focusing on external governance) for firms in corporate takeover defences. These provisions were classified into five categories: delay, voting, protection, State, other and consist of 24 corporate governance provisions. For every firm, one point was added for every provision that increased managerial power. A strong correlation was found between GIM index and stock returns.

Taking cue from the work of Gompers et.al (2003), Brown and Caylor (2006) came up with summary governance measured called Gov-score. It is based on 51 firm specific provisions, including both internal and external governance provisions. They argue that only a few corporate governance provisions have an impact on firm value. The argument is proved, as by using only 14per cent of the governance measures (as used in GIM index), Gov-score could fully drive the relation between Gov-score and Tobin's Q.

Following the work of Gompers et al. (2003) and Brown and Caylor (2006), Bebchuk et al. (2008) came up with a condensed measure of corporate governance called entrenchment index. It consists of six provisions: staggered boards, limits to shareholder bylaw amendments, poison pills, golden parachutes, and supermajority requirements for mergers and charter amendments. They find that increase in index significantly reduces firm valuation and abnormal negative returns. The remaining 18 provisions of IRRC (out of 24, as used in GIM index) are found to be insignificant. In other words, only 25per cent of the anti-takeover measures used to create GIM index, fully drives the relation between GIM index and Tobin's Using the above mentioned indices, many researchers have tried to examine the relationship between quality of corporate governance and firm value (as measured by equity prices especially).

In Indian context Balasubramniam et al. (2008) surveyed 370 Indian firms on issues like, board composition, board practices and process, Directors' background, compensation of executives and non- executives directors, shareholder rights, disclosure practices, etc. They corroborated their findings by establishing relation between governance and firm value. They concluded that large firms exhibit stronger relationship between governance index and market value of firm.

Raithatha and Bapat (2012) found that corporate governance score had no significant influence on different measures of financial performance. Sarkar et al. (2012) constructed a governance index for 500 largest Indian companies, by using data from 2003 to 2008. They used four dimensions to construct the index, namely, the board of directors, the ownership structure, the audit committee and the external auditor. The authors evidenced a rising trend in corporate governance index of Indian corporates. They concluded that Indian investors seem to reward better governed companies, as there is a strong association between market performance and corporate governance index.

Prasana (2013) observed that reforms in corporate governance and implementation of clause 49 by SEBI have made a significant impact on volatility of stock market in India. Haldar et al. (2013) reported that the pressure of majority independent directors on board have a positive impact on the return on equity. But board size has a negative correlation with ROE and EVA.

Das and Dey (2016) investigated the moderating role of corporate governance practices in large Indian corporations on firm performance, post introduction of Companies' Act 2013. They focussed on, board's diversity, CEO duality, board compensation, and promoters' involvement in company affairs.

Similarly, Arora and Sharma (2016) considered Indian manufacturing sector and found that relationship between corporate governance and performance is not very strong in India. They further state that larger boards have a negative impact on firm performance and board meetings are positively associated with ROA.

Though a number of studies have dealt with the relationship between financial performance and corporate governance, barely any of the studies have taken firm performance as a proxy for firm's competitiveness (Mittal and Zaidi, 2015).

Thus, it seems reasonable to say that literature on governance structure and competitiveness is still in its nascent stage. The few studies that deal explicitly with the topic primarily explore the relationship between governance and internationalcompetitiveness. Using a cross country sample, Ho (2005) attempted to examine the said relationship and evidence that better governance tends to improve firm's competitiveness. Similarly, in a study on Indian knowledge based industries, Haldar et al. (2016) found evidence that flexibility in corporate governance tends to boost firms' international competitiveness as measured by 'export jump'.

Though there are increasing attempts to view competitiveness in the light of governance mechanisms, the relationship between firm level competitiveness and governance structures, remains largely an unchartered territory.

Hypothesis development

As the company is an artificial person, the direction and supervision of the company as well as the responsibility to manage company's risk effectively and efficiently vests with the Board. The primary risk a company faces is the risk related to maintenance of market share or the ability to generate adequate returns for various stakeholders (financial performance). As evidenced by Sarkar et al. (2012), Haldar et al. (2012), Shivani et al. (2017), firms with better corporate governance tend to earn higher return on assets and equity. Therefore, it may be expected that firms with better risk governance structures tend to perform better (as measured by financial performance) and exhibit greater competitiveness (Momamya, 2001). Accordingly, the hypothesis is:

H_0: Firm's competitiveness is positively related with the quality of firm's risk governance structure.

3. Research Design

Objective

In light of the literature review, the major question that needs to be answered is 'do better risk governance structures lead to enhanced competitiveness'. Accordingly, the primary objective of the study is to explore the relationship between quality of firm's risk governance structure and its level of competitiveness. For the purpose, the study puts forth a first of its kind risk governance index- a measure of quality of risk governance structures.

Development of Risk Governance Index

To measure the quality of risk governance structure of firms, a normative risk governance index has been proposed.The index is based on an exhaustive list of governance variables which seem essential from the perspective of risk management. After a thorough literature review and consideration of legal provisions eleven variables could be identified as relevant variables to capture the quality of risk governance structures. These variables are:size of board(Lipton and Lorsch, 1992; Jensen, 1993; Yermack, 1996; Chen et al., 2007), board diversity in terms of gender (Blau, 1977; Eagly and Johnson, 1990; Deszo and Ross, 2012), proportion of executive directors(Financial stability board, 2012), executive/non-executive status of Chairperson(Higgs Report, 2003), proportion of independent directors(Dechow et al., 1996; Beasley, 1996; and Klein, 2002; Boyer and Stern, 2012), CEO duality(Rechner and Dalton, 1991), Chief risk officer (CRO)(Aabo and Simkins, 2005), risk management committee, mandatory committees, voluntary committeesand existence/non-existence of whistle blower policy(Rothschild and Miethe, 1999). These variables are scored on a scale of 1 to 5 with the exception of the variables, namely, status of Chairperson and CEO duality (which have been scored on a dichotomous scale with the score of 3 or 5) (Table 1a). Further, it is worth mentioning that in respect of some of the above-mentioned variables, there are certain legal/statutory requirements under the provisions of Companies Act 2013 and/or Clause 49 of Listing agreement (entered into with Securities and exchange Board of India (SEBI)). In the case where there is a legal/statutory requirement in respect of the above-mentioned variables and there is a non-compliance with such a requirement, a score of one has been envisaged. Though there is no legal requirement, for the larger part of study, especially in context of CRO, risk management committee and whistle blower policy, still a score of 1 has been assigned in the event of their non-existence. This view has been taken in the light of the fact that the study basically focuses on risk governance structure. Therefore, it does not matter whether the desired variable is mandatory or not. In other words, recognising the importance of these variables in the context of risk governance structure, their absence has been equated to non-compliance of a legal/statutory requirement.

In the context of voluntary committees, it is noteworthy that 33 committees were identified as existing in practice (based on perusal of 4,033 annual reports). A number of committees had different names but had the same function and role. Therefore, for the purpose of the study, the committees have been classified into five broad categories namely, shares related committees (includes committees like, share transfer , ESOP, etc.); finance related committees (includes, borrowing committee, financial management committee, etc.); human resource (HR) related committees (e.g.: screening committee, conflict resolution committee, etc.); management related committees (e.g. compliance committee, corporate management committee, etc.) and miscellaneous category (with committees like Information security committee, innovation committee, etc.). If a company has no voluntary committee, it will have a score of 1 and if a company has committees belonging to all 5 categories, it will be given a core of 5 (Table 1b).

Table 1a: Summary of Variables Used to Construct Risk Governance Index (RGI) and Scores Assigned to Them

Number of board of directors (Col. 1)	Board diversity in terms of gender (Col. 2)	Proportion of non-executive directors (Col. 3)	Executive/Non-executive chairman (Col. 4)	Proportion of independent directors on board (PoID) (Col. 5)		CEO duality (Col. 6)	Chief Risk Officer (CRO) (Col. 7)	Whistle blower policy (Col. 8)	Risk management committee (Col. 9)	Compulsory committees (CC) (Col. 10)	(Col. 11)
Number of board of directors (BOD)	*Proportion of female directors on board (PoF)*	*Proportion of non-executive directors on board (PoNED)*	*Status of Chairman*	*When the Chairman is an executive director*	*When the Chairman is a non-executive director*	*CEO duality*	*Appointed CRO*	*Implemented a whistle blower policy*	*Existence of a Risk management committee*	*Number of CC*	
											Assigned scores
0<No. of BOD <3	No female	0<PoNED<1/2		0<PoID<1/2	0<PoID<1/3		Yes	Yes	Yes	At least 1 CC is not in place	**1**
No. of BOD =3	0<PoF<1/3 OR PoF>1/2										**2**
No. of BOD>15		PoNED=1/2	Executive Chairman	PoID=1/2	PoID=1/3	Yes					**2.5**
4≤No. of BOD<8 **OR** 10<No. of BOD≤15	1/3<PoF<1/2										**3**
8≤No. of BOD≤10	PoF= 1/2	PoNED >1/2	Non-executive Chairman	PoID>1/2	PoID>1/3	No	No	No	No	All CC are in place	**3.5**
											4
											5

Table 1b: Scores in Context of Voluntary Committees

Constituted Voluntary committees	Score
None	1
Only in 1 category	1.8
In 2 categories	2.6
In 3 categories	3.4
In 4 categories	4.2
In all 5 categories	5

Therefore, based on the eleven variables, the minimum score a company can have is 15 and the maximum possible is 55 (the basis has been explained in the later part of this section). For ease of comprehension, the score obtained by each company has been expressed as a percentage of maximum possible score, i.e. 55. To illustrate, if a company scores 22, then the index will be presented as 40 per cent, i.e., (22/55)*100.

Measure of Competitiveness

Once the normative framework has been developed, an attempt has been made to gauge the relationship between quality of firm's *risk governance structure and firm's competitiveness*. Assets-Processes- Performance (APP) model (Momaya 2001; Ambastha and Momaya, 2004), advocates that market share could be a proxy for firm's competitiveness, but, as the *risk* surrounding the firm is the ability *to maintain* its market share, growth/decline in market share has been conceived to be the proxy of firm's competitiveness. Based on Herfindahl index, a popular measure of industry competitiveness and concentration (Lang & Stulz, 1992; Rhoades, 1993; Januszewski, Koke and Winter, 2002; Jimenez, Lopez & Saurina, 2007) the following measure of growth/ decline is being proposed as an indicator of competitiveness-

Growth in market share (g) = $\sqrt{\frac{Market\ share_{i,t+2}}{Market\ share_{i,t}}} - 1$ (Eq. 1)

Where,

a negative value implies decline and market share of a firm is as measured as $\frac{Sales_{i,t}}{\sum_{i=1}^{n} Sales_{i,t}}$.

For the purpose of computing the market share of a particular company, sales of all the firms (whether listed or unlisted) in that industry have been taken into account.

Control Variables

To control for the effect of other factors which also may affect the variables of interest in the study, a comprehensive set of other variables are included (Khanna and Palepu 2000; Chittoor et al. 2015) such as ûrm's age, firm size, leverage, growth rate, R&D intensity recession period dummy and industry dummy.

Age of firm- Age may influence the risk of firms as well as its competitiveness (Luo and Bhattacharya, 2009). It has been measured as the number of years a firm has been in existence (since its inception).

Size of firm- Sales, total assets, and market capitalization are the most commonlyused measuresof ûrm size. From an economic perspective, sales ûgures are less inûuenced by accounting manipulations or biases. It is also not affected due to relative capital or/and labour intensity of the ûrm (Hirschey 2008). Measurement problems linked to inûation, and replacement cost is almost negligible using sales as a proxy (Shalit and Sankar 1977). Hence, natural logarithm of sales has been used as a proxy ûrm size.

Growth rate of firm- Studies have suggested that growth rate/ growth opportunities available to a company may affect its performance. Similarly, Durnev and Kim (2003) show that growing companies, tend to exhibit higher returns to various stakeholders. Therefore, it is imperative to control for growth of company. It has been measured as year on year change in total assets.

R&D intensity- It is pertinent to control for the effect of firm's investment in various resources and capabilities, particularly technical investments that have a bearing on competitiveness. Therefore, R&D intensity has been measured by taking a ratio of ûrm's R&D expenses to its sales (Haldar et al., 2016).

Leverage- Traditionally, financing pattern of a company has been viewed as a significant determinant of firm performance. Pecking order theory suggests a negative relation between corporate profitability and debt ratios (Fama and French, 2002). Leverage has been measured as ratio of long term debt to equity shareholders' funds.

Recession dummy- The period of study is of particular importance as it includes the recession period, which impacted the world economy towards second half of 2008. As per the United Nations Council on Trade and Development (UNCTAD), investment brief (November 1, 2009), the year 2008 marked the end of a growth cycle in global foreign direct investment. Worldwide flows came down by more than 20 per cent. This global financial crisis reduced access to financial resources internally as well as externally (Singh et al., 2012). Thus, the study considers, two phases, Phase I (pre- recession period) April 1, 2005 to March 31, 2008 (2006-2008) and April 1, 2008 to March, 31, 2015 (2009-2015) as Phase II (post-recession period). A dummy variable has been used for the purpose.

Industry dummy- Different industries are expected to have experienced different regulations and barriers to entry and exit, leading to different competitive scenarios. Hence, it seems pertinent to control for industry-specific effects. For the purpose, sample has been divided into fifteen industry groups, namely, agriculture, capital goods, chemical, diversified, fast moving consumer goods (FMCG), healthcare, housing, information and communication technology (ICT), media, metal, miscellaneous, oil and gas, power, textile and transport (Singh et al., 2012).

Empirical Model

In view of the above, the following regression model has been proposed for the study:

$$Comp_{it}=\alpha+\beta_1 RGI_{it}+\beta_2 Age_{it}+\beta_3 Size_{it}+\beta_4 Growth_{it}+\beta_5 Leverage_{it}+\beta_6 R\&D\ intensity_{it}+\beta_7 Recession\ dummy_{it}+$$

$$Industry\ dummies_i+\varepsilon_{it} \qquad \text{(Eq.2)}$$

Where,

'$Comp_{it}$' is the measure of *i*th firm' competitiveness (as measured in Eq.1) in year *t*. Similarly, RGI is the risk governance index developed above and age, size, growth, leverage, R&D intensity, recession dummy and industry dummy are control variables, as defined in preceding sections.

The methodology applied to these variables is pooled data regression using Ordinary Least Square Method (OLS). Table 2 presents correlations among variables of interest. It can be seen from the table, that most of variables have a correlation of less than 0.5 with other variables. This finding is pertinent to avert the possibility of multi collinearly amongst variables. Also, Durbin Watson statistics in all the cases was close to 2, thus representing absence of autocorrelation. Further, to rule out the possibility of heteroscedasticity,the method of White's heteroscedasticity consistent errors and co-variance has been employed.

Table 2: Correlation Amongst Variables

Variables	R&D intensity	Leverage	Size	Growth	ROA	ROE	Profitability	Competitiveness	RGI	Age
R&D intensity	1									
Leverage	-0.10	1.00								
Size	-0.17	0.17	1.00							
Growth	0.10	0.00	-0.29	1.00						
ROA	-0.05	-0.33	-0.08	0.00	1.00					
ROE	-0.04	-0.20	0.07	0.06	0.57	1.00				
Profitability	0.06	-0.33	-0.06	0.08	0.24	0.33	1.00			
Competitiveness	-0.08	0.05	0.12	-0.23	0.03	0.02	-0.04	1.00		
RGI	0.01	-0.09	0.06	-0.10	-0.06	-0.01	0.00	0.02	1.00	
Age	-0.05	0.03	0.07	-0.05	-0.07	0.00	-0.04	-0.05	0.10	1.00

Sample

The sample consists of all 429 non-financial companies that constituted the NIFTY500 index on March 31, 2014. Only non-financial companies have been considered for the purpose of the study as financial companies are governed by a different set of regulations, are affected by

various other factors and their returns are not comparable to the returns of non-financialcompanies (Chittoor et al., 2015). Since, the paper introduces the RGI for the first time in literature, it seems pertinent to include a longer time-frame, capturing the entire business cycle; therefore, a 10 year period from April 2005- March 2015 has been considered for the purpose of the study. The data relating to governance variables has been primarily handpicked from companies' annual reports and the remaining data has been taken from Bloomberg database.

4. Findings and Analysis

Table 3 indicates that sample companies on an average had an RGI of 65.54% during the period of study. This is indicative of the importance (that at least some) Indian companies have been giving to risk governance structures. It is noteworthy that during the period of study the sample companies witnessed an average yearly growth in market share of about 2.3%. With an increase in GDP from 808 billion USD in 2005 to 2.1 trillion USDin2015, it wouldnot be unreasonable to state that Indian companies were in expansionary mode. Such expansion needs to be seen in the light of the fact that the sample companies are amongst the top 500 companies of the country in terms of market capitalisation. As a result, they are expected to be more competitive. Yet, the evidence of decline in market share of up to 62% is startling (Table 3).

Table 3: Descriptive Statistics

Variable	Mean	Maximum	Minimum	Std. Dev.
R&D intensity	1.252528	20.22	0.0007	2.480783
Leverage	1.375317	5.856193	0.062361	1.016631
Size	7.85391	13.01121	4.421127	1.496601
Growth	0.0234	2.348294	-1	0.425099
ROA	0.02109	0.101616	-0.17847	0.035928
ROE	0.008917	0.101743	-0.20796	0.060191
Profitability	0.090542	2.76433	-0.68283	0.132174
Competitiveness	0.0232	1.561797	-0.62344	0.194646
RGI	0.650702	0.852727	0.4	0.082518
Age	45.59158	152	4	24.03912

A further analysis (Table 4) reveals that it's the companies in the lowest RGI range (40-50%) that have actually suffered a decline in market share; in all other ranges there has been evidence of growth in market share. Interestingly, increasing RGI ranges correspond to increasing growth rates (in market share). These results clearly indicate that companies with better risk governance structures tend to be more adept and agile in dealing with risk related to maintenance of market share.

Table 4: A bird's eye view of RGI Range and Firm Competitiveness

RGI Range	Ave. growth/ (decline) in market share
40-50%	(2.63%)
50-60%	1.38%
60-70%	1.68%
70-80%	3.56%
80-90%	7.33%

In addition, the regression results (Table 5) reveal that there is a significantly positive relation between quality of risk governance structure and firm's competitiveness. In other words, firms with robust risk governance structures (in terms of normative framework) tend to be more competitive (as is seen in terms of their growing market share); with a 1% change in quality of RGI, the market share of firms (on an average) increases by 0.77%.

Further, in tune with the intuition, bigger firms seem to be more competitive as evidenced by positive relation between firm's size and competitiveness. In, contrast younger firms due to their lack of experience and operational difficulties seem to struggle to maintain their market share. Further, firms that are in expansionary mode as evidenced by growing market share tend to improve their market share as well.

Table 5: Regression Results

Variable	Coefficient
Intercept	(0.0598)
RGI	*0.0077***
AGE	*(0.0009)****
Growth	*0.0991****
Leverage	(0.0007)
Recession dummy	(0.0063)
R&D Intensity	(0.0028)
Size	*0.0127***
Industry effects	Yes
Number of observations	1621
Adjusted R-squared	6.83%
S.E. of regression	0.1768
Prob (F-statistic)	0.0000

***,**,* denote significance at 1%, 5% and 10% levels

In tune with the findings of Report for the World Economic Forum's MENA Regional Business Council (2016) the results clearly demonstrate that well-governed companies are more adept in handling a volatile economic environment and are more sustainable in the long term. They also highlight the need for strong governance structures in emerging markets in order to create an environment of trust for outside investors.

Robustness Checks and Additional Analysis

While the previous section used growth/decline in market share as a measure of competitiveness (not used in extant literature) because maintenance of market share is believed to be a prominent risk endangering the companies; to ensure robustness of results, it seems pertinent to examine the relationship between risk governance index and already established measures of competitiveness.

Therefore, to establish the validity of the index and to ensure the robustness of the findings, the widely used measures of competitiveness have been used in the regression models. For the purpose, the 'financial performance' facet as put forth in the Assets- Processes- Performance (APP) model of Momaya (2001), has been employed. Accordingly, the dependent variables, the measure of competitiveness, have been taken as return on assets (ROA) (profit before interest and tax divided by total assets)(Brick et al., 2006; Cheng, 2008; Jackling and Johl, 2009; Brown and Caylor, 2005), return on equity (ROE)(profit after tax and preference dividend divided by equity shareholders' funds) (Johnson and Greening, 1999; Zabria, et al., 2016) and firm's profitability (earnings after tax divided by net sales(Titman and Wessels, 1998; Singh et al., 2013). It is pertinent to note that ROA has been computed by subtracting the average ROA for the firm's industry from the firm's ROA; ROE has been computed on similar lines (Chittoor et al., 2015).

The regression models employed are:

$$ROA_{it}=\alpha+\beta_1 RGI_{it}+\beta_2 Age_{it}+\beta_3 Size_{it}+\beta_4 Growth_{it}+\beta_5 Leverage_{it}+\beta_6 R\&D\ intensity_{it}+\beta_7 Recession\ dummy_{it}+ Industry\ dummies_i+\varepsilon_{it} \quad \text{(Eq.3)}$$

$$ROE_{it}=\alpha+\beta_1 RGI_{it}+\beta_2 Age_{it}+\beta_3 Size_{it}+\beta_4 Growth_{it}+\beta_5 Leverage_{it}+\beta_6 R\&D\ intensity_{it}+\beta_7 Recession\ dummy_{it}+ Industry\ dummies_i+\varepsilon_{it} \quad \text{(Eq.4)}$$

$$Profitability_{it}=\alpha+\beta_1 RGI_{it}+\beta_2 Age_{it}+\beta_3 Size_{it}+\beta_4 Growth_{it}+\beta_5 Leverage_{it}+\beta_6 R\&D\ intensity_{it}+\beta_7 Recession\ dummy_{it}+ Industry\ dummies_i+\varepsilon_{it} \quad \text{(Eq.5)}$$

Table 6: Regression Results to Ensure Robustness

Variable	ROA	ROE	Profitability
Intercept	0.0239	0.0070	***0.2031******
RGI	*0.0422***	*0.0114***	*0.0253**
Age	***(0.0001)*****	(0.00002)	0.0001
Growth	0.0015	***0.0111*****	0.0230
Leverage	*(0.0182)****	*(0.0127)****	*(0.0480)****
Recession dummy	***(0.0192)*****	***(0.0146)*****	(0.0138)
R&D intensity	***(0.0025)*****	***(0.0018)****	0.0001
Size	0.0024	***0.0053*****	(0.0046)
Industry effects	Yes	Yes	Yes
Number of observations	1646	979	1647
Adjusted R-squared	21.82%	9.35%	21.40%
SE of regression	0.0572	0.0570	0.1162
Prob(F-statistic)	0.0000	0.0000	0.0000

***,**,* denote significance at 1%, 5% and 10% levels

It can be seen in Table 6 that there is a significant and positive relation between quality of governance structure and firm's financial performance as measured by ROA, ROE and profitability. These results provide evidence in support of the hypothesis that firms with better risk governance structures are skilled in managing their risks which is subsequently reflected in their financial performance.

It is noteworthy that there is mixed evidence in terms of relation of age, growth and firm size with competitiveness. But, leverage has been found to have negative impact on firm's competitiveness, across models. Similarly, firms' competitiveness seemed to have reduced significantly in the post-recession period. This could be attributed to the fact most of the companies are engaged in international trade and the global financial crisis is believed to have adversely affected the global business scenario, including the competitiveness of Indian companies.

5. Concluding Observations

Literature is rife with corporate governance studies and various versions of corporate governance indices are available. But, construction of a risk governance index (as proposed in this study) is perhaps the first of its kind attempt.

Indian companies have admirable risk governance structure with mean index scores of about 65 per cent. The general view is that a good risk governance structure is pertinent for effective and efficient risk management and better firm performance, and the results empirically substantiate the same. The finding of positive relationship between RGI and competitiveness, clearly indicates that firms with stronger risk governance structures are better at handling the risks arising from competitive pressures and in turn are able to generate better returns for their stakeholders.

Further, the study is believed to have important implications forinvestors as well as for management of companies. Admittedly, balanced Boards and effective risk management structures tend to enable companies limit agency problems, improve efficiency and enhance competitiveness and financial performance. Therefore, companies could/should strive to attain and maintain robust risk governance structures as proposed in the normative framework. Similarly, investors could evaluate companies on the basis of their RGI and gauge their sustainability and competitiveness.

Scope for Future Research

As the study is exploratory in nature, the study opens new avenues for future research. Future studies may examine the relation between international competitiveness and risk governance and other facets particularly those related to the process facet of the APP model (Momaya, 2001) as ultimately governance structures are envisaged to ensure that proper processes are in place. Further, governance structures could be examined in relation to the strategic and operational aspects of competitiveness, in terms of innovations and marketing, and reputation and brand,respectively.

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