

# Can Flexibility in Corporate Governance Enhance International Competitiveness? Evidence from Knowledge-Based Industries in India

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**Abstract** Firms play a key role in growth of India, and there is a need to enhance their competitiveness significantly. For that, they may need higher flexibility in their governance systems. This paper explores the relationship between flexibility in corporate governance (CG) mechanisms and international competitiveness (IC) in two knowledge-based industries in India during the period from 2006 to 2014. Using multiple regression model, the results suggest that flexibility in CG significantly affects IC. In addition, IC increases with the increase in firm size in the presence of other factors such as research and development intensity, marketing intensity, business group affiliation, and industry dummy. Thus, the study is a novel attempt to establish the relationship between flexibility in CG and IC.

**Keywords** Corporate governance · Flexibility in corporate governance · Innovation for export competitiveness · Knowledge-based industries · R&D intensity · Marketing intensity

**JEL Classification** G34 · F14

*“Firms need more flexibility if they are to thrive and survive” (EESC 2011).*

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## Introduction

Competitiveness is regaining importance in Asia, as finest international firms shift their attention to growing markets in Asia. Superior capabilities and competitiveness of select Japanese industries such as automotive was a driver for classic ‘competitive advantage of nations’ project led by Porter. Through impressive efforts, Porter (1990) with a large team of researchers opened up new perspectives on competitiveness of nations and firms, including drivers of long-term firm performance. After Japan, China and India are emerging as large markets in several industries, attracting the most competitive global players. The change forces (e.g., Sushil 2005) unleashed by waves of liberalization that have been initiated after the major one of 1991 are making India a hyper-competitive market. It is also creating the need for continuity for firms of Indian origin (FIOs) to achieve and maintain competitiveness and even enhance it (e.g., Momaya 2001) to sustain market share in India and grow internationally to achieve balances. Such forces of continuity and change demand better strategy and governance in firms and other organizations.

India is aiming at further liberalization and internationalization to meet the rapidly rising aspirations of the growing young population. India must improve its contributions to the world skills pool, production, and exports from the present low levels. Services have played a key role in the last two decades by providing jobs and exports. In addition, manufacturing can also enhance the contributions, if the massive opportunities on production and exports are to be leveraged. Firms will play a key role and need to enhance the competitiveness of their respective industries significantly. Competing and sustaining in the world market are the new key challenges faced by these firms. This necessitates that they not only deliver goods and



services, rather their means to achieving those goals are equally important. They need a system of rules, practices, or processes to guide them in balancing the interests of their stakeholders and provide an overarching framework for attaining firms' objectives. These systems should not be rigid and imposed on firms, rather be flexible and adaptive to each situation. Thus, they may need higher flexibility in their governance systems.

Corporate governance is hailed as the best approach to enhance governance (Cadbury Report 1992; OECD 1998, 2004; Sarbanes-Oxley Act 2002). Regulators worldwide are emphasizing on improving monitoring function, effective implementation of legislation, and are encouraging unlisted firms to follow the corporate governance (CG) codes (OECD 2010). These objectives require efforts to optimize the existing system of legislation by bringing about a change in the way legislations/codes are viewed. Their perception as forceful imposition needs alteration by introducing flexibility within the existing legislations. There is a need to understand that laws and regulation form the basic framework for corporate governance (CII 2009), and firms need to enhance flexibility by adapting these regulations within the organization. This realization would encourage them to enhance flexibility by voluntarily adopting better CG practices (OECD 2010). This adoption is possible when firms believe that better CG practices should come from inherent value systems, which would enhance reputation and stakeholder value of the firm in the long run. This is also exemplified by the fact that the best-governed firms are those who consciously decide to go beyond the mere letter of law. Thus, the firms should be flexible to adapt to their internal strengths by experimenting and developing their own systems within the existing CG framework. This would further improve their productivity and enhance their capability to produce goods and services that are competitive in the world market. We consider CG, as a key element of strategic flexibility needed to enhance international competitiveness (IC) (Momya 2001). This would instill a culture of openness, innovation, and enhance risk-taking capability of the firms, thus promoting their prosperity and survival.

The key objective of the paper is to explore the relationship between flexibility in CG and IC, taking the case of two dominant knowledge-based innovative industries in India. The paper tries to understand this phenomenon by having a sample from manufacturing (pharmaceutical) and services sector (information technology). Innovation and flexibility act as facilitators to satisfy the changing requirements and to gain the competitive advantage (Bishwas 2015). Indian pharmaceutical industry started as a processing industry almost four decades ago. However, over the years, it has grown into a sophisticated industry with advance manufacturing technology, modern

equipment, and stringent quality control. In comparison with its foreign peers, the industry is bestowed with advantages like lower cost (for instance, production, R&D, import, and labor). The production cost is competitive due to processes such as reverse engineering and low spend on R&D by limited firms.

In comparison, information technology (IT) industry is highly innovative, export oriented, and is economically important in its own right. It is also an important contributor of innovation in other sectors (OECD 2006) and witnessed a phenomenal compounded growth rate of about 50 % in the last decade (Nasscom 2014). Growing at a phenomenal rate of more than 14 %, IT services export is expected to earn \$52 billion in 2014 (Nasscom 2014). This growth is driven by revival in demand from both the USA and Europe. Thus, high quality with low cost of Indian software professionals has made this industry one of the most competitive industries in the organized sector of India with globally renowned firms (like Infosys, TCS, HCL, and Wipro).

The competitive spirit among the firms creates a stimulating environment at the industry level and consequently enhances the economy's long-term socioeconomic health. Additionally, this competitive spirit can enhance competitiveness, which has relevance at the firm, industry, and country level. Our research focuses on the international competitiveness of these two industries by drawing comparisons at the firm level. In light of the above context and little knowledge about the relationship between CG and IC, we evolve research questions. The key research question is to ascertain the dimensions of flexibility in CG, which has a relationship with IC. This is addressed by identifying the patterns in dimensions of CG and IC, here export competitiveness by contrasting these two key industries. Further, we identified elements of flexibility in CG that may have strong relationship with IC and evolved a conceptual framework.

This paper contributes to the literature on CG and IC by identifying the relationship between flexibility in CG and IC. Previous attempts to link CG and competitiveness fail to address the inherent flexibility in governance. These studies have a limited view about CG and have defined CG by a single parameter (like disclosure) or multiple parameters. Thus, our paper is a novel attempt to relate corporate governance and international competitiveness, incorporating the role of flexibility in a context of an emerging country.

The rest of the paper is organized as follows: section two takes a brief look at the relationship of flexibility in corporate governance with international competitiveness. Further, section three discusses the research design of the study followed by results in section four. Discussions are drawn in section five. The penultimate section discusses the

conclusions and implications, emanating from the study. Finally, section seven states the limitation and suggests directions for further research.

## Literature Review

The review is organized by initially discussing the corporate governance scholarship followed by the context of competitiveness from country to the firm level. Here, we identify the pertinent tenets of governance relevant to Indian context and isolate the drivers of IC for the firm. Then, we attempt to understand the linkages by discussing the papers connecting CG and IC. Further, we introduce the concept of flexibility, its linkages with corporate governance and their inherent measures. Additionally, we present the study's conceptual framework depicting the relationship between flexibility in CG and IC. Finally, the proxies of flexibility of corporate governance are linked to international competitiveness, and accordingly, hypotheses are proposed.

The CG scholarship has witnessed a steady growth in the last two decades with a global maturation from the period 1993–2007. As the field experienced increased methodological rigor and multi-disciplinary characteristics, the dominant US orientation is pervasive (Durisin and Puzone 2009). In the emerging market context, owing to the unique institutional context, performance remains the dominant research theme. Unlike the West, the findings suggest that better CG helps attain greater performance and market valuation (Klapper and Love 2004; Morey et al. 2009). The predominant extant research investigated the relationship between internal governance structures and financial performance of Indian companies. Here, the effectiveness of boards of directors, including board composition, board size, and aspects such as independent director, board busyness, is addressed and found relevant in Indian context (Srinivasan and Srinivasan 2011).

Competitiveness is a holistic concept connecting several disciplines and having relevance across the levels: firm, industry, and country. With the publication of *The Competitive Advantage of Nations* (CAON) project, Porter (1990) and team opened up new perspectives on competitiveness, particularly at industry and country level. At the firm level, it focuses more on the business ability, processes, productivity, and performance of a firm on different factors. Firm competitiveness can be defined as capability to design, produce, and market goods or services, which are superior to the ones offered by competitors, considering the price and non-price factors (D'Cruz 1992). International competitiveness is a key factor for aspiring firms according to the comprehensive Assets-Processes-Performance (APP) framework of competitiveness (Momaya 2001). It focuses

on strategic intent, international orientation of top management team, and capabilities for international interactions such as exports, investments, and alliances for technology or knowledge transfer. Key reasons to focus on international factors span political (e.g., restrictions on free movement of factors), economical (e.g., differences in factor prices), and trade (e.g., sustained record of trade deficits) areas.

Despite significant improvement in competitiveness at country level for India (Momaya 2014), there are major challenges in improving international competitiveness for large Indian firms. Factor-driven jump in competitiveness for India seems quite remarkable in late 2000s. Measured in terms of country competitiveness ranks—based on more than 200 criteria—India jumped to 28 in 2009 from 47 in 2005 (Momaya 2014), a remarkable feat for a large diverse country. However, number of focal firms seems to have stagnated (e.g., around eight for last several years in Global 500), indicating major challenges of growth and transformation. A root cause of such stagnation in IC may be traced to negligible levels or slow growth of earnings from abroad. Export-related criteria (e.g., export growth, market share, etc.) are widely accepted as useful criteria of international competitiveness across levels (e.g., Buckley et al. 1988; p. 180; Momaya 2001) and have been adapted in our study.

Export of goods, services, and solutions is still highly relevant form of internationalization for many countries in emerging world scenario. Emerging countries such as India often start their journey by migration of skilled workers and many advanced countries have encouraged such flow by changing their immigration policies. However, in long history, such workers or their successors have become target of attacks in many countries. For India, late 2000s was an era of other extreme—debt-financed mega deals of M&A, including in advanced countries such as Germany, UK, and the USA. The chronicles of debt saga that started in 2007 still haunt the world economy raising questions about such M&A-driven internationalization. The saga that started with 'the great American subprime crash of 2007–2009' spread to Europe (2010–2012) and now threatening the 'emerging market bust' (e.g., Economist 2015) hints at risks of volatile capital flow-driven internationalization. Countries of East Asia (e.g., Japan, then Korea and now China) that balanced export competitiveness seem to have withstood such international tsunami better. Hence, we will focus on export competitiveness as a major factor of international competitiveness in this paper.

These two corporate concepts—namely corporate governance and international competitiveness—have been discussed narrowly in the literature. These discussions are limited to specific dimensions of these concepts. There is a



need to analyze these two conditions mutually as presently handful studies discuss their mutual interaction.

Using cross-country sample, Ho (2005) examined these two corporate conditions holistically. The findings revealed positive relationship between corporate governance and international competitiveness when governance is measured holistically. Recently, researchers have also tried to analyze this relation in a single country context by studying the relationship between voluntary disclosures and international competitiveness of Indian firms (Subramanian and Reddy 2012). Their analysis revealed that international markets value firm disclosing voluntary information about their board practices. However, disclosures related to ownership structures lead to decline in market share. Thus, controlling for firm size, industry concentration ratio, and firm growth rate in a multiple regression model, their analysis reveals mixed results. They contend that the Indian financial market regulator, SEBI's (Securities Exchange Board of India) continuous efforts toward enhancing board practices will protect investors as well as enhance the overall competitiveness of Indian firms. The author also makes a case that opaque structures are boon to Indian firms, as such disclosure might result in proprietary cost internationally (Khanna and Palepu 2000). Overall, their research suggests that disclosures related to governance practices are important for Indian firms entering international markets.

Apart from the two studies discussed, no major study addressing the relationship between the corporate governance and international competitiveness was found in our literature review. Both these studies have looked at corporate governance either holistically (five parameters) or using a single parameter (like disclosure), but lack the inherent flexibility that governance practices offer.

Flexibility in management is a multifaceted concept emerging in response to the needs of time. Flexibility relates to providing more options, quicker change mechanisms, and enhanced freedom of choice to improve competitiveness. Flexibility tries to dynamically balance extremes without shifting toward them (Sushil 2000a). Among several dimensions of flexibility, strategic, human resources, organizational, financial, and technological are the key ones (e.g., Sushil 2000b). Flexibility through managing continuity and change can help improve competitiveness and strategic performance (Sushil 2014). Flexibility in CG can be defined as options on various continua of key dimensions of CG to enhance competitiveness. Key dimensions relevant in current Indian context may be structural one such as size of board and number of independent directors. Indian firms have the flexibility to choose the optimum board size based on their growth, profitability, and industry. Similarly, beyond the stipulated

minimum threshold, the firm is free to decide the number of independent directors in their board.

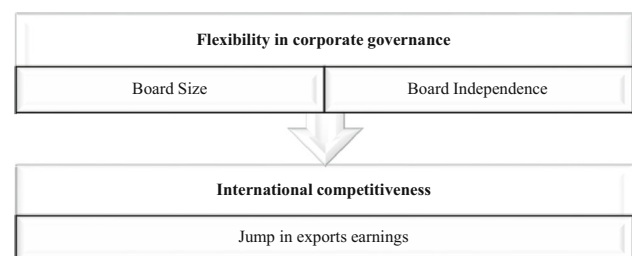
In mature contexts, where flexibility in CG is well defined and longitudinal data about criteria of each dimension are available, it may be possible to measure changes in flexibility in CG, but such definitions and data do not exist in most countries. Hence, our measurement of flexibility in CG is focused on limited definition, but is still highly relevant for perhaps first such study to the best of our knowledge. The relationships of interest in this study among key constructs are depicted graphically in the conceptual framework in Fig. 1.

### Flexibility in CG

Since the world is facing increasing volatility, uncertainty, complexity, and ambiguity (VUCA), scaling up performance in international competitiveness demands a lot of flexibility on several fronts, including CG. In this paper, we are taking international competitiveness as one among the several factors of 'competitiveness performance' facet of Assets-Processes-Performance (APP) model (Momaya 2001). In spite of possessing better systems of governance, India still lags behind the best practices in corporate governance. CG has many dimensions, but board size (BS) and independent director (ID) may be better predictors of flexibility in CG. Flexibility in board size can be evaluated in terms of number on a continuum, where desirable size can vary for our context. Similarly, ID can play a role to enhance IC.

### Board Independence

The worldwide financial debacles emphasize the need for introducing governance guidelines to prevent similar mishaps. These guidelines or codes consider board of directors as an important governance mechanism to monitor the expropriation of minority shareholders by majority shareholders. These boards typically comprise of executive, non-executive, and independent directors.



**Fig. 1** Conceptual framework depicting the relationship between flexibility in corporate governance and international competitiveness

Presence of these outside directors, who bring an impartial view and are independent of the management, are considered to add value to the firm (Haldar et al. 2013). Governance experts (see for example American Law Institute 1994; Financial Markets Authority 2014; Business Roundtable 2010; CII 2015) advocate having a balance of independent and executive director in boards to enhance the overall governance of the firm. Greater proportion of outside directors helps in monitoring the conflict of interest between shareholders and managers according to the agency theory (Jensen and Meckling 1976; Fama and Jensen 1983; Shleifer and Vishny 1997). Firms with additional outside directors perform better (Baysinger and Butler 1985; Lee et al. 1992) and are likely to decrease consumption of perquisites (Brickley and James 1987). Further, outside directors were more likely to be inducted following poor performance or firm exits from industry, indicating that outside guidance is desirable in times of strategic realignment (Weisbach 1988).

Indian experience presents a unique phenomenon among emerging economies. Here, family-controlled business is a dominant characteristic, which emphasizes reliance on internal governance mechanism than external ones (Chakrabarti et al. 2008). Garg (2007) found strong association between board independence (50–60 % independent members) and performance. Jackling and Johl (2009) suggest similar findings with respect to the requirements of clause 49 for a specified representation of outside directors on boards as an important aspect of corporate governance. It is possible that there is an attitude in some Indian boards that the members (more so the outside directors) are working for those who have brought them onto the board.

Alternatively, Agrawal and Knoeber (1996) and Coles et al. (2001), found negative impact of greater representation of outside directors on firm's performance while researchers (e.g., Dalton et al. 1998; Reddy et al. 2010; Pham et al. 2011; Ferrer et al. 2012; Vintila and Gherghina 2012) found insignificant effect of outside directors on firm performance.

While the results of prior research on the role of outside directors on performance is mixed, the agency theoretic view is emphasized to evaluate the impact of number of independent directors on firms' international competitiveness. Changes in the Indian regulations (recommended by Kumar Mangalam Birla committee) also emphasize on the need for outside directors to enhance the internal strength and offer the necessary flexibility in the boardroom dynamics. It is hypothesized that greater proportion of outside directors will monitor the actions of managers which in turn would have a positive impact on the firms' international competitiveness. Accordingly, the following hypothesis is proposed:

**Hypothesis 1** There is a positive relation between independent directors and international competitiveness.

## Board Size

Advocates of agency theory contend that large boards impede communication and decision making, thereby limiting the effectiveness of its monitoring function. Jensen (1993) states that 'as groups increase in size they become less effective because coordination and process problems overwhelm the advantage from having more people draw on.' In addition, he argued that boards are less likely to function effectively when they grow beyond seven to eight members, as they might be micro-managed by the CEO. Further, an ideal board size of eight to ten members with balance between executive and non-executive directors is proposed by researchers (such as Lipton and Lorsch 1992; Cadbury 1992). The claim was substantiated by Yermack (1996) where he suggests an inverse relation between board size and firm value among US firms.

This relation attenuated as board size increases leading to incremental cost. The finding was robust to control variables such as firm size, industry affiliation, board composition, ownership, growth opportunities, diversification, and firm age. Similar findings have also been reported by later studies (e.g., Eisenberg et al. 1998; Hermalin and Weisbach 2001; Alshimmiri 2004; Mak and Kusnadi 2005; De Andres et al. 2005). Indian firms were no exception to this finding, and Garg (2007) found board size negatively related to all performance variables except market-adjusted stock prices (MASR).

However, proponents of resource dependency theory advocate that large board have representation of people with diverse background, which is expected to bring diversified knowledge and expertise to the boardroom dynamics (Pearce and Zahra 1992; Dalton et al. 1998; Van den Berghe and Levrau 2004). Studies by Reddy et al. (2010), Pham et al. (2011), Ferrer et al. (2012), and Vintila and Gherghina (2012) concluded that board size does not have significant effect on the performance for firms in New Zealand, Australia, Philippines, and the USA, respectively. Studies also report a nonlinear inverted 'U'- shaped relationship between board size and performance (Vafeas 1999; Golden and Zajac 2001). Whereas others feel that governance system in a country is contextual and influenced by the legal, institutional, and cultural factors (Weimer and Pape 1999).

As the literature on this aspect is derived from developed markets, the extent to which it is applicable to emerging economies like India is, however, ambiguous. The literature on board size effects highlights the inherent advantages with caution on the speed of decision making required for today's turbulent environment. Typically,

large boards have problems of communication, coordination and decrease the board’s ability to control management (Jensen 1993; Yermack 1996). Board structures in public firms were studied and found to have problems in coordination, communication, and decision making in comparison with smaller boards (Lipton and Lorsch 1992; Jensen 1993; Yermack 1996). These boards are usually controlled by chief executive officer (CEO) and promote opacity in managerial performance deliberations. Incentives based on performance are contradiction for these CEO’s—whose pay is independent of their performance. These agency problems might diminish in firms with smaller board size. Impact of bigger board on flexibility in decision making needed for dynamic export competitiveness is assumed to be inversely related. Hence, we propose that:

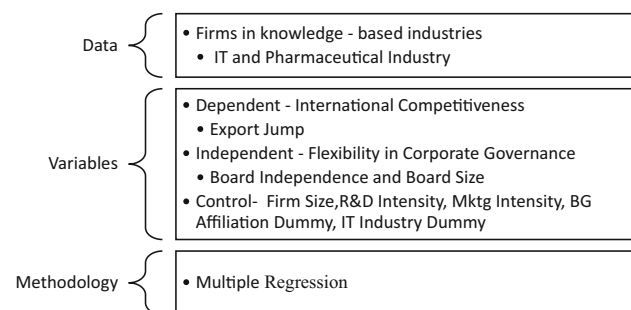
**Hypothesis 2** There is an inverse relation between board size and international competitiveness.

**Research Design**

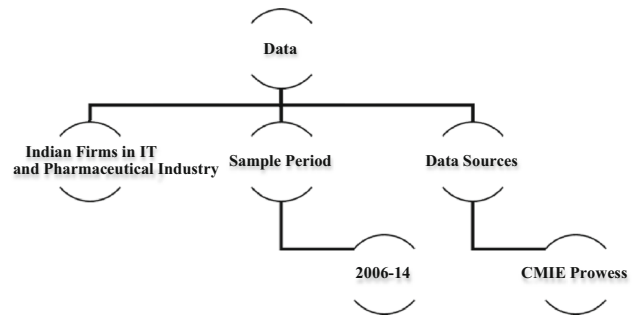
The study advanced through a data driven approach due to the inherent limitation and disagreement about the drivers of international competitiveness in the literature. We selected two technology-based industries due to their polarity on research and development intensity. Owing to the limitations of data, we opted for small samples. The research design of the study is depicted in a summarized manner in Fig. 2.

**Data**

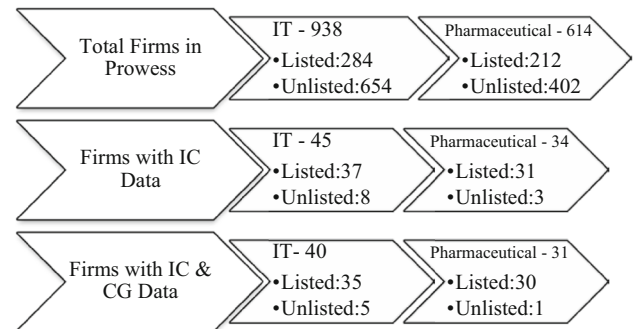
Prowess database, which is maintained by Centre for Monitoring Indian Economy (CMIE) (e.g., Khanna and Palepu 2000; Chittoor et al. 2014), was the main data source for this study (Fig. 3). We considered all the firms (available in this database) belonging to IT and Pharmaceutical sector for our study. The database comprised of 938 IT firms and 614 firms from pharmaceutical sector.



**Fig. 2** Summary view of research design



**Fig. 3** Sample characteristics



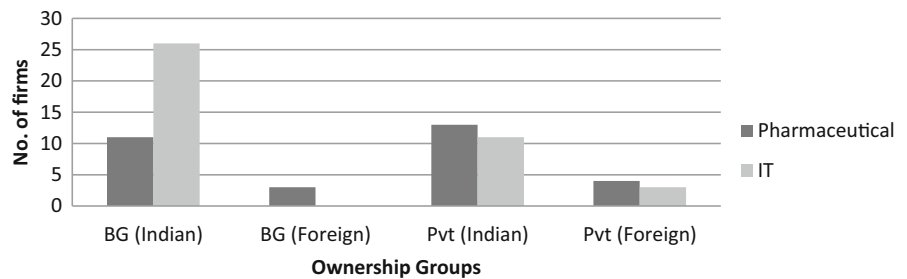
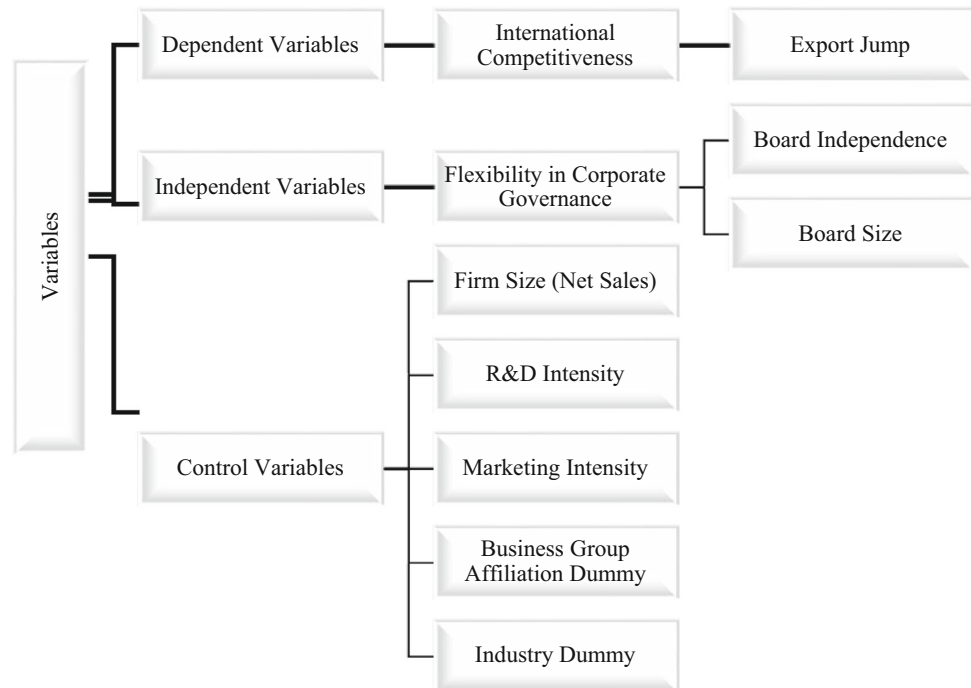
**Fig. 4** Data screening to refine samples

This dataset underwent two screenings to arrive at our final sample as shown in Fig. 4. Firstly, we excluded the firms lacking data on international competitiveness (measured by jump in export earnings). This screening reduced our sample from 938 to 45 for IT firms and from 614 to 34 for Pharmaceutical firms indicating that hardly 5 % of Indian firms belonging to these sectors have export earnings. This indicates that the structure of Indian IT and Pharmaceutical sector is skewed, and majority firms are small and medium enterprises who are struggling to meet the challenges of increasing top line and bottom line (Nasscom 2014).

In the second screening, we excluded the firms, which did not have data on corporate governance measures, resulting in 40 and 31 firms from IT and Pharmaceutical sectors, respectively. This indicates that firms having outward orientation take governance seriously. Thus, our final sample comprises of 40 firms from IT sector (bifurcated into 35 listed firms and 5 unlisted firms) and 31 firms from Pharmaceutical sector (bifurcated into 30 listed and 1 unlisted firms). These numbers depict that in spite of no regulatory requirement, unlisted firms in IT sector are ahead of their Pharmaceutical peers in disclosing their corporate governance information.

In the next phase, we tried to understand our sample firms by their ownership pattern (Fig. 5). Here, we found that majority firms in pharmaceutical sector are private stand-alone Indian firms, whereas Indian business groups dominate IT sector. Even the unlisted firms in IT sector belong to Indian business group. Thus, IT sector in spite of



**Fig. 5** Ownership classification of sample firms**Fig. 6** Variables and measures

being held by business groups, which are otherwise, perceived to be less transparent has better disclosure practices.

## Variables

The variables for the study are depicted in Fig. 6.

### Dependent Variable

**International Competitiveness (IC)** International competitiveness can be evaluated on multiple criteria (Momaya 2001). For the context of this paper, we selected jump in export earnings (referred as export jump henceforth) as the most relevant criteria. Export jump is measured as the absolute difference in export earning of the firm between 2006 and 2014.

### Independent Variables

**Flexibility in corporate governance (CG)** Flexibility in management is a multifaceted concept emerging in

response to the evolving needs of time. Among several dimensions of flexibility, strategic, human resources, organizational, financial, and technological are the key dimensions (e.g., Sushil 2000b; Cornerstones of Enterprise Flexibility). Flexibility in CG can be defined as options on various continua of key dimensions of CG to enhance competitiveness. Key dimensions relevant in current Indian context may be structural one such as size of board and number of independent directors.

**Board Independence (ID)** The number of independent directors on the board operationalizes board independence. The concept originated in developed economies like USA, but later became part of the regulatory necessity worldwide (Gordon 2007). Eighteen countries issued recommendations or stipulations on minimum requirement of independent directors on corporate boards between 1994 and 2000 (Dahya and McConnell 2005). As governance failures rose, corporate boards seem to be in a monitoring role rather than in an advisory role with a marked shift toward having more outside directors. This trend increasingly became

noticeable, legally binding, and increasingly stringent with time—between the period 1950 and 2005. This brought about a noticeable change among US firms where there was a phenomenal rise in number of independent directors from 20 % in 1950 to approximately 75 % in 2005 (Gordon 2007).

**Board Size (BS)** The total number of board of directors in the firm measures board size. The size should be optimum with an appropriate balance of power and authority on the board. While strategic discussions are easier in smaller boards, large boards bring in the advantage of diversity of viewpoints and experiences.

#### Control Variables

To control for the effect of other factors which also may affect the variables of interest in our study, a comprehensive set of other variables are included (Khanna and Palepu 2000; Chittoor et al. 2014) such as firm size, research and development intensity, marketing intensity, business group affiliation, and industry dummy.

**Firm Size (FS)** Sales, total assets, and market capitalization in the literature commonly measure firm size. From an economic perspective, sales figures are less influenced by accounting manipulations or biases. It is also not affected due to relative capital or/and labor intensity of the firm (Hirschey 2008). Measurement problems linked to inflation, and replacement cost is almost negligible using sales as a proxy (Shalit and Sankar 1977). Further, large firms may be productive due to their ability to reap advantages (e.g., economies of scale, large-skilled workforce, formalize processes and procedures) leading to enhanced governance practices (Halder and Rao 2013). Owing to its advantages, natural logarithm of sales is utilized for measuring firm size in our study.

**R&D and Marketing Intensity (R&D and MKTG)** The effect of firm's investment into varied resources and capabilities on international competitiveness is captured through representations for their technical and marketing investments. R & D intensity is measured by taking a ratio of firm's R&D expenses to its sales. Similarly, marketing intensity is a ratio of its total annual marketing expenses to its annual sales for that year.

**Business Group Affiliation Dummy (BGA)** Following prior research, we measure a firm's affiliation to a BG using a dummy variable, which takes a value 1 if the firm is owned by a BG and 0 otherwise. In agreement with previous research on BG affiliation for Indian firms (Khanna

and Palepu 2000; Chittoor et al. 2014), we adopt CMIE's classification of firms to identify whether an individual firm belonged to a business group or it was a stand-alone firm.

**IT Industry Dummy (ITD)** This dummy variable takes the value 1 if the firm belongs to IT sector otherwise the value is 0. This dummy variable measures whether there is a significant difference between firms from IT sector and Pharmaceutical firms.

#### Methodology

We estimate the model using ordinary least square and report the results with robust option. From an econometric viewpoint, the following model is specified for estimating the relationship between international competitiveness (IC) and Flexibility in corporate governance (CG).

$$IC_t = \alpha + \beta_1 ID_{t-8} + \beta_2 BS_{t-8} + \beta_3 FS_{t-8} + \beta_4 R\&D_{t-8} + \beta_5 KTG_{t-8} + \beta_6 BGAD + \beta_7 ITD + \varepsilon$$

where  $IC_t$  = international competitiveness measured by Export Jump (2014–2006),  $ID$  = Independent Director (2006),  $BS_{t-8}$  = Board Size (2006),  $FS_{t-8}$  = Firm Size (2006),  $R\&D_{t-8}$  = Research and Development Intensity (2006),  $MKTG_{t-8}$  = Marketing Intensity (2006),  $BGAD$  = Business Group Affiliation dummy,  $ITD$  = IT industry dummy,  $\varepsilon$  = Random disturbance term.

#### Empirical Results

The analysis of the study was conducted in a phased manner. Initially, descriptive statistics (e.g., mean) was utilized to identify patterns among dimensions of CG and IC in these two industries. Later advance technique—multiple regression—was explored to discern relationships.

General findings are depicted in Table 1. On an average, IT firms had about four times export earnings in comparison with their pharmaceutical peers in 2006. This trend continued for the next 8 years, where IT firms further reached almost five times of their pharmaceutical peers. IT firms also lead in sales (1.5 times) as well as in export intensity (4 times). The average export jump of IT firms between 2008 and 2014 was also far ahead which indicated higher flexibility in IT industry. Governance measures had little variation between both industries. Board size ranged between 3 and 18 with firms having negligible independent director to at most 10 independent directors. Average firm size is 7.64 million rupees with variation from 1.13 to 11.62 million rupees.

Table 2 gives the descriptive statistics of our sample firms. Our data suggest that on average there were four independent directors. Maximum independent director was



**Table 1** Mean value of international competitiveness and flexibility in governance practices *Source:* authors computation

Variables	IT firms (40)	Pharmaceutical firms (31)	Overall sample (71)
Mean export earnings (2006) (Rs. million)	8608	2474	5930
Mean export earnings (2014) (Rs. million)	44,472	9871	29,364
Mean export jump (2006–2014) (Rs. million)	35,864	7396	23,434
Mean sales (2006) (Rs. million)	10,153	6858	8714
Export jump as % of sales (%)	353	108	269
Mean board size (2006)	9	11	10
Mean independent director (2006)	5	5	5

**Table 2** Descriptive statistics

Variable	IT firms (40)				Pharmaceutical firms (31)			
	Mean	Std. dev.	Min	Max	Mean	Std. dev.	Min	Max
IC	7.68	2.50	3.10	13.13	7.60	1.84	4.42	11.06
ID	4	3	0	10	4	2	0	9
BS	9	4	3	18	11	3	6	18
FS	8.24	2.41	1.97	13.38	9.21	1.46	5.20	11.49

1. IC and FS are log of values (in Rs. million)

**Table 3** Correlation matrix

Variable	IT Firms (40)				Pharmaceutical Firms (31)			
	IC	ID	BS	FS	IC	ID	BS	FS
IC	1.00				1.00			
ID	0.38	1.00			0.52	1.00		
BS	0.45	0.67	1.00		0.11	0.37	1.00	
FS	0.92	0.36	0.45	1.00	0.59	0.29	0.23	1.00

10, and in certain firms, they did not have any independent director. Board size ranged from 3 to 18 with a mean of 10 board members. International competitiveness measured by log export jump had a mean of 7 with a range of 3–13.

The correlation matrix suggests that firm size and international competitiveness have high correlation (Table 3). In addition, board size and independent director have high correlation. These high correlations were predominantly observed among IT firms as compared to pharmaceutical firms. Both these variables are measuring flexibility in corporate governance; there might be multicollinearity problem among them as correlation is high. This necessitated us to check for variance inflation factor, which suggested low values indicating the absence of multicollinearity.

Table 4 includes the results of the regression of flexibility in corporate governance (measured by ID and BS) on international competitiveness. The regression estimates are conducted with White (1980) heteroskedasticity-consistent

standard errors and covariance. We analyzed the relationship in a phased manner progressing from model 1 to model 3.

Model 1 suggests that ID is significant with a positive coefficient ( $\beta = 0.18$ ,  $t$ -stat = 2.06,  $p = 0.04$ ). In addition, firm size is significant with a positive coefficient ( $\beta = 1.04$ ,  $t$ -stat = 14.63,  $p = 0.00$ ). Controlling for R&D intensity and marketing intensity, model 2 suggests flexibility in governance matters. ID is significant with a positive coefficient ( $\beta = 0.25$ ,  $t$ -stat = 2.25,  $p = 0.04$ ). Whereas board size is significant with a negative coefficient ( $\beta = -0.21$ ,  $t$ -stat =  $-2.05$ ,  $p = 0.05$ ) as expected. Firm size is significant with a positive coefficient ( $\beta = 1.06$ ,  $t$ -stat = 6.79,  $p = 0.00$ ).

Finally, we control for business group affiliation (Reference category = BG affiliated firms) as well as industry affiliation (Reference category = IT firms) by incorporating a dummy variable in model 3. ID is significant with a positive coefficient ( $\beta = 0.25$ ,  $t$ -stat = 2.25,  $p = 0.04$ ).

**Table 4** Relationship between international competitiveness (measured by export jump<sup>a</sup>) and flexibility in corporate governance

	Model 1	Model 2	Model 3
ID	0.18 (2.06)*	0.25 (2.25)*	0.25 (2.25)*
Board size	-0.88 (-1.40)	-0.21 (-2.05)*	-0.22 (-2.10)*
Firm size <sup>a</sup> (sales)	1.04 (14.63)**	1.06 (6.79)**	1.03 (5.75)**
R&D intensity <sup>a</sup>		-0.13 (-0.73)	-0.16 (-0.82)
Marketing intensity <sup>a</sup>		-0.09 (-0.26)	-0.13 (-0.45)
Constant	-1.64 (-2.37)*	-1.33 (-0.69)	-1.44 (-0.79)
Industry dummy (IT CO. = 1)			Included
Group affiliation (BG = 1)			Included
R square	69 %	86 %	87 %
F value	95.62 (0.00)	51.59 (0.00)	42.64 (0.00)

<sup>a</sup> Natural logarithm

\*\*\*  $p < 0.01$ ; \*\*  $p < 0.05$

**Table 5** Relationship between IC and CG operationalizing firm size by total assets

	Model 4
ID	0.42 (3.09)**
Board size	-0.27 (-2.20)*
Firm size <sup>a</sup> (total asset)	0.68 (3.79)**
R&D intensity <sup>a</sup>	-0.67 (-1.99)
Marketing intensity <sup>a</sup>	0.30 (0.80)
Constant	1.01 (0.42)
Industry dummy (IT CO. = 1)	Included
Group affiliation (BG = 1)	Included
R square	79 %
F value	8.97 (0.00)

<sup>a</sup> Natural logarithm

\*\*\*  $p < 0.01$ ; \*\*  $p < 0.05$

Whereas board size is significant with a negative coefficient ( $\beta = -0.22$ ,  $t$ -stat =  $-2.10$ ,  $p = 0.05$ ). Also firm size is significant with a positive coefficient ( $\beta = 1.03$ ,  $t$ -stat =  $5.75$ ,  $p = 0.00$ ). Subsequently, we interpret only model 3.

### Robustness of Findings

Our findings on international competitiveness (based on multiple regression) indicate that flexibility in corporate governance is more likely to increase firm's competitiveness. To strengthen our inference and a robustness check exercise, we estimate model 3 by measuring firm size by log assets instead of log sales. Table 5 suggests that ID is significant with a positive coefficient ( $\beta = 0.42$ ,  $t$ -stat =  $3.09$ ,  $p = 0.08$ ). Whereas board size is significant with a negative coefficient ( $\beta = -0.27$ ,  $t$ -stat =  $-2.20$ ,  $p = 0.05$ ). Firm size is significant with a positive

coefficient ( $\beta = 0.68$ ,  $t$ -stat =  $3.79$ ,  $p = 0.00$ ). The results of model 4 therefore support our findings that increasing flexibility in corporate governance enhances international competitiveness of Indian firms.

### Discussions

Review of corporate governance and international competitiveness (IC) links from two polar industries provided interesting findings. Flexibility in CG and IC linkages was confirmed in the presence of firm size, R&D intensity, marketing intensity, business group affiliation dummy, and industry dummy. Results suggest that for a unit increase in number of independent directors, we expect to see about 1.28 % increase in international competitiveness, since  $\exp(0.25) = 1.28$ . Whereas, for a unit increase in board size, we expect to see about 1.24 % decrease in international competitiveness, since  $\exp(0.22) = 1.24$ . The findings provide useful implications for the role of board size (BS). The findings confirm inverse relationship between board size and international competitiveness. While larger board can have advantages of diversity of experiences, smaller board can be more effective with speed and coherence of decisions often necessary for exports to dynamic international markets. Overall, relatively low export performance of many industries despite having firms with large boards indicates the need for innovations in governance.

The model suggests that 1 % increase in firm size would yield a 0.10 % increase in the international competitiveness of the firm. Strong role of firm size for international competitiveness confirmed an earlier insight (e.g., Yadav and Momaya 2010). This may be attributed to heavy investments needed to build capabilities (e.g., managerial to innovation) to compete internationally; firm size helps make the investments. We further verify the robustness of

our results by replacing firm size measured by log sales to log assets. In contrast to the USA, in most Asian contexts capabilities are built slowly and organically. This is desirable in most contexts, including ‘Built to Last,’ but rapid scale-up in capabilities becomes necessary in some context and that should be reflected in size. Transition from industrial revolution to knowledge revolution in India, in such industries as the case of two in this paper, may necessitate indigenous models, mantras, and metaphors in management, leadership, human development as well as strategic thinking and policymaking (Sharma 2016).

Indian firms are realizing the need of improving corporate governance (CG) to enhance international competitiveness (IC). These governance frameworks need periodic review and are contextualized for effective implementation and enforcement. This recognition of flexibility in CG practices is required, as ‘one size does not fit all’ (OECD 2011). This continuous assessment is an important tool in the process of developing an effective CG framework. For instance, Indian firms have a predominance of controlling shareholders (Haldar and Rao 2011), which necessitates more focus of independent director to monitor the management and effectively protect minority shareholders. Hence, advocating that board independence enhances board monitoring, has value and helps firms compete internationally. Finally, the tenet is reinforced by our findings that independent directors significantly affect international competitiveness in these two highly internationally competitive industries in India.

## Conclusions and Implications

Interesting patterns emerged for the two highly competitive innovative industries, despite limitations due to availability and completeness of data that constrained sample size. Firm size emerged to be a stronger driver of international competitiveness. This is understandable as both the industries remain highly fragmented in India, and hardly few Indian firms have critical size (e.g., Yadav and Momaya 2010) and capabilities to manage risks and grow rapidly internationally. Service sector firms displayed higher levels of flexibility in their governance practices. These firms quickly adapted and implemented the best CG practices to be internationally competitive. Numbers of IT firms in India are business group-affiliated firms, which are typically characterized by higher levels of opacity in their business practices. In spite of the ills ascribed to the family business groups in emerging economies, these concentrated owners might not be hostile to competition. Thus, even in the low capital intensity and relatively unregulated setting of Indian IT industry, concentrated ownership flourishes in

a privately successful and socially useful way of enhancing international competitiveness (Khanna and Palepu 2004).

When compared to most advanced countries, both hyper-competitive industries in India remain highly fragmented. Such combined factors restrict them to suboptimal size—often 1/20th to 1/4th of the size of the competitive firms in other countries—affecting their risk management and innovation capabilities. Hence, it will be very challenging for Indian firms to reach high levels such as ‘Build to Last’ (e.g., HP, J&J) (Collins and Porras 1996) that make lasting contributions toward industry and clusters for decades. Situations in India sometimes do not provide relevant opportunities of consolidation, and some firms have looked at international M&A; as discussed above, the success of such M&A has been limited due to gaps in complementary capabilities. Enhancing new product development (NPD) capabilities—first for domestic market and later adapting them for select international markets—may be a better way forward for not only the two industries, but other industries also can be helpful. Comparatively, Indian focal pharmaceutical firms may have a huge opportunity to contribute to employment generation (what IT has done so well), if they can build resources to take Indian health care and other elements of Indian medicine system (e.g., Ayurveda) international. Strong support of government at center for Yoga may act as enabler. Ayush is one example of strategic intent that can be implemented, if Indian focal firms can mobilize human, financial, and other resources.

## Implications

The findings have implications for multiple stakeholders; we will focus on two key stakeholders. We start with implications for top management of companies and practitioners keen to enhance governance and leverage it for competitiveness. Maturity of corporate governance ultimately depends on quality of governance across levels—from local and municipal governance to national and international levels. Companies will have to strive to enhance governance, even if there are big ‘structural holes’ in governance at world level such as ‘Security Council,’ ‘Tax Heavens’ (e.g., Jalan and Vaidyanathan 2014). Indian firms have a long way to go in building capabilities on multiple fronts from functions or competitiveness processes such as HRM, operations, marketing to cross-functional such as internationalization, knowledge management, and management of risk.

Considering a worst export slow down India has faced recently, some implications for policy makers are also relevant. For continuously 14 months, India’s exports have been declining. Luckily, crisis like Latin American countries has not broken out yet, but cannot be ruled out when



any tsunami hits in an interconnected world. With liberalization, companies have been given enormous freedom on many fronts, but associated responsibilities seem to be less understood in India. Policy makers should understand such balances and evolve policies that encourage better-governed firms excelling at exports and place checks on corporates escaping their responsibilities.

### Limitations and Directions for Further Research

Despite starting with as large a sample as possible in CMIE Prowess database among 1552 firms (IT + Pharmaceutical), completeness of data constrained sample sizes and hence several limitations in results. For some factors, we are more dependent on financial performance. The non-financial measures such as enterprise and stakeholders (Sushil 2014) need to be considered for strategic performance. Our measure of flexibility in CG is based on limited, yet relevant facets of governance. We are working on alternatives and hope to enhance results significantly in next phase.

### Further Areas of Research

Several interesting areas for further research emerged as we explored depth in this study. We briefly highlight the select high potential areas here. Scale-up in IC, particularly on exports and other forms of internationalization, demands sustained efforts to build innovation capabilities. That often requires heavy investments in building capabilities such as innovation, international, and HRM. How some FIOs have quickly built capabilities is a high potential area. CG will become more complex as FIOs aspire to compete in vast and diverse markets in East Asia, where much higher flexibility will be needed from current dominant design of Anglo-Saxon practices. Firms would need to go on a self-discovery mode and rediscover their niches and build on them to leverage their existing governance structures. Thus, flexibility in corporate governance would emerge as a key differentiator of emerging and growing country such as India.

Alternate approaches to internationalization and CG for competitiveness and sustainability can provide exciting arenas of research. Innovation and flexibility are the two pillars for achieving a high vital state and can be defined as two vitalization processes for organization vitality (Bishwas 2015). How such processes can be synergized with other competitiveness processes to breakout to next levels of competitiveness (Momaya 2014) can be an exciting high potential area of research. It may demand new strategic thinking and management (e.g., Sharma 2016) and can be another area of research.

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### Key Questions Reflecting Applicability in Real Life

1. Explore in context of your organization, how governance connect to competitiveness and what are the areas of major improvements.
2. Take a case of your firm or other firm. Find out, how characteristics of CG (e.g., board size and independence) seem to affect the enablers of export competitiveness. What other factors become more relevant in that context?
3. How can you enhance flexibility in CG when you aim to scale-up fast on exports or other modes of internationalization?



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