The drivers of corporate governance disclosure: the case of Nifty 500 Index

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Abstract

Purpose – Based on agency theory, the purpose of this paper is to investigate the determinants on the dissemination level of corporate governance disclosure (CGD).

Design/methodology/approach – The sample of the study incorporates listed companies in Nifty 500 Index for the period 2009-2014. The Governance Disclosure Score calculated by Bloomberg is used as a proxy for the dissemination level of corporate governance information. In total, eight explanatory variables are uses, namely, board's size, number of board meetings, CEO duality, presence of women on the board, company's size, financial performance, Tobin's Q ratio and financial leverage.

Findings – The results of study suggest a need for improvement in CGDs by Indian companies, as they fail to comply the majority of the proposed disclosure items. Furthermore, it is revealed that the number of board director, the value of company, the financial leverage and the presence of women affect negatively the dissemination level of corporate governance information. While, the size of company is the only determinant that positively affects the extent of CGD.

Practical implications – The results are valuable because they reveal the attributes that determines which companies needs less or extra monitoring by shareholders and investors regarding the applied corporate governance practices. In addition, the study can be valuable to policy makers responsible for the regulation of company's accountability in relation to corporate governance practices.

Originality/value – The study extents previous studies by incorporating for the first time Bloomberg's rating approach regarding the dissemination level of CGD in Indian context.

Keywords India, Disclosure, Corporate governance, Agency theory

Paper type Research paper

1. Introduction

Corporate scandals such as Enron, Worldcom and Lehman Brothers pushed companies to publish information as the corporate trust has been affected negatively (Bauwhede and Willekens, 2008). In recent years, corporate transparency is a signal for the management quality and ability for the management to grow profitably (Bhat *et al.*, 2006; Daub, 2007;

JEL classification – M40, M48, M14

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Eccles et al., 2011). Ample of researches have investigated determinants that affect the corporate transparency level mostly via disclosures, such as corporate social responsibility (CSR) disclosure (Saleh et al., 2010; Said et al., 2009; De Villiers and Marques, 2016), voluntary disclosure (Al-Akra et al., 2010), social and environmental disclosure (Haniffa and Cooke, 2005; Tagesson et al., 2009; Siregar and Bachtiar, 2010; Alrazi et al., 2016), triple bottom-line disclosure (Jennifer Ho and Taylor, 2007), sustainability disclosure (Michelon and Parbonetti, 2012) and governance disclosure (Sharma, 2014). This study focuses on the corporate governance disclosure (CGD), as it is considered a pivotal component of corporate strategy as well as overall effective corporate governance in current business global context (Cheung et al., 2010).

Agency theory is used to explain the managers' behavior in response to governance information level (Parsa et al., 2007; Kelton and Yang, 2008; Sharma, 2014; Samaha et al., 2012; Elshandidy and Neri, 2015; Abdullah et al., 2015; Hussain et al., 2016). The separation of ownership and control can create conflicts of interest between corporate management and shareholders as managers can operate for their own benefit (Jensen and Meckling, 1976; Watts and Zimmerman, 1986). Managers have an advantage of corporate information, while shareholders are not able to evaluate and determine the value of the managers' decisions. The question arising is how shareholder(s) can guarantee that the manager(s) would take those beneficial decisions only to shareholder(s). For this reason, shareholders(s) are willing to pay monitoring costs and bonding costs to ensure inasmuch as it is possible that the management would act only for principals' benefit (Ross, 1973; Jensen and Meckling, 1976; Noreen, 1988). Agency costs not only concern shareholders but also investors; low corporate transparency level is not desirable from investors because they cannot monitor reliable corporate governance mechanism (Healy and Palepu, 2001). Thus, the dissemination of corporate governance information is considered as a key corporate procedure that determines the information asymmetry level between corporate insiders and outsiders (Cheung et al., 2010).

The present study makes an effort to identify the potential drivers of the dissemination level of governance disclosure information. More specifically, it intends to explain the managers' behavior in relation to information level published via disclosure to shareholder and other stakeholders such as investors or debtholders. For the objectives of the particular study eight determinants are used divided into two categories: board of directors attribute and corporate characteristics. Regarding the first category, four variables are incorporated, namely, CEO duality, board size, women's presence on board and number of board meetings, while regarding the corporate characteristics, another four variables are used, namely Tobin's Q, financial performance, company's size and financial leverage. The sampling frame for the study consisted of listed companies in Nifty 500 Index for the period 2009-2014. The study focuses on India because it is among the largest economies in the world with gross domestic product (GDP) of $2tn at the end of 2014, while for the period of 2009 to 2014 the GDP was increased approximately 50 per cent[1]. Even if India is among the most powerful economies, the determinants of CGD under the prism of Agency theory have not been investigated yet.

The study makes a significant contribution to the field of dissemination level of corporate governance information and its determinants under the Agency theory prism. First, a third party rating approach is adopted to estimate the dissemination level of governance information as calculated by Bloomberg's Governance Disclosure Score (GDS) surpassing the subjectivity concerns of prior empirical studies. Unlike prior studies, a fixed effects model is elaborated to investigate the recommended model. Moreover, explanatory variables are introduced for the first time in relation to CGD level. Finally, a six-year period data is taking into account by using the online Bloomberg database contrary to the majority of studies focused on one year corporate data. The results of the study are significant, as it adds knowledge to understand the managerial behavior in relation to information asymmetry between managers and shareholders or investors. Moreover, delighting the factors that determine the corporate governance information level can constrain managers from opportunistic behavior.

The remainder of the paper is structured as follows: Section 2 highlights the corporate governance environment in India along with the presentation of prior empirical studies concentrating on the most recent and notable studies. Section 3 presents the hypotheses development under the Agency theory framework, while Section 4 describes the methodological steps that have been adopted in the study, while Section 5 illustrates the results of the study. In Section 6, conclusions which summarize and make propositions for further research are presented.

2. Literature review

The country of the company's origin is an important aspect of corporate governance and more particularly of CGD (Smith *et al.*, 2005). India is regarded as a developing economy based on customary law which means that customs are recognized as the principal source of law (Holden, 2003; Francis *et al.*, 2003; Kansal *et al.*, 2014). In particular, India's law is considered to have been affected by common law, as India was a British colony. The legal system in India can be considered as a prominent example of a mix legal system as customary, personal and religious laws well known as customary law are incorporated (Holden, 2003; Ibrahim, 2007). Prieto-Carrón *et al.* (2006) pointed that the main challenge for India is that companies have to implement their legal obligations signaling low level of non-mandatory disclosure initiatives.

A number of bodies and initiatives promote the importance of corporate governance and dissemination of information in India. Before the implementation of Clause 49, corporate governance practices were rare in India. From 1947 to 1991, private debtholders and equity capital providers had a number of difficulties to exercise oversight over managers because judicial decisions delayed. In 1991, India faced a fiscal crisis and reformed the corporate governance to attract investments. The first step was made by introducing the CII Code which recommended specific initiatives (Black and Khanna, 2007). An important aspect of the Corporate Governance in India is Clause 49 of the SEBI guidelines on Corporate Governance which ameliorated the concept of corporate governance. It proposed initiatives to enhance disclosures to shareholders and any other stakeholder reducing information asymmetry (SEBI Committee on Disclosures and Accounting Standards, 2009; OECD, 2014).

As far as CGD is concerned, a limited number of empirical studies are focused on the dissemination level of corporate governance information and its determinants (Bauwhede and Willekens, 2008; Gandía, 2008; Samaha *et al.*, 2012; Sharma, 2014; Abdullah *et al.*, 2015). Next, a few notable and recent studies are presented regarding the relationship between CGD and its determinants. The most recent study of Abdullah *et al.* (2015) took into account CGD of Islamic banks investigating its determinants. It was revealed that corporate governance strength based on different governance characteristics, company's size, legal system, level of political and civil repression and legal system affect the voluntary CGD disclosure practices. The absence of an established professional accounting and auditing environment are considered two causes for the lack of disclosures in Brunei, Bahrain and Qatar. Moreover, Sharma(2014) focused on bank and finance companies listed on Nepal Stock Exchange to investigate the extent of mandatory CGD and its five specific characteristics. The results showed that only the company's size is an important predictor of governance disclosure. Furthermore, Samaha *et al.* (2012) took into account 100 of the Egyptian companies listed on the Egyptian Stock Exchange for the year 2009. In particular, CEO duality, ownership concentration, independent directors of the board and firm size are significant determinants to the extent of CGD. The study confirmed that companies disclose corporate governance information for three main reasons; reduce information asymmetry and agency costs; and improve investor's confidence in the reported accounting information.

In the European Union context, Bauwhede and Willekens (2008) revealed that companies develop CGD to reduce information asymmetry and agency costs incorporating a mandatory and voluntary disclosure index. Based on 130 European listed companies, it was found that ownership concentration, companies from common-law countries and the level of working capital accruals are significant factors of dissemination level of governance information. Thus, the results supported that CGD is a mean to reduce information asymmetry and agency costs between managers and shareholders. Based on Spanish listed companies, Gandía (2008) paid attention on internet-based CGD and its determinants taking into account a number of several corporate characteristics. The results showed that the dissemination level of governance information is affected by the degree to which firms are followed by analysts, listing age, visibility and the fact of belonging to the communications and information services industry. The study implied that internet is an essential tool for the dissemination governance information playing an important role in the networked society. Finally, Parsa *et al.* (2007) took into account small and medium-sized companies listed on the alternative investment market established by the London Stock Exchange. The study focused on three years, 2002, 2003 and 2004, only the variable representing the number of non-executive directors on the audit committee affect positively the extent of CGD.

A number of remarks could be underlined regarding the selective literature review. In total, 37 explanatory variables have been adopted to investigate the extent of CGD information. However, 17 variables were found significant to the extent of CGD; with the company's size considering the most common significant determinant (Appendix). According to the results, it can be ascertained that there is no concession which determinants affects mostly the extent of CGD. The development of CDG indexes is based on a combination of different criteria and sources implying that there is no agreement for the most appropriate set of disclosure items. Furthermore, an unweighted score approach was adopted by prior studies for calculation procedure of CGD score. Apart from Parsa *et al.* (2007), prior studies were based on a one-year period corporate data without receiving attention to a longer period, while the most recent investigation goes back to 2009; thus, it is necessary to update the determinants of the dissemination level of CGD.

3. Hypotheses development

This section presents the analysis of hypothesis development regarding the extent of CGD and its determinants through the Agency theory. In total, eight explanatory variables are adopted divided into two categories: board of directors and corporate characteristics. The role of a board of directors is very crucial, and it is considered the core of the governance system. Specifically, it provides accountability to shareholders, strategic orientation of the company, management control and leadership (Kumar Mangalam Birla Committee, 2000; Cadbury, 1992). For this reason, four explanatory variables are used regarding the corporate board: CEO duality, board size, women's presence on board and number of board meetings. The second category incorporates four company's characteristic Tobin's Q, financial performance, company's size and financial leverage.

3.1 Corporate board of directors attributes

3.1.1 Presence of women on the board. For the first time, the board diversity on CGD level is examined by incorporating the presence of women on directors' board. The presence of women on the board of directors is used as a proxy of board diversity (Carter *et al.*, 2003). Women's experiences may force the board to establish more effective stakeholder management in order to satisfy stakeholders' claims including shareholders or creditors (Zhang *et al.*, 2013). Similar results reached a number of studies implying that women on board of directors are more stakeholder oriented than men (Ibrahim and Angelidis, 1994; Sicilian, 1996; Williams, 2003). The presence of women on boards could affect positively the governance of companies in many ways (Adams and Ferreira, 2009; Coffey and Wang, 1998). However, Khan (2010) did not find a significant relationship between the women's presence on board of directors and corporate socially responsibility reporting in Bangladesh. Based on Agency theory, the presence of woman on board can enhance the communication level between management and stakeholders. Thus, the following hypothesis is tested:

H1. Higher level of women on the board has a positive effect on the extent of CGD level.

3.1.2 CEO duality. CEO duality situation is referred when the same person holds both CEO and chairperson's positions simultaneously (Rechner and Dalton, 1991). In relation to the Agency theory, CEO duality increases the individual power for CEO affecting the effective control exercised by the board (Samaha *et al.*, 2012). CEO decides what information can be available to directors exacerbating potential conflicts of interest and decreases the effectiveness of monitoring (Allan and Widman, 2000; Booth *et al.*, 2002). In addition, CEO duality situation increases the risk that he/she could act for his/her own personal interest (Jensen, 1993). Thus, Beasley and Salterio (2001) proposed that the separation of the two roles, Chairman and CEO, can enhance efficiency and reporting processes. In CGD context, Samaha *et al.* (2012) found a negative effect of CEO duality situation on CGD. Prior studies on different types of disclosure revealed that CEO duality situation affects negatively the extent of disclosure (Gul and Leung, 2004; Huafang and Jianguo, 2007). However, Said *et al.* (2009) found that the insignificant effect of CEO duality situation on the dissemination level of disclosure. Based on these arguments, the negative effect of CEO duality on the dissemination information level in disclosure is hypothesized.

H2. CEO duality affects negatively the extent of CGD.

3.1.3 Board size. The number of directors is considered to be an important determinant for the accomplishment of its goals. The board of directors helps to eliminate the agency conflicts that derived from the managing of organization (Hermalin and Weisbach, 2003). Jensen (1993) showed that the increased members of a board cause less effective coordination, communication and decision-making. According to Goodstein *et al.* (1994), it is implied that the larger member of board directors is, less effective and motivated to provide more information in disclosure becomes. Similarly, Siregar and Bachtiar (2010) pointed out that when the directors of the board are too many, the monitoring process is ineffective. Samaha *et al.* (2012) took into account prior research and pointed that companies with larger board size of directors is more likely to incorporate more information annual reports and websites. In the field of Agency theory, the board size of directors is a significant factor of monitoring the board and in making strategic decisions. In the Egyptian context, Samaha *et al.* (2012) showed an insignificant role of board size of directors on the extent of CGD. Prior studies on different voluntary type of disclosure showed different results. Siregar and Bachtiar (2010) revealed that the size of the board has a positive and nonlinear effect on CSR reporting. In addition, Said *et al.* (2009) and

Ezat and El-Masry (2008) found a positive effect of board size of directors on disclosure. However, Cheng and Courtenay (2006) showed no association between the board size and the voluntary disclosure. All in all, a larger board size of directors is more likely to disseminate more information in disclosure reducing the agency cost.

H3. Larger size of board of directors affects positively the extent of CGD.

3.1.4 Number of board meetings. The frequency of board meetings is incorporated for the first time in relation to CDG level. According to Laksmana (2008), the number of board meetings is used as proxy for board diligence. Vafeas (1999) showed that more frequent meetings of board imply that managers feel greater pressure to provide supplementary information implying reduced agency costs. Thus, the number of meetings held by the board is likely to be monitoring management more closely mitigating information asymmetry. The following hypothesis is tested:

H4. Higher number of board meetings affects positively the extensive level of CGD.

3.2 Corporate characteristics

3.2.1 Financial performance. Based on Agency theory, it is investigated how managers react to profitability in relation to information provided in CGD. It is supported that managers have different incentives to publish more information in disclosures, namely, continuance of their positions and compensation packages and to signal institutional confidence (Singhvi and Desai, 1971; Gandía, 2008; Gallery *et al.*, 2008).

In CGD context, Gandía (2008) and Parsa *et al.* (2007) found that there is no relationship between financial performance and the extent of CDG. Prior studies on voluntary disclosures; Branco and Rodrigues (2008), Mohd Ghazali (2007), Alsaeed (2006), Esa and Mohd Ghazali (2012), Andrikopoulos *et al.* (2014) and Siregar and Bachtiar (2010) did not find any significance of profitability on disclosure. However, Haniffa and Cooke(2005), Gamerschlag *et al.* (2011), Singhvi and Desai (1971) and Said *et al.* (2009) revealed a positive effect of financial performance on social responsibility disclosure. However, Andrikopoulos and Kriklani (2013) revealed a negative effect of profitability on the extent of voluntary disclosure. Based on Agency theory, it is expected that managers of more profitable companies provide more information in CGD to reinforce their existing position and their compensation. The following hypothesis is tested:

H5. More profitable company is expected to disseminate more information in CGD.

3.2.2 Tobin's Q. For the first time, the effect of Tobin's Q on CGD level is investigated. Tobin's Q can be used as a proxy of corporate valuation (Garay *et al.*, 2013; Chen *et al.*, 2014) and management capability (Luo and Tang, 2014), as it reveals the potential of added value of the company (Al-Akra and Ali, 2012). Based on Agency theory, companies use disclosure means to reduce agency costs and, as a result, reduce the cost of capital. Regarding prior empirical studies, Drobetz *et al.* (2014) showed a positive relationship between CSR disclosure and Tobin's Q. Akerlof (1970) pointed that overestimated companies have greater incentives to develop non-mandatory information to achieve lower cost of capital omit avoiding a price discount. However, De Villiers and Van Staden (2011) revealed that Tobin's Q affects negatively the dissemination level of environmental information on annual report, while Clarkson *et al.* (2008) did not find any significant effect of Tobin's Q on voluntary disclosure.

Taking into account the Agency theory, managers of companies with higher Tobin's Q are expected to provide more information in CGD to designate their capability in terms of added value. The following hypothesis is tested:

H6. Higher Tobin's Q is expected to affect positively the extent of CGD.

3.2.3 Financial leverage. Financial leverage has been used as a proxy of creditor's power (Liu and Anbumozhi, 2009). According to Agency theory, the management of higher leveraged companies intends to minimize the agency costs by providing more information in disclosures (Jensen and Meckling, 1976; Sharma, 2014). Reduced agency costs of debt and cost of debt financing can be achieved by disseminating more information regarding the adopted governance structures and initiatives (Bauwhede and Willekens, 2008). However, in case of increased leverage, the dissemination level of information is expected to be reduced and the agency costs of debt is reduced because of restrictive debt covenants in the debt agreements rather than increased information level on disclosures (Eng and Mak, 2003; Jensen, 1986). Regarding prior empirical studies, Branco and Rodrigues (2008) showed that higher level of financial leverage lowers the socially responsible disclosure level. However, a number of empirical studies did not find any statistical effect of financial leverage on CGD level suggesting that agency costs of debt have no incremental impact on the CGD level (Parsa *et al.*, 2007; Bauwhede and Willekens, 2008; Reverte, 2009; Siregar and Bachtiar, 2010). Based on Agency theory, the following hypothesis is tested:

H7. Higher level of financial leverage affects positively the extent of CGD.

3.2.4 Company's size. According to Agency theory, larger companies tend to need more external funds than smaller ones increasing the possibility for agency conflicts between shareholders, debtholders and managers. Thus, larger companies use disclosures to reduce information asymmetries and monitoring costs. Specifically, larger in size companies disseminate more corporate governance information because they face larger problems concerning the separation of ownership and management (Eng and Mak, 2003; Álvarez *et al.*, 2008). It is pointed out that the size of company can be a decisive factor for the extent of disclosure as larger companies are more visible to stakeholders, being under pressure to provide more information and have lower costs associated with the generation and publication of corporate information because of scale economics (Lang and Lundholm, 1993; Cowen *et al.*, 1987; Tagesson *et al.*, 2009). A number of prior studies support the positive effect of company's size to CGD (Gandía, 2008; Álvarez *et al.*, 2008, Samaha *et al.*, 2012). In the Indian context, Hossain and Reaz (2007) focused on voluntary disclosure and found a positive effect of company's size on the extent of disclosure. Kansal *et al.* (2014) took into account CSR disclosure showing that the company's size determined the level of non-mandatory information in disclosures. However, Meznar and Nigh (1995) pointed out that larger American companies are more powerful and able to resist to stakeholders' pressure or control; thus, limited information is provided in disclosures. Jensen and Meckling (1976) assumed that larger companies withhold information to avoid the political costs. In addition, Singhvi and Desai (1971) and Wallace and Naser (1995) stated that smaller companies have more incentives to disclose more information to achieve a competitive advantage. Finally, Udayasankar (2008) stated that both large and small sized companies are likely to develop voluntary initiatives to differentiate their strategy and increase their efficiency in the resource exploitation process.

To sum up, it is hypothesized that the effect of a company's size affects positively the dissemination of corporate governance information. The following hypothesis is tested:

H8. Larger companies tend to disseminate more information in CGD than small-medium sized companies.

4. Methodology

4.1 Sample

The sample of study takes into account, for the first time, the leading Indian companies inconsistent to prior studies that focused on Spain (Gandía, 2008), UK (Parsa *et al.*, 2007), Egypt (Samaha *et al.*, 2012), European companies (Bauwhede and Willekens, 2008) and Islamic countries (Abdullah *et al.*, 2015). Thus, Indian companies listed on Nifty 500 Index are considered for the period 2009-2014. In particular, the Nifty 500 Index is a capitalization weighted index of 500 companies that represent about 90 per cent of the total market capitalization of India and about 98 per cent of the total turnover. Out of 500 companies, 110 companies were used in the final sample of the study because of missing corporate data on the Bloomberg online service.

Consisted to prior studies, the study is focused on large and listed companies, as it is expected to incorporate voluntary disclosure in relation to corporate governance. The analysis engaged only in the Indian economy for comparability purposes producing homogeneous results (Gamerschlag *et al.*, 2011).

4.2 Independent and dependent variables

As far as the dependent variable is concerned, most of the prior studies adopted a variety of disclosure items of equal importance from different sources to construct a CGD index (Samaha *et al.*, 2012; Parsa *et al.*, 2007; Sharma, 2014). This study for the first time incorporates the Governance Disclosure Index (GDI) calculated and provided by Bloomberg online database, and it is used as a proxy of the extent of CGD. It is a sub-index of broader index, namely, Environmental Social Governance index, and it has been used by a number of studies for different purposes (Wang and Sarkis, 2013; Eccles *et al.*, 2011). The dissemination level of CGD information measured by GDI can be considered as a proxy of corporate transparency (Eccles *et al.*, 2011). A main advantage of Bloomberg's methodology is the incorporation of different sources of information such as web sites, CSR reports or annual report for the construction of disclosure index. The Bloomberg's score is based on 100 of 219 data points that Bloomberg collects while the score ranges from 0.1 for companies that disclose a minimum amount of data to 100 for those that disclose every data point. Unlike the majority of the prior studies, Bloomberg's methodology incorporates different weight for each disclosure item in accordance with its importance. As each industry confronts specific challenges and concerns, the importance of disclosure items to the total GDI differs. A variety of disclosure items are incorporated for the construction of CGD score presented in 2012 SUSTAINABILITY REPORT (Bloomberg, 2013; Siew, 2015) and a third party rating of CGD level by Bloomberg is used to avoid the subjective limitations.

Regarding the explanatory determinants, eight variables are used, namely, presence of women on the board, CEO duality, board size, number of board meetings, financial performance, Tobin Q, leverage and company's size. Table I presents the definition and the measurement of variables and the predicted direction of the relation with disclosure extent for each hypothesis[2]. Both depended and independent variables were retrieved by online Bloomberg's platform.

A variety of regression models have been used to investigate the effects of explanatory variables to the extent of voluntary disclosure (Siregar and Bachtiar, 2010; Reverte, 2009), both univariate and multivariate regression models (Liao *et al.*, 2014), multivariate regression analysis through step-wise method (Monteiro and Aibar-Guzmán, 2010), unranked and ranked regression (Jennifer Ho and Taylor, 2007) and hierarchical regression analysis (Said *et al.*, 2009). In this study, a fixed effects model was developed to investigate

Variable	Predicted signs	Measurement
Board meetings	+	Total number of corporate board meetings held in the past year
Board's size	+	Number of Directors on the company's board, as reported by the company
CEO duality	−	Indicates whether the company's Chief Executive Officer is also Chairman of the Board, as reported by the company (value 1 = CEO and Chairman, value 0 = otherwise)
Presence of women on the board	+	Percentage of women on board
Company's size	+	Total of operating sales
Financial performance	+	Return on asset
Tobin's Q ratio	+	Ratio of the market value of a firm to the replacement cost of the firm's assets
Financial leverage	+	Average total assets/average total common equity firm's capital structure

Table I. Measurement of independent variables

the effects of explanatory variables on the dissemination corporate governance level by incorporating STATA software. The proposed model is provided:

$$CGD = a_0 + b_1 * BS + b_2 * WB + b_3 * CEOD + b_4 * BM + b_5 * CS + b_6 * FP + b_7 * TQ + b_8 * FNL + u_{it}$$

where:

CGD = Governance Disclosure Index;
BS = Board's size;
WB = Percentage of women on board;
CEOD = CEO duality;
BM = Number of Board Meetings;
CS = Company's Size;
FP = Financial Performance;
TQ = Tobin's Q ratio;
FNL = financial leverage;
a = intercept; and
u = error term.

Finally, a number of statistical tests are developed; multicollinearity is examined via correlation matrix, Breusch–Pagan test is used to test for heteroscedasticity, and a Lagram–Multiplier test is developed for serial correlation.

5. Results

5.1 Descriptive results and correlation matrix

The sample of the study consists of 110 out of 500 companies listed in NSE 500 index corresponding to 22 per cent of the total. The extent of CGD can be considered low according to Bloomberg's standards achieving a mean score 46.4 points out of the maximum score of 100 points consistent to Sharma (2014) and Prieto-Carrón *et al.* (2006). This mean that the senior management does not focus satisfactorily on corporate governance information increasing the agency costs. The CGD levels do not change significantly over the investigated period as the standard deviation is considered low. However, companies are not, probably, vulnerable to disseminate information that might affect their competitive advantage; thus, the dissemination level is restricted.

According to correlation matrix, Table II, there is no multicollinearity among explanatory variables as Pearson's correlation coefficients do not exceed the value 0.8 or 0.9 (Gujarati, 1988). The multicollinearity is not a serious limitation because Pearson correlations between explanatory variables range from 0.06 to 0.60.

5.2 Fixed effects results

Huber–White robust clustered standard errors approach is taking into account to adjust any potential heteroscedasticity and serial correlation (Wooldridge, 2002; Rogers, 1993; Field, 2013).

The proposed model is significant with R squared equal to 0.7593 which indicates that the independent variables explain 71.14 per cent of the variance in CGD with F = 5.71 ($p <$ 0.01). On the one side, it is found that the size of board directors, Tobin's Q, financial leverage and women' presence on board are significantly negative on CGD at 1 per cent level. On the other side, the coefficient of the company's size indicates a significantly positive on CGD at 5 per cent level (Table III).

In particular, the number of directors on boards affects negatively the dissemination level of CGD. Lower members' boards can mitigate better agency conflicts between managers and shareholders by increasing the information of corporate governance in disclosures. While, larger numbered board of directors can lead to ineffective coordination in communication among directors providing less information inconsistent with Said *et al.* (2009) and Esa and Mohd Ghazali(2012). Besides, members of large boards are more possible to develop factions and coalitions increasing conflicts among them making more difficult to reach an agreement on critical decisions, such as transparency policy (O'Reilly *et al.*, 1989; Goodstein *et al.*, 1994). Finally, as the mean score of the Indian board member is beyond of seven or eight members, the board of directors is less effective as coordination and process problems arises (Lipton and Lorsch, 1992; Said *et al.*, 2009).

Regarding the company's size, it was revealed that larger companies tend to provide more information in relation to corporate governance consistent with Sharma (2014), Samaha *et al.* (2012), Gandia (2008) and Abdullah *et al.* (2015). Based on Agency theory,

Variable	BS	WB	CEOD	BM	CS	FP	TQ	FNL
BS	1							
WB	0.0653***	1						
CEOD	0.0765**	−0.0187	1					
BM	0.1232*	−0.0499	0.0097	1				
CS	0.2802*	0.0743***	−0.0572	0.3360*	1			
FP	0.0499	−0.0004	−0.1161*	0.0006	−0.0432	1		
TQ	0.0364	0.0480	−0.1738*	−0.0934**	−0.0385	0.6003*	1	
FNL	−0.0609	−0.0744***	−0.0523	−0.0748**	0.0488	−0.3907*	−0.2586*	1

Notes: BM = Number of board meetings, BS = Board's size, CEOD = CEO duality, CS = Company's size, FP = Financial Performance, TQ = Tobin's Q ratio, FNL = Financial Leverage, WB = Percentage of women on board. *, **, ***Significant at 0.01, 0.05, and 0.1 levels (two-tailed), respectively

Table II.
Correlation matrix

Variables	Coefficient	Robust std. err.	*t*-statistic
CEOD	0.9211569	0.9429863	0.98
BS	−0.2085355**	0.1054472	−1.98
CS	2.84e-06**	1.27e-06	2.24
TQ	−0.3309198*	0.1125508	−2.94
FNL	−0.6996704*	0.2511861	−2.79
BM	0.2092767	0.1617011	1.29
WB	−0.0773785*	0.0291881	−2.65
FP	0.0049138	0.0106528	0.46
Constant	49.70808*	1.530341	32.48
Adj *R*-squared	0.7593		
F value	5.71*		

Notes: BM = Number of board meetings, BS = Board's size, CEOD = CEO duality, CS = Company's size, FP = Financial Performance, TQ = Tobin's Q ratio, FNL = Financial Leverage, WB = Percentage of women on board. *, **Significant at 0.01 and 0.05 (two-tailed), respectively. Adj *R*-squared was calculated by areg command

Table III.
Fixed effect results

the results consist that larger companies seem to disseminate more information to reduce information asymmetries and monitoring costs, as they face larger problems concerning the separation of ownership and management. As companies become larger, the number of stakeholders increases leading to higher level of visibility and social scrutiny. In addition, the disclosure cost is lower for larger companies because of economy of scales.

Regarding Tobin's Q variable, it is revealed that underestimated companies tend to provide more information in disclosure consistent with De Villiers and Van Staden (2011). Shareholders and other stakeholders exercise pressure on Indian corporate managers to disseminate more corporate governance information to assess the potential of future added value of the company.

As far as women on board of directors is concerned, this study reveals that the presence of women affects the corporate governance by deteriorating shareholders' control on corporate management. Consequently, greater commitment of women on board directors induces higher level of agency costs. This result is contrary to literature review; thus, a more detailed approach for the presence of women on board is required focusing on their educational level and orientation, age and number of experience which could render possible explanatory dimensions on the issue.

Even if higher leveraged companies increase the dissemination of information to reduce the cost of capital, this study reveals that corporate managers provide less corporate governance information. A possible explanation is that restrictive covenants in the debt agreement is possible better to control the agency costs than higher level of CGD, implying a closer relationship between creditors and company (Jensen, 1986; Purushothaman *et al.*, 2000; Eng and Mak, 2003).

Finally, the financial performance is not a significant determinant for CGD level consistent with Branco and Rodrigues (2008), Mohd Ghazali (2007), Alsaeed (2006), Esa and Mohd Ghazali (2012), Andrikopoulos *et al.* (2014) and Siregar and Bachtiar (2010). The notable insignificant effect of financial performance on CGD level can be explained by the development of alternative communication mean between shareholders and managers. It is implied that confidential type of information which probably affects the competitive advantage is disseminated by private communication statement.

The results suggest a need for enhancement in CGD by Indian listed companies. The information level via Bloomberg's is considered low as the mean score is under to maximum 100 points. It is ascertained that Indian corporate managers do not perceive the advantages of high levels of corporate transparency or they do not provide information relative to corporate governance initiatives deliberately leading to increased agency costs. Moreover, the results are valuable because they designate the characteristics of companies that need less or extra monitoring by shareholders and investors regarding the applied governance. As the investor intends to decrease the portfolio's risk, they can consider the determinants of information asymmetry to customize their investment decision based on transparency level expanding the portfolio management theory. Consequently, elucidation of the determinants of CGD level can constrain managers' from opportunistic behavior protecting the resources provided by shareholders, debtholders and investors. As corporate governance is crucial component for corporate strategy, outsiders of company need more information regarding corporate governance information. Thus, both corporate policy makers and reporting regulators should tailor the specific corporate governance attributes and corporate characteristics to future reporting guidelines leading to more effective communication between insiders and outsiders of the company.

6. Conclusions

The association between corporate characteristics and voluntary disclosure has been examined extensively over the past decade. However, there are limitless studies that intend to examine the determinants that set the dissemination level of governance information. Based on Agency theory, it is investigated what factors influence the information asymmetry between shareholders and managers. The study focuses on CGD, as it is a significant mean for companies to address agency conflicts that can be aroused between ownership and corporate managers (Gaa, 2009; Sharma, 2014; Henry, 2010). The novelties introduced in the study, is the incorporation of Bloomberg's GDI as a proxy for the dissemination level of governance information. Even if the Indian economy is among the most powerful economies in the world, little attention has been paid to CGD; thus, leading Indian companies are incorporated on the sample of the study. Finally, a six-year period data is considered from 2009 to 2014 by developing a fixed-effect model. In total, eight variables are used to explain the corporate governance information level: CEO duality, board size, number of board meetings, women's presence on board, corporate size, profitability, company's value and financial leverage. The fact that there has been no similar thoroughly developed study in this issue in the Indian context makes the results significant to policy makers and users of company information, such as shareholders, investors and other stakeholders.

A number of bodies and initiatives promote the importance of corporate governance and disclosure in India. However, the results reveal that Indian companies seem not to comply with governance disclosure items. Two main reasons could be pointed for the low dissemination level of corporate governance. First, Indian companies do not perceive the crucial role of CGD in corporate transparency, and they do not develop reporting initiatives. Second, Indian companies deliberately refuse to provide increased information level in CGD to keep secret crucial information that could affect their competitiveness leading to increased agency costs. Regarding the explanatory variables, a company's size affects positively the dissemination level of CGD consistent to prior empirical results. Moreover, it is found that lower directors of board can mitigate better agency conflicts between managers and shareholders. Based on Tobin's Q, managers of underestimated Indian companies tend to release more information via disclosure means to reinforce their existing position and their compensation reducing the information asymmetry between insiders and outsiders of company. As far as financial leverage variable is concerned, it is showed that higher leveraged companies disseminate less corporate governance information, probably, because they have developed closer relationship to their debtholders. The presence of women on board of directors seems to affect negatively the dissemination information level inducing higher level of agency costs.

The results are valuable because they reveal the attributes that determine which companies needs less or extra monitoring by shareholders and investors regarding the applied governance initiatives (Bauwhede and Willekens, 2008). Finally, even if the standardization and the regulation of voluntary information may not always prove effective, reporting regulators or corporate policy makers might tailor the specific corporate governance attributes and company's characteristics to their reporting guidelines and recommendations in order to increase the effectiveness of communication between insiders and outsiders of the company. By delighting the determinants of corporate governance information level and embodying them in the reporting procedure, outsiders of the company such as shareholders and investors are protected by the opportunistic managers' behavior leading to lower asymmetry information levels and agency costs.

This study has some limitations that need to be acknowledged and addressed. The results cannot be generalized because the study is based only on Indian companies listed to Nifty 500 Index. For this reason, a sample of companies from a developed economy should be considered to ascertain differences and similarities with Indian's results. Even if there is no concession regarding the explanatory variables to explain the dissemination level, new variables should be incorporated along with the traditional ones, such as international orientation of companies or CEO's educational level. Furthermore, news hypothesis can be developed originated from other stakeholders, such as government or customers.

Notes

1. Data were retrieved by World Bank; available at: www.worldbank.org
2. A number of explanatory variables were tested in the proposed model, such as percentage of independent directors, percentage of foreign ownership and number of shareholders; however, they were statistically insignificant.

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Appendix. List of investigated variables of the recent literature review

Variables	Parsa *et al.* (2007)	Gandía (2008)	Bauwhede and Willekens (2008)	Samaha *et al.* (2012)	Sharma (2014)	Abdullah *et al.* (2015)
1. Corporate listing age		✓*			✓	
2. Analyst following		✓*				
3. Audit committee composition	✓*					
4. Blockholder ownership				✓*		
5. Board composition				✓*		
6. Board size	✓	✓		✓		
7. Board independence	✓					
8. CEO duality	✓	✓		✓*		
9. Change in long-term debt			✓			
10. Change in stock			✓*			
11. Change in total assets			✓			
12. Closely-held percentage			✓*			
13. Company from a country with a French family of law system			✓			
14. Company is from a country with a German family of law system			✓			
15. Company is from a country with a Scandinavian family of law system			✓			
16. Company's foreign association					✓	
17. Corporate governance strength						✓*
18. Director ownership				✓		
19. Existence of audit committees				✓		
20. Firm size	✓	✓*	✓*	✓*	✓*	✓*
21. Free float		✓				
22. High-quality standards			✓			
23. Industry type	✓	✓*		✓		
24. Legal system						✓*
25. Level of political and civil repression						✓*
26. Leverage	✓		✓	✓	✓	
27. Long-term accruals			✓*			

(continued)

Table A1.

Variables	Parsa *et al.* (2007)	Gandía (2008)	Bauwhede and Willekens (2008)	Samaha *et al.* (2012)	Sharma (2014)	Abdullah *et al.* (2015)
28. Media visibility		✓*				
29. *Mudarabah* investment account						✓
30. Non-common law			✓			
31. Number of shareholders				✓		
32. Ownership structure	✓					
33. Presence of founder-CEO	✓					
34. Profitability/firm performance	✓	✓		✓	✓	
35. *Shari'ah* Supervisory Board strength						✓
36. Short-term accruals			✓*			
37. US cross-listing			✓			
Year	2001, 2002, 2003	2003	2001	2009	July 15, 2009/July 16, 2010	2009
Country	UK	Spain	European companies	Egypt	Nepal	Southeast Asian, Gulf Cooperation Council regions
Sample of companies	89	92	130	100	59	67

Table A1.

Note: *Variables are statistically significant on CGD level

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