CORPORATE GOVERNANCE IN ASIA

SECTION 3

# MULTIPLE DIRECTORSHIPS OF CORPORATE BOARDS AND FIRM PERFORMANCE IN INDIA

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## Abstract

The purpose of the paper is to investigate, first, the association between multiple directorship assignments (busyness) undertaken by corporate directors and firm performance, second, whether endogenously determined limits of multiple directorships, highlighting the ownership structure and other institutional settings, explain the above association better than those by exogenously mandated by regulators and third, the association between the nature of busyness and firm performance. The study develops measures of busyness in the light of the agency and resource dependence theories. The spline regression technique is applied in order to reflect institutional settings of a large sample and sub-samples of firms classified as local private, foreign and government firms in India. For local private firms, the association between the number of directorships and firm performance becomes negative before reaching the maximum number of directorships set by legislation, whereas, for foreign and government firms, the same continues to remain positive throughout. Endogenously determined cut-off points of busyness reflect institutional settings of firms, which may remain masked otherwise. The findings of the current paper can be useful to study the same phenomenon in other emerging markets having corporate governance, and ownership structures similar to that of India. The effect of busyness can be different on different firms; however, exogenously fixed regulatory limits do not reflect their institutional settings. The current paper is an attempt to fill in this research gap.

**Keywords:** Corporate Governance, Multiple Directorships, Board of Directors, Agency Theory, Resource Dependence Theory, Promoters, Ownership, Control

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## 1. INTRODUCTION

In modern publicly traded corporations, the commitment of directors is not restricted to only one firm, and corporate directors can hold multiple directorships simultaneously (Jackling and Johl, 2009). Nonetheless, it is important to investigate how many directorships corporate directors can hold, because, if no limits are placed on multiple

directorship assignments accepted by directors of a firm in other firms then as a result such directors can become *too busy*, and their *busyness* can adversely affect firm performance (Shivdasani and Yermack, 1999; Fich and Shivdasani, 2006; Council of Institutional Investors, 2013; Aguilera and Crespi-Cladera, 2016).

The principal objectives of the current paper are to examine, first, how the busyness of directors impacts firm performance in India in the light of the two alternative theoretical perspectives, that is, agency theory and resource dependence theory, and second, to what extent the relationship between busyness of directors and firm performance hold endogenously. For example, promoters'[18] ownership, and control underline important characteristics of firms in India and exogenously determined regulatory busyness limits may not incorporate such characteristics. The third objective of the current paper is to study how *the intensity* of busyness is associated with the firm performance, that is when a director of a firm accepts a certain number of multiple directorships in other firms as member of specialized committees, for example, audit committee, compensation committee and nominating committee, then the amount and nature of work he/she is expected to do are relatively demanding in comparison to a situation when such director joins only general board of directors of the same number of firms, other things being equal.

Using the unbalanced panel data of 3733 firm-years between 2004-12 of non-financial listed firms in India and applying multivariate spline regression method, the findings reveal that for local private firms, the negative association between the number of directorships and firm performance starts long before the maximum limit of directorships prescribed by regulators is reached, whereas, for the foreign and government firms, the positive association between the two continues even when the limit of maximum busyness is reached. Similarly, promoters' ownership and control affect the firm performance of firms belonging to local private, foreign and government sectors differently. However, except for the foreign firms, the negative effect of the intensity of busyness on firm performance starts before the maximum permissible limit of multiple directorships.

The current paper contributes to the body of literature in a variety of ways. First, the current paper applies endogenously determined limits to multiple directorships for the full sample and sub-samples categorised based on ownership structure, therefore, questions the validity of exogenously determined regulatory limits. Second, the current paper analyzing the association between multiple directorships and firm performance is one of the few studies in the settings of an emerging economy, such as India as most of the similar studies have been carried out in the US and similar settings (Fich and Shivdasani, 2006; Ferris et al., 2003). Third, the current paper also explores the effects of promoters' ownership and control, a peculiar and prevalent feature of Indian corporate settings, on firm performance. The current study makes two theoretical contributions too (Basu and Sen, 2015). First, in the current study relatively *'visible'* concept of board independence, often measured by the proportion of independent directors on the board (e.g. Costello and Wittenberg-Moerman, 2011) is substituted by the busyness of corporate directors, which is one of the determinants of independence of boards. Second, the current paper contributes a new concept of intensity of busyness, which defines busyness from the rigor, and responsibility requirements of various functions performed by corporate directors, which is different from a mere number of directorships they hold.

The remainder of the paper is divided into the following sections: Section 2 highlights the background of multiple directorships and the corporate governance system in India. Section 3 highlights theoretical background, literature review and hypotheses development. Sections 4 addresses various aspects related to research design, whereas Section 5 presents results and discussion based thereon. Section 6 is about conclusions, limitations and future research suggestions.

## 2. CORPORATE GOVERNANCE SYSTEM AND MULTIPLE DIRECTORSHIPS IN INDIA

The Indian corporate governance system is a hybrid in nature as it incorporates characteristics of two different dimensions of corporate governance, namely *the vertical dimension*, also known as the outside, Anglo-Saxon and market-based governance system (Roe, 2004); and *the horizontal dimension*, also known as the inside, European and bank-based governance system (Roe, 2004). Many researchers have given the following arguments in support of their claim that the Indian corporate governance system is similar to the vertical dimension of corporate governance. First, India has the largest number of listed companies in the world, second, the participation level of small investors in India is not as insignificant as in other emerging economies, third, the stock markets in India are very active and relatively developed, and fourth, the takeover market is very active, even when compared with developed economies like Germany and Japan (e.g. Shaun, 2007; Dutta, 1997; Sarkar and Sarkar, 2012). Furthermore, Sarkar and Sarkar (2012) also draw several parallels between the Indian governance system and the horizontal dimension of corporate governance by giving the following arguments. First, ownership concentration in India is highly skewed in favour of promoters, second, the proportion of widely held companies is lower when compared with other emerging economies in East Asia, and Europe, and third, financial institutions play an important role as a source of external finance (both debt and equity).

A significant feature of the corporate governance system in India is that the ownership and control structure of firms are highly skewed in favour of promoter-owners (promoter, hereafter). Promoters include individuals, families, firms, and government bodies. A significant feature of promoter-dominated corporate ownership structure

[18] According to the section 69 of the Companies Act of India (MCA 2013), a promoter is a person "…who has control over the affairs of the company, directly or indirectly whether as a shareholder, director or otherwise…" (p.9). More than 40 percent of sample firms in India have at-least one promoter director on the board, and promoter directors also chair the board of directors of more than 30 percent of firms (Sarkar and Sarkar 2000).

is that it strives to maximise their control over a firm for a given level of ownership (Aguilera and Crespi-Cladera, 2016; Chakrabarti et al., 2008; Sarkar and Sarkar, 2000). Promoters can enhance their control disproportionately of their ownership by the following two ways (Basu and Sen, 2015). First, by appointing those directors in the firm X, who are either serving on boards of other firms within the business group that the firm X is also affiliated with. Second, by appointing those directors in the firm X, who although are not belonging to the same business group, however, belonging to firms having strong business linkages with the firm X. The high level of ownership concentration and promoters dominance pave the way for the phenomena of pyramiding and tunnelling[19] as well as earnings management (Mathew, 2007; Chakrabarti et al., 2008; Hundal, 2016).

The phenomenon of multiple directorships in India can be attributed to supply constraints in the market of corporate directors that started soon after 1947 when India became an independent nation. Due to the paucity of experienced, qualified, and reputed corporate leadership in a newly independent nation, firms started approaching relatively successful and experienced directors to join their boards and it was soon not uncommon to find some directors on more than 50 corporate boards (Mehta, 1955). However, the section 275 of the Companies Act of India (MCA, 1956) was the first step to specify a maximum number of directorships to fifteen, later on increased to twenty that corporate directors could hold in publicly traded firms. The Securities and Exchange Board of India (SEBI), (an equivalent to the SEC in the USA) in its guidelines, known as *the Clause 49*, recommended that no director would become a member of ten boards or serve as the chairperson of more than five committees across all firms. Nevertheless, because the legislation did not include private firms, unlimited companies, and non-profit organisations (except subsidiaries or holding companies of a publicly traded firm), the Companies Act of India paved the way for the actual number of multiple directorships to easily exceed the regulatory limit. In addition, the imposed limit was purely exogenous, as it was adjusted in relation to the average level of multiple directorships in the USA and the UK, therefore, ignoring the differences in institutional settings of firms (Bhabha, 1952).

Ever since the economic reforms initiated in the early 1990s in India, there has been a major shift in the corporate ownership structure from the dominance of public sector to the private sector, including both local Indian and foreign firms (Committee on Corporate Governance, 2003). Above-mentioned developments have necessitated major changes in the corporate governance system of India including multiple directorships. According to the section 165(1) of the Companies Act of India (MCA, 2013: 97) "No person, after the commencement of this Act, shall hold office as a director, including any alternate directorship, in more than twenty companies at the same time: Provided that the maximum number of public companies in which a person can be appointed as a director shall not exceed ten".

A major limitation of the corporate governance system in India is that several regulatory provisions are in conflict with each other. For example, the Companies Act of India (2013) specifies maximum limit of busyness to ten (MCA, 2013), whereas the revised clause 49 restricts the same to seven with effect from 2014 (Ernst & Young, 2014).

## 3. THEORETICAL BACKGROUND, LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The current paper derives its theoretical underpinnings from two well known, albeit mutually conflicting theories- the agency theory, and the resource dependence theory. According to agency theory, one of the principal functions of corporate boards is to function independently and detect and deter discretionary managerial actions through a system of monitoring, and control on behalf of investors and other stakeholders of firms (Eisenhardt, 1989). A key argument made in this paper is that the independence of corporate directors is influenced by the busyness of boards, among other things. Ferris et al. (2003) have developed the busyness hypothesis that postulates that as their number of directorships increases, corporate directors become over-committed. According to the agency theory, the busyness of corporate directors adversely affects firm performance (Méndez et al., 2015).

The negative impacts of busyness are valid for both inside and outside directors. For inside directors of a firm, their busyness in other firms may cause decline in the required time and attention necessary to perform their various day-to-day managerial tasks, formulation/revision of plans, risk management and strategy assessment (Dalton et al., 2003); second, as their experience and knowledge are more about firm-specific operational activities, therefore, inside directors are not essentially good monitors of managerial actions in other firms (Klein, 1998); third, they are willing to *(or asked to)* take up multiple outside directorships in other firms within the corporate group as a mechanism to strengthen control of promoters, and large shareholders, which can result in the exploitation of minority shareholders (Dutta, 1997). Sarkar and Sarkar (2009) find that stock market reaction becomes adverse as the level of busyness of inside directors increases.

Similarly, when outside directors of a given firm become over-committed by accepting multiple directorships in other firms, the following harmful effects can arise. First, the ability of outside directors to effectively monitor managerial actions of the firm reduces as the busyness of outside directors increases (Jackling and Johl, 2009; Tanyi and Smith, 2015); second, outside directors can experience a conflict of interests and trigger the distrust of other firms, especially when these directors are also serving on the boards of competitors, and this can result in firms

[19] Pyramiding is a common practice in India, and other Asian countries and is used to create a top-down chain of control over multiple firms through an ownership structure, which allows more control over a firm for a given level of ownership in it. Tunneling can be defined as the act of transferring assets and profits out of firms by the controlling shareholders for their own benefit. Tunneling encompasses the sale of the firm's assets, transfer pricing advantageous to the controlling shareholder, excessive executive compensation, loan guarantees, insider trading etc. (See La Porta et al., 1999).

experiencing undue delays in decision making (Fich and Shivdasani, 2006); third, outside directors can be perceived to be following *perquisite consumption behavior* (seeking financial and non-financial benefits) and not performing genuine monitoring of managerial actions (Dutta, 1997; Mathew, 2007); fourth, busy outside directors may find it difficult to understand the nature of operations, managerial actions, vision and mission, control mechanisms, and various board dynamics and related challenges of their affiliated firms (Kisgen et al., 2009); and fifth not only similar to inside directors but also very common in Indian corporate system, outside directors may accept multiple directorships in order to enhance control of promoters over firms within a group (Chakrabarti et al., 2008; Chen et al, 2014).

Fich and Shivdasani (2006) advocate regulatory limits on multiple directorships in order to check the erosion of a firm's value, and they find that multiple outside board directorships start affecting firm performance adversely, however, only when the majority of directors hold three or more board positions, therefore, the phenomenon of busyness and its effects on firm performance should be understood in reference to busyness of overall board and not in the context of an individual director. Based on the findings of Fich and Shivdasani (2006) it may be interpreted that, first, the incremental impact of additional directorships on firm value is not constant and second, regulators should prescribe some limits on additional directorships that corporate directors can hold; however, such limits must incorporate the institutional settings in which firms operate, for example, ownership structure, firm size, nature of the business, board composition etc.

The second underlying theory in the current paper is resource dependence theory (Daily and Dalton, 1994a, b; Pearce and Zahra, 1992; Hillman and Dalziel, 2003). A firm appointing board-level directors, who also serve on other corporate boards, adds to its resources in the form of both, human capital (education, experience, expertise, skills) and relational capital ( a network of ties to other firms, external environment and external contingencies). In the current paper, the combination of the human and relational capital of directors is defined as reputational capital (Hundal, 2016). Firms operating in a relatively uncertain business environment can be benefitted by recruiting those directors, who not only have a higher level of human capital but also a well-developed relational capital network with other organisations and external contingencies. Similarly, large firms with complex business operations and organisational structures require board members with diverse skills, knowledge, and experience, to bolster decision making (Booth and Deli, 1996; Ferris and Jagannathan, 2001; Barzuza and Quinn, 2017). The directors serving on multiple boards fulfil the above criteria; therefore, firms recruiting such directors can do better strategic decision-making amidst a high level of uncertainty (Pearce and Zahra, 1992). Similarly, multiple directorships accepted by directors also signify their reputational capital in the market for corporate directors, which can be an important motivation for other directors to accept outside directorships (Fama and Jensen, 1983). Ferris et al. (2003) find that busy directors attend meetings regularly in order to consolidate their reputational capital, which results in increased managerial accountability, and better guidance provided to firms. Further, directors, who serve on multiple boards, promote several healthy practices among firms they are affiliated to, for example, exchange of skills, knowledge, and experiences and enhanced co-operation, and business relationships (Becher et al. 2016). Hermalin and Weisbach (1998) provide empirical evidence that directors affiliated to firms giving an outstanding accounting and stock market performance are regarded as successful directors, and their demand in the market for corporate directors is high. Conversely, directors on boards of firms giving a poor accounting and stock market performance are less likely to be invited to the boards of other firms (Fama and Jensen, 1983).

When a firm struggling with impending bankruptcy invites directors, who already hold directorships in other firms, it can not only thwart looming bankruptcy situations but also implement a restructuring process effectively by capitalising reputational capital of its *well-connected* directors (Daily and Dalton, 1994a; Kaplan and Sorensen 2016). The firm's response to capitalise the reputational capital of directors serving on multiple corporate boards to combat an actual/potential financial distress situation can be either *reactive (ex-post) or proactive (ex-ante)*. The above finding of Daily and Dalton emphasises the former; however, firms can also invite such directors on their boards proactively in order to minimise the likelihood of such existential threats in the first place. To support the latter argument, Daily and Dalton (1994b) argue that a firm with directors connected to the external environment, especially those serving on the boards of financial institutions, is better positioned to face future financial challenges, as such directors can play an important role in arranging the right type of financial resources and on favorable terms. In a similar vein, Ferris and Jagannathan (2001) find that the multiple directorships held by corporate directors symbolize their reputational capital accumulated over time, and firms experience improvements in their operating profits and return on equity after they appoint such reputed directors on their boards. The phenomenon of multiple directorships increases trust and friendship between the independent directors and firm management and help decision making the power of boards (Harris and Shimizu, 2004).

Pfeffer and Salancik (1978) argue that board capital, specifically, adds to the following four types of benefits to firms:

1) Advice and Counsel: Professionals such as lawyers, accountants, senior managers of other firms, former government officials, and community leaders serving on a corporate board contribute valuable expertise, experience, and skills to its executives (Baysinger and Butler, 1985; Gales and Kesner, 1994).

2) Legitimacy: A firm's reputation can be affected by the reputation of those serving on its board of directors. The high level of reputational capital of directors confers legitimacy to actions of the firm (Boyd, 1990; Dalton et al., 1999).

3) Communication Channels: A firm having effective channels of communication with external organisations helps it in obtaining timely and valuable information, which further helps in minimizing transaction costs that the firm incurs while operating in an uncertain business environment. The high quality of relational capital at board level facilitates such channels of communication and the flow of information. Hillman et al. (1999) showed that when directors established connections with the U.S. government or financial institutions, the shareholders' value increases. Similarly, the interlocking of directorates also plays an important role in disseminating information within firms (Barzuza and Quinn, 2017; Wu, 2017; Hillman and Dalziel, 2003; Au et al., 2000).

4) Resources Mobilisation: A combined effect of the above three points is that board capital can be helpful in acquiring resources from external organisations (e.g., financial markets), and stakeholder groups (e.g., customers, suppliers, and communities).

Based on literature pertaining to various theoretical underpinnings, regulatory developments and prior empirical findings, the followings two hypotheses are formed:

*$H_1$. Multiple directorships held by corporate directors negatively affect firm performance (agency theory).*

*$H_2$. Multiple directorships held by corporate directors positively affect firm performance (resource dependency theory).*

Mehta (1955) finds that during the early phase of industrialisation in India local private entrepreneurs experienced a shortage of leadership and guidance, and the practice of multiple directorships provided a solution to this problem to some extent. Jaiswall and Bhattacharyya (2016) find that remuneration attributed to board and CEO characteristics in both private and public sectors does not influence firm performance. Dutta (1997) recommends to place a maximum limit on directors' busyness as many directors, who take up multiple directorships in other firms, may have the motivation to enhance their personal utility, for example, to earn extra income and develop their personal network in the market of corporate directors. Similarly, Jackling and Johl (2009) and Hundal (2016) find that increased busyness of board of directors in the Indian private firms results in the lower monitoring of managerial actions, which further results in poor firm performance and deterioration in the quality of financial reporting.

*$H_{1a}$. Multiple directorships held by corporate directors of local private firms negatively affect firm performance (agency theory).*

Regarding the role of government firms, Ahuja and Majumdar (1998) find that government-owned firms in India have better corporate governance standards because such firms due to their larger size are exposed to a high level of regulatory monitoring, requiring more disclosures and attracting high-quality human resources. On the other hand, Chibber and Majumdar (1998) find a negative relationship between the government ownership and firm performance. Kang and Zhang (2015) find that government directors holding multiple directorships are more likely to abstain from board meetings, especially when they have good relations with the CEO or are serving on boards of less regulated firms.

*$H_{1b}$. Multiple directorships held by corporate directors of government firms negatively affect firm performance (agency theory).*

Ananchotikul (2007) views that foreign directors and ownership are considered as important catalysts by the recipient firms in upgrading their technologies, skills, and practices that in turn positively affect their performance. It may be argued that the phenomenon of multiple directorships positively impacts firm performance. In the Indian context, Patibandla (2006) and Hundal (2016) find that foreign ownership favourably affects firm value, however, Chibber and Majumdar (1999) hold that such favourable effect exists only when foreign ownership is relatively high.

*$H_{2a}$. Multiple directorships held by corporate directors of foreign firms positively affect firm performance (resource dependency theory).*

The intensity of busyness can be harmful to the firm performance. The level of responsibilities and skills requirements is relatively higher in the case of specialised committees such as audit, compensation, and nomination. Liao and Hsu (2013) find that cash remuneration paid to a CEO is decoupled from firm's performance when there is the higher intensity of busyness. Contrary to this, Ferris et al. (2003) find that intensity of busyness affects the firm performance favourably in the form of increased managerial accountability as directors serving on multiple committees attend meetings regularly. However, Ferris et al. (2003) do not rule out the possibility of enhanced compensation as a motivation to join multiple committee memberships.

*$H_3$. The intensity of busyness unfavorably affects firm performance.*

## 4. RESEARCH DESIGN

### 4.1. Sample Size and Data

The data of the final sample is comprised of an unbalanced panel of 3733 firm-years of non-financial firms listed on the Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) over the period of 2004-12. The full sample is further divided into three sub-samples of non-financial firms categorised on the basis of their ownership structure including 2376 local private, 772 government, and 585 foreign[20] firm-years. The rationale of categorizing firms in three sub-samples is that even though the economic reforms initiated in the early 1990s in India, have resulted in a major shift in the corporate ownership structure, away from the public sector and towards the private sector, including local Indian and foreign firms, however, the government-owned firms still play a highly significant role on corporate spectrum of India (Committee on Corporate Governance, 2003). The local private sector firms analysed in the current paper are group-affiliated. In terms of number,

[20] Foreign firms also include those established by Indian expatriates known as the Non-resident Indians (NRIs).

group-affiliated firms constitute 40 percent of standalone firms, in the private sector in India. However, group-affiliated firms are approximately six times larger than standalone firms in terms of asset base, and seven times in terms of market capitalization (Sarkar and Sarkar, 2012). For this reason, the sub-sample of local Indian firms include the group-affiliated private sector firms only. Similarly, foreign firms have already established their perceptible presence in the Indian corporate landscape and it is getting even stronger, thanks to economic reforms initiated in the early 1990s (Sarkar and Sarkar, 2012). Therefore, the third sub-sample comprises of foreign firms. The data has been obtained from the Prowess database of the Center for Monitoring the Indian economy (CMIE).

## 4.2. Empirical Methodology and Constructs

The definitions and measurement issues related to multivariate model, dependent, and independent variables are discussed below-

### *4.2.1. Spline Regression Multivariate Model*

The spline or piecewise regression technique is used to analyse the relation between two variables that allows the slope of the relation to change at specific points known as spline knots/nodes/cut-off points (Ahlberg et al., 1967; De Boor, 2001). In the context of the current paper, the spline regression technique can show the effect of different levels of busyness on firm performance, favourably (the resource dependence argument) or unfavorably (the agency theory argument). This technique overcomes the limitation of using the exogenously determined cut-off point of busyness and therefore reflect institutional settings of firms. The node at which the relation between firm performance and multiple directorships turns negative can then be identified as the level of board busyness that starts affecting firm performance adversely (Hermalin and Weisbach, 1991; Campbell et al., 2015).

### *4.2.2. Performance Variables*

Tobin-Q (TQ) is defined as the ratio of the sum of the market value of equity and debt, to the replacement cost of assets. However, in India, as in many other developing countries, the calculation of TQ is difficult primarily because a large proportion of the corporate debt is institutional debt that is not actively traded in the debt market. Following several existing studies, such as Khanna and Palepu (2001), and Sarkar and Sarkar (2000), a proxy for TQ is used in this paper, which is calculated by taking the book value of debt, and the book value of assets in place of market values. The TQ is influenced by a firm's growth opportunities. This effect is controlled by including expenditure on Research and Development (R&D), and advertising as explanatory variables in the multivariate model. In order to test the robustness of performance variable various other performance variables are also included in the empirical analysis and these include: Market-to-book-value ratio (MBVR), Net value added to asset ratio (NVAAR) and Return on assets (ROA)

### *4.2.3. Busyness Variables*

Busyness is measured as the board-level median of total directorships (number of the board plus committee memberships) that is hereafter referred to as *median directorships*, showing the number of outside directorships held by the majority, that is, fifty percent of the board. Busyness is measured in relation to the firm board, and not in relation to directors, as *'directors do not govern, boards do'* (Kiel and Nicholson, 2006). Spline nodes range between three and ten directorships taken up by directors. The range starts with 'three' directorships as the majority of empirical studies in the USA, and even in non-US settings, take three directorships as a measure of busyness. However, three directorships may well be too many in the USA but may not necessarily be excessive in India, due to the size (on the average US firm are bigger than those in India), and complexity (e.g., the US firms have more joint ventures/technical collaborations/wholly owned subsidiaries abroad than Indian firms). The range ends with ten as this is the maximum number of directorships that a corporate director can take up according to section 165(1) of the Companies Act of India (MCA, 2013).

If 'y' is the firm performance (dependent variable), and 'x' is a busyness measure (independent variable), and their relation is estimated by the spline linear regression method at the node, say $x_1$. Sarkar and Sarkar (2009) in their study have formulated two spline variables (spline 1 and spline 2) as below:

$$\begin{aligned} \textit{Spline-1} &= x, \textit{ if } x < x_1 \\ &= x_1, \textit{ if } x \geq x_1 \\ \textit{Spline-2} &= 0, \textit{ if } x < x_1 \\ &= (x\text{-}x_1), \textit{ if } x \geq x_1 \end{aligned}$$

The ordinary least square (OLS) regression technique is applied to estimate the following functional relationship of the model:

$$\begin{aligned} (\text{Performance Variable})_{it} = \alpha_{it} + \beta_1(\text{Spline-1})_{it} + \beta_2(\textit{Spline-2})_{it} + \beta_3(\text{Comm-BS})_{it} + \beta_4(\text{BS})_{it} + \beta_5(\text{Pr-Ind-Dir})_{it} + \\ \beta_6(\text{Pr-Prom-Dir})_{it} + \beta_7(\text{Pr-Prom-Own})_{it} + \beta_8(\text{Pr-Forgn-Own})_{it} + \beta_9(\text{D/E})_{it} + \beta_{10}(\text{NAS Ratio})_{it} + \beta_{11}(\text{R\&D-} \\ \text{intensity})_{it} + \beta_{12}(\text{Advert-intensity})_{it} + \beta_{13}(\text{Trd-intensity})_{it} + \beta_{14}(\text{MarCap})_{it} + \text{error term} \end{aligned} \quad (1)$$

**Table 1.** Description of variables

| *Variables* | *Label* | *Definition* | *Hypotheses* | *Predicted Effect* |
|---|---|---|---|---|
| *A. Dependent Variables* | | | | |
| Tobin-Q proxy | TQ | Sum of market value of equity plus book value of debt, divided by book value of assets. | | |
| Market-to-book-value ratio | MBVR | Firm's market capitalization divided by its book value. | | |
| Net value added to asset ratio (NVAAR) | NVAAR | Net value added of firm scaled by book value of its assets | | |
| Return on assets | ROA | Net income of a firm divided by book value of its assets | | |
| *B. Independent Variables* | | | | |
| Busyness Variables: | | | | |
| Spline 1 Directorships | Spline-1 | A negative coefficient at a given node implies firm performance is adversely affected at that level of firm-level median directorships (agency theory). | $H_1$, $H_{1a}$ and $H_{1b}$ | - |
| Spline 2 Directorships | Spline-2 | A positive coefficient at a given node implies firm performance is favorably affected at that level of firm-level median directorships (resource dependence theory). | $H_2$ and $H_{2a}$ | + |
| Median Committee to Board Size | Comm-BS | Intensity of busyness is derived by dividing firm-level median committee directorships by the board size. | $H_3$ | - |
| Promoters' ownership, and control variables: | | | | |
| Promoter directors' proportion | Pr-Prom-Dir | Ratio of the number of promoter directors to the board size of a firm. This variable underlines promoters' control | $H_{1c}$ and $H_{2b}$ | ± |
| Promoters' ownership proportion | Pr-Prom-Own | Ratio of the number of promoter owned equity shares to the total number of equity shares issued | $H_{1d}$ and $H_{2c}$ | ± |
| *Other corporate governance variables:* | | | | |
| Board size | BS | Number of board members of a firm (log values) | | + |
| Independent directors' proportion | Pr-Ind-Dir | Ratio of the number of independent directors to the board size of a firm | | + |
| Foreign ownership proportion | Pr-Forgn-Own | Ratio of the number of equity shares owned by foreign investors to the total number of equity shares issued | | + |
| Debt-equity ratio | D/E | Capital structure of firm calculated by dividing debt by equity (both book values) | | ± |
| *Firm-Level control variables:* | | | | |
| Research and development intensity | R&D-intensity | Ratio of the firm-level R&D expenditure to the sales revenue | | + |
| Advertisement intensity | Advert-intensity | Ration of the firm-level expenditure on advertising to the sales revenue | | + |
| Trade intensity | Trd-intensity | Ratio of the number of shares traded to the total number of shares outstanding | | + |
| Market-capitalization | MarCap | Multiplying the market value of a share and the number of shares outstanding (log values) | | + |

## 5. RESULTS AND DISCUSSION

Table 2 depicts the mean values of firm performance (dependent variable), and independent variables categorised as busyness, corporate governance, and some firm-level control variables. Regarding the busyness variables, Table 2 shows that the mean numbers of total directorships (board memberships plus committee memberships) per firm are 79.35, 78.86 and 67.36 for local private, foreign and government firms respectively. The value of the same statistic for the full sample is 75.62. Furthermore, foreign firms have the highest (lowest) percentage of outside (inside) directors, whereas local private firms have the highest (lowest) percentage of inside (outside) directors. Government-owned firms have the largest board size (12.78) followed by local private (12.18) and foreign firms (10.64). With regard to the composition of boards of directors, results show that foreign firms have the highest percentage of independent/outside directors, followed by government and local private firms. Regarding the ownership structure, the results show that ownership concentration is highest among the foreign firms, as promoters and their group ownership is 69.99 percent, whereas, for the local private firms, ownership is relatively dispersed.

Table 3 shows the pairwise correlation highlighting the association between all variables used in the analysis of this paper including, performance variables, that is TQ (Y1), MBVR (Y2), ROA (Y3) and NVAAR (Y4) and busyness, promoter ownership and control, corporate governance, and firm-level control variables (independent variables, X1 to X14). With reference to the independent variables, except for the correlation coefficients of promoter directors' proportion (X4) with promoters' ownership proportion (X5), and independent directors' proportion (X6), both with a 10 percent level of significance, no other pairwise coefficient correlation is significant. Therefore, the empirical results are not affected by the multicollinearity problem. On the other hand, the correlation coefficients between different performance variables are significantly positive.

**Table 2.** Mean values of firm performance (dependent), and independent variables

| *Variables* | *Local Private Firms* | *Foreign Firms* | *Government Firms* | *Total Sample* |
|---|---|---|---|---|
| *A. Performance Variables (Mean Numbers)* | | | | |
| 1. Tobin-Q | 2.17 | 2.53 | 2.33 | 2.33 |
| 2. Market to Book Value Ratio | 2.39 | 2.75 | 3.34 | 2.78 |
| 3. Net Value Added to Asset Ratio (number) | 0.31 | 0.38 | 0.46 | 0.38 |
| 4. Return on Assets (Percentage) | 7.31 | 9.38 | 8.45 | 8.31 |
| *B. Busyness Variables (Mean Numbers)* | | | | |
| 1. Board memberships of directors per firm | 53.11 | 52.88 | 45.29 | 50.71 |
| 2. Committee memberships of directors per firm | 26.24 | 25.98 | 22.07 | 24.91 |
| 3. Number of Total Directorships (1+2) Per Firm | *79.35* | *78.86* | *67.36* | *75.62* |
| *C. Governance Variables (Mean Numbers)* | | | | |
| 1. Board Size (number) | 12.18 | 10.64 | 12.78 | 11.86 |
| 2. Composition of Board (percentage of total board) | | | | |
| i. Independent Directors | 52.75 | 63.38 | 57.24 | 57.51 |
| ii. Affiliated Directors | 17.22 | 11.31 | 12.68 | 13.97 |
| iii. Outside Directors (i+ii) | *69.97* | *74.69* | *69.92* | *71.48* |
| iv. Executive Directors | 20.22 | 16.49 | 19.09 | 18.68 |
| v. Promoters Non-Executive Directors | 9.81 | 8.82 | 10.99 | 9.84 |
| vi. Inside Directors (iv+v) | *30.03* | *25.31* | *30.08* | *28.53* |
| 3. Ownership Structure (percentage of total paid-up capital) | | | | |
| i. Resident Individual Investors | 23.55 | 19.78 | 16.94 | 20.37 |
| ii. Indian Financial Institutions | 13.97 | 9.14 | 9.64 | 11.13 |
| iii. Government Investors | 8.53 | 7.09 | 59.92 | 23.38 |
| iv. Resident Corporate Bodies | 36.69 | 9.08 | 7.56 | 19.13 |
| v. Foreign Institutional/Individual Investors | 8.09 | 54.74 | 5.77 | 22.39 |
| vi. Promoters & Promoter Group | 45.26 | 69.99 | 59.93 | 57.58 |
| vii. Public Shareholdings | 54.67 | 28.94 | 40.01 | 42.03 |
| 4. Debt-equity ratio | 0.86 | 0.79 | 0.76 | 0.81 |
| 5. Non-audit fees to total auditor fees ratio | 0.21 | 0.16 | 0.14 | 0.17 |
| *D. Firm Level Control Variables (Mean Numbers)* | | | | |
| 1. R&D Intensity (percentage) | 2.95 | 3.54 | 2.44 | 2.99 |
| 2. Advertisement-intensity (percentage) | 2.49 | 3.15 | 2.14 | 2.6 |
| 4. Trade-intensity ratio | 0.58 | 0.56 | 0.53 | 0.56 |
| 5. Market-Capitalization (Million Rupees®) | 76822.67 | 73223.89 | 81177.97 | 76963.79 |

*Note: @ The 52-week range of one US dollar in terms of Indian Rupees for the time period between 2 August 2015 to 1 August 2016 has been between 63.7150 - 68.7887. http://www.bloomberg.com/quote/USDINR:CUR (Accessed 2 August 2016).*

**Table 3.** Pairwise correlation table of variables

| | *X1* | *X2* | *X3* | *X4* | *X5* | *X6* | *X7* | *X8* | *X9* | *X10* | *X11* | *X12* | *X13* | *Y1* | *Y2* | *Y3* | *Y4* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 1 | .089 | .057 | -.041 | -.009 | .115 | -.004 | -.005 | .005 | .001 | .001 | .000 | -.010 | -.233** | -.112* | -.232* | -.103* |
| X2 | .089 | 1 | -.016 | .062 | .103 | .089 | .000 | -.009 | .001 | .007 | -.004 | .004 | .007 | -.127* | -.005 | -.116* | -.005 |
| X3 | .057 | -.016 | 1 | -.082 | -.112 | -.134 | .012 | -.003 | .005 | -.005 | -.002 | .003 | -.001 | -.176† | .003 | .005 | .203* |
| X4 | -.041 | .062 | -.082 | 1 | .102† | -.109† | .009 | -.009 | .006 | -.007 | -.005 | .000 | -.007 | .021** | .142* | .052† | .193* |
| X5 | -.009 | .103 | -.112 | .102† | 1 | -.109 | .034 | .006 | .008 | -.007 | -.010 | -.001 | -.002 | .011† | .010 | -.010 | .127* |
| X6 | .115 | .089 | -.134 | -.109† | -.109 | 1 | .007 | .004 | -.013 | .009 | .003 | -.003 | .013 | -.006 | .023† | .138* | .009 |
| X7 | -.004 | .000 | .012 | .009 | .034 | .007 | 1 | .000 | .004 | .012 | .011 | .009 | .006 | .008 | .013† | .012† | .003 |
| X8 | -.005 | -.009 | -.003 | -.009 | .006 | .004 | .000 | 1 | .024 | -.005 | .001 | -.002 | -.002 | .688** | .591** | .454** | .344** |
| X9 | .005 | .001 | .005 | .006 | .008 | -.013 | .004 | .024 | 1 | .002 | -.004 | -.002 | .005 | .042 | .421** | .601** | .291** |
| X10 | .001 | .007 | -.005 | -.007 | -.007 | .009 | .012 | -.005 | .002 | 1 | .011 | .000 | -.029 | -.042* | -.001 | -.167* | .000 |
| X11 | .001 | -.004 | -.002 | -.005 | -.010 | .003 | .011 | .001 | -.004 | .011 | 1 | -.012 | -.053 | .121** | .112† | .003 | .006 |
| X12 | .000 | .004 | .003 | .000 | -.001 | -.003 | .009 | -.002 | -.002 | .000 | -.012 | 1 | .003 | -.142* | -.003 | -.003 | -.119* |
| X13 | -.010 | .007 | -.001 | -.007 | -.002 | .013 | .006 | -.002 | .005 | -.029 | -.053 | .003 | 1 | .232** | .003 | .215* | .128* |
| Y1 | -.233** | -.127* | -.176† | .021** | .011† | -.006 | .008 | .688** | .042 | -.042* | .121** | -.142* | .232** | 1 | .792** | .859** | .759** |
| Y2 | -.112* | -.005 | .003 | .142* | .010 | .023† | .013† | .591** | .421** | -.001 | .112† | -.003 | .003 | .792** | 1 | .787** | .719** |
| Y3 | -.232* | -.116* | .005 | .052† | -.010 | .138* | .012† | .454** | .601** | -.167* | .003 | -.003 | .215* | .859** | .787** | 1 | .638** |
| Y4 | -.103* | -.005 | .203* | .193* | .127* | .009 | .003 | .344** | .291** | .000 | .006 | -.119* | .128* | .759** | .719** | .638** | 1 |

*Note: *** p < 0.001; ** p < 0.01; * p < 0.05. and † p < 0.1*

*X1: Median Directorships, X2: Median committee to board size, X3: Board size, X4: Promoter directors proportion, X5: Promoters ownership proportion, X6: Independent directors proportion, X7: Foreign ownership proportion, X8: Research & development intensity, X9: Advertisement intensity, X10: Non-audit fees to total fees of auditor, X11: Trade intensity, X12: Debt-equity ratio, X13: Market-capitalization.*

*Y1: Tobin-Q, Y2: Market-to-book value ratio, Y3: Return on assets, Y4: Net Value Added to Asset Ratio*

Table 4 highlights the effects of busyness and other explanatory variables on TQ, the principal performance variable (dependent), for the full sample. Similarly, this table explains impacts of the busyness variables and other explanatory variables on MBVR, NVAAR, and ROA in order to check the robustness of the association between board busyness and firm performance. The negative relationships between median firm-level total directorships, on the one hand, and all four performance measures, on the other, have been found to be significant. Similarly, the intensity of

busyness negatively affects firm performance (TQ and ROA). The above two results support the agency theory argument that the increased board busyness, negatively affects firm performance, both, *quantitatively* and *qualitatively*. The phenomenon can be termed *quantitative* as an increasing number of median outside directorships accepted by firm directors can make them over-committed and thus leave them with relatively less time and other resources available to devote to the firm. Similarly, the above phenomenon can be termed *qualitative* because an increasing ratio of median committee memberships to firm board size indicates that when a director joins a committee instead of a *general* board of directors he/she can find his/her professional responsibilities more challenging and demanding.

**Table 4.** Effects of busyness, governance, and control variables on firm performance (TQ, MBVR, NVA to asset ratio and ROA)

| *Dependent variables* | *TQ* | *MBVR* | *NVAAR* | *ROA* |
|---|---|---|---|---|
| Intercept | 1.125<br>(1.035) | -0.026<br>(-0.318) | -0.004<br>(-0.156) | 0.008<br>(0.577) |
| Med-Dir | -0.713*<br>(-1.662) | -0.252†<br>(-1.369) | -0.102†<br>(-1.567) | -0.113†<br>(-1.612) |
| Comm-BS | -0.519†<br>(-1.448) | -0.002<br>(-0.038) | -0.000<br>(-0.128) | -0.076†<br>(-1.435) |
| BS | -0.576†<br>(-1.595) | -0.004<br>(-0.098) | 0.483*<br>(2.112) | 0.439<br>(1.267) |
| Pr-Ind-Dir | -0.403<br>(-1.257) | 0.122†<br>(1.314) | 0.000<br>(0.137) | 0.197**<br>(8.039) |
| Pr-Prom-Dir | 1.202**<br>(6.271) | 0.069†<br>(1.289) | 0.0981*<br>(1.767) | 0.196*<br>(2.322) |
| Pr-Prom-Own | 0.746*<br>(2.325) | 0.041<br>(0.332) | 0.064†<br>(1.323) | -0.092<br>(-0.978) |
| Pr-Forgn-Own | 0.025<br>(0.268) | 0.073*<br>(1.968) | -0.004<br>(-0.278) | 0.072†<br>(1.392) |
| D/E ratio | -0.502†<br>(-1.336) | -0.008<br>(-0.266) | -0.067†<br>(-1.383) | -0.022<br>(-0.681) |
| NAS ratio | -0.766*<br>(-1.819) | -0.006<br>(-0.207) | -0.007<br>(-0.356) | -0.007†<br>(-1.287) |
| R&D-int | 0.561†<br>(1.497) | 0.441**<br>(6.031) | 0.046†<br>(1.287) | 0.054†<br>(1.345) |
| Advert-int | 0.108<br>(0.789) | 0.382**<br>(5.044) | 0.054†<br>(1.319) | 0.092†<br>(1.539) |
| Trd-int | 1.109**<br>(4.271) | 0.102†<br>(1.295) | 0.016<br>(0.679) | 0.002<br>(0.413) |
| MarCap | 0.809**<br>(3.671) | 0.031<br>(0.301) | 0.114**<br>(7.513) | 0.113*<br>(2.228) |
| Adjusted $R^2$ | 0.53 | 0.37 | 0.43 | 0.41 |
| N | 3733 | 3733 | 3733 | 3733 |

*Note: OLS estimates are shown in above table (t-statistics appear in parentheses).*
**** p < 0.001; ** p < 0.01; * p < 0.05, and † p < 0.1*
*TQ: Tobin-Q; MBVR: Market-to-book value ratio; NVAAR: Net Value Added to Asset Ratio; ROA: Return on assets; Med-Dir: Median Directorships; Comm-BS: Median committee to board size; BS: Board size; Pr-Ind-Dir: Independent directors proportion; Pr-Prom-Dir: Promoter directors proportion ; Pr-Prom-Own: Promoters ownership proportion; Pr-Forgn-Own: Foreign ownership proportion; D/E ratio: Debt-equity ratio; NAS Ratio: Non-audit fees to total fees of auditor; R&D-intensity: Research & development intensity; Advert-intensity: Advertisement intensity; Trd-intensity: Trade intensity; MarCap: Market-capitalization.*

The positive association of both Pr-Prom-Dir and Pr-Prom-Own with the firm performance variables highlights that investors react positively to the promoters' control over the board and ownership of the firm. The coefficient of BS negatively affects firm value measured by TQ, however, the effect is positive in the case of NVAAR. On the one hand, larger boards can be prone to unnecessary delays, and complications, for example, with respect to planning and operations. On the other hand, larger boards lead to enriched board resources, which in turn support formulating better plans and running operations successfully. The positive coefficient of Pr-Ind-Dir shows that as the proportion of independent directors increases, the firm performance (MBVR and ROA) improves. The coefficient of Pr-Forgn-Own affects MBVR and ROA positively. Furthermore, the impact of R&D-int, Advert-int, Trd-int and MarCap is found to be positive in terms of firm performance. However, the coefficient of the D/E ratio, which highlights the firm's capital structure, and the NAS ratio negatively affect firm performance.

Table 5 highlights the association between firm performance of local private sector firms and board busyness. The coefficient of spline-1 turns negative and significant at the median directorships at spline-node-5 and continues to be ever more significant up-to node 10. The interpretation of the above finding is that at the busyness level of five directorships and above, corporate directors in local private Indian firms may find it difficult to perform the tasks entrusted to them efficiently and as a result firm value is eroded. Furthermore, the above finding contradicts the regulatory provision under the Companies Act of India that the "maximum number of public companies in which a person can be appointed as a director shall not exceed ten" (MCA, 2013:97). Regarding the intensity of busyness, the variable Comm-BS becomes negative and significant

once the median number of directorships reaches a cut-off point of four, and this trend continues as the number of directorships increases further. This result implies that at a busyness level of below four, it is immaterial whether the majority of directors of a firm are only members of other firms' boards or participate on specific committees of such firms; however, when a majority of directors of a firm increase their committee memberships in other firms to four, the directors find it difficult to perform tasks requiring specialized skills and/or to devote time and effort to the specific committees of other firms. For Pr-Prom-Dir, the result indicates that as busyness level is increasing from spline-node-5, investors of a firm start perceiving a higher proportion of promoter directors on its board as a sign of vital firm-specific information possessed by directors, and higher control of promoter directors over the firm board ensures that such strategic information remain within given corporate group. A similar argument holds for Pr-Prom-Own too. Based on the above findings of local private sector firms in India $H_{1a}$ and $H_3$ can be accepted.

**Table 5.** Effects of busyness, governance, and control variables on firm performance (measured by TQ) in the private sector in India

| *TQ (dependent variable)* | *(a)* | *(b)* | *(c)* | *(d)* | *(e)* | *(f)* | *(g)* | *(h)* |
|---|---|---|---|---|---|---|---|---|
| | Spline Node=3 | Spline Node=4 | Spline Node=5 | Spline Node=6 | Spline Node=7 | Spline Node=8 | Spline Node=9 | Spline Node=10 |
| Intercept | 0.137 (1.109) | 0.137 (1.109) | 1.135 (1.076) | 1.135 (1.076) | 0.137 (1.109) | 1.136 (1.091) | 1.131 (0.882) | 1.129 (0.769) |
| Spline-1 | -0.621 (-1.187) | -0.667 (-1.272) | -0.762† (-1.616) | -0.764† (-1.639) | -0.789* (-2.249) | -0.789* (-2.291) | -0.791* (-2.309) | -0.792* (-2.321) |
| Spline-2 | 0.037 (0.668) | 0.037 (0.668) | 0.035 (0.621) | 0.035 (0.621) | 0.033 (0.547) | 0.033 (0.547) | 0.033 (0.547) | 0.033 (0.547) |
| Comm-BS | -0.741 (-1.279) | -1.008* (-2.309) | -1.008* (-2.309) | -1.112** (2.367) | -1.116** (2.549) | -1.117** (2.611) | -1.119** (2.692) | -1.119** (2.692) |
| BS | -0.372 (-1.121) | -0.372 (-1.121) | -0.372 (-1.121) | -0.403 (-1.167) | -0.421 (-1.225) | -0.508* (-1.467) | -0.509* (-1.514) | -0.528* (-1.626) |
| Pr-Ind-Dir | -0.865 (-1.184) | -0.881 (-1.277) | -1.313* (-2.119) | -1.345* (-2.321) | -1.521** (-4.698) | -1.589** (-5.887) | -1.675** (-6.698) | -1.779** (-8.127) |
| Pr-Prom-Dir | 0.069 (0.821) | 0.073 (0.991) | 0.083† (1.291) | 0.084† (1.311) | 0.084† (1.311) | 0.085† (1.345) | 0.085† (1.345) | 0.085† (1.345) |
| Pr-Prom-Own | 0.045 (0.628) | 0.045 (0.628) | 0.045 (0.628) | .052 (0.712) | 0.076† (1.284) | 0.076† (1.284) | 0.076† (1.284) | 0.076† (1.284) |
| Pr-Forgn-Own | 0.039 (0.515) | 0.039 (0.515) | 0.039 (0.515) | 0.039 (0.515) | 0.039 (0.515) | 0.039 (0.515) | 0.039 (0.515) | 0.039 (0.515) |
| D/E ratio | -0.082† (-1.423) | -0.076† (-1.322) | -0.059† (-1.301) | -0.052 (-0.927) | -0.052 (-0.927) | -0.051 (-0.865) | -0.047 (-0.796) | -0.047 (-0.796) |
| NAS ratio | -0.532 (-1.277) | -0.532 (-1.277) | -0.532 (-1.277) | -0.711* (-1.723) | -0.716* (-1.819) | -0.717* (-1.882) | -0.719* (-1.914) | -0.719* (-1.914) |
| R&D-int | 0.062† (1.378) | 0.061† (1.356) | 0.059† (1.301) | 0.051 (1.239) | 0.051 (1.239) | 0.051 (1.239) | 0.051 (1.239) | 0.051 (1.239) |
| Advert-int | 0.043† (1.201) | 0.043† (1.201) | 0.043† (1.201) | 0.034 (0.675) | 0.034 (0.675) | 0.031 (0.581) | 0.029 (0.524) | 0.029 (0.524) |
| Trd-int | 1.101** (2.327) | 1.104** (2.362) | 1.106** (2.362) | 1.109** (2.419) | 1.111** (2.457) | 1.113** (2.484) | 1.116** (2.549) | 1.116** (2.549) |
| MarCap | 0.893* (2.009) | 0.893* (2.009) | 0.894* (2.079) | 0.894* (2.079) | 0.894* (2.079) | 0.896* (2.197) | 0.896* (2.197) | 0.898* (2.231) |
| Adjusted $R^2$ | 0.53 | 0.53 | 0.54 | 0.56 | 0.54 | 0.54 | 0.55 | 0.55 |
| N | 2376 | 2376 | 2376 | 2376 | 2376 | 2376 | 2376 | 2376 |

*Note: OLS estimates are shown in above table (t-statistics appear in parentheses).*

**** p < 0.001; ** p < 0.01; * p < 0.05, and † p < 0.1*

*TQ: Tobin-Q; Comm-BS: Median committee to board size; BS: Board size; Pr-Ind-Dir: Independent directors proportion; Pr-Prom-Dir: Promoter directors proportion ; Pr-Prom-Own: Promoters ownership proportion; Pr-Forgn-Own: Foreign ownership proportion; D/E ratio: Debt-equity ratio; NAS Ratio: Non-audit fees to total fees of auditor; R&D-intensity: Research & development intensity; Advert-intensity: Advertisement intensity; Trd-intensity: Trade intensity; MarCap: Market-capitalization.*

Table 6 shows that for foreign firms, their corporate directors holding multiple directorships enhance firm performance. The coefficient of the spline-2 variable remains significantly positive at all busyness levels, that is, from spline node three to ten. This finding is aligned with resource dependence theory, as directors serving on multiple boards represent their high level of reputational capital, which can result in a positive effect on firm performance. This result, similar to that obtained in the case of local Indian private firms (Table 5), also contradicts the wisdom of setting a regulatory limit of ten directorships in India (MCA, 2013), albeit in the opposite direction. For local Indian private firms, the regulatory limit of ten directorships is *too big*; whereas for foreign firms, the results suggest there is more scope for directors to join additional boards. Regarding the intensity of busyness, *Comm/BS* is insignificant, implying that when directors of a foreign firm in India join other firms' boards it does not affect the firm's performance negatively. The above findings support $H_{2a}$.

**Table 6.** Effects of busyness, governance, and control variables on firm performance (measured by TQ) in the foreign sector in India

| *TQ (dependent variable)* | *(a)* | *(b)* | *(c)* | *(d)* | *(e)* | *(f)* | *(g)* | *(h)* |
|---|---|---|---|---|---|---|---|---|
| | Spline Node=3 | Spline Node=4 | Spline Node=5 | Spline Node=6 | Spline Node=7 | Spline Node=8 | Spline Node=9 | Spline Node=10 |
| Intercept | 2.028 (0.676) | 2.126 (0.831) | 2.126 (0.831) | 2.126 (0.831) | 2.126 (0.831) | 2.126 (0.831) | 2.126 (0.831) | 2.126 (0.831) |
| Spline-1 | 0.021 (0.462) | 0.021 (0.462) | 0.024 (0.571) | 0.024 (0.571) | 0.024 (0.571) | 0.023 (0.512) | 0.023 (0.512) | 0.021 (0.462) |
| Spline-2 | 0.991† (1.376) | 0.982† (1.365) | 0.992† (1.376) | 1.065* (2.119) | 1.071* (2.176) | 1.077* (2.201) | 1.079* (2.243) | 1.081* (2.281) |
| Comm-BS | 0.001 (0.071) | 0.001 (0.071) | 0.001 (0.071) | 0.001 (0.071) | 0.001 (0.071) | 0.001 (0.071) | 0.001 (0.071) | 0.001 (0.071) |
| BS | 0.117 (0.683) | 0.143 (0.769) | 0.143 (0.769) | 0.175 (0.872) | 0.214† (1.283) | 0.235† (1.297) | 0.235† (1.297) | 0.235† (1.297) |
| Pr-Ind-Dir | 0.412* (2.253) | 0.373* (2.221) | 0.312† (1.339) | 0.294† (1.301) | 0.172 (0.545) | 0.166 (0.482) | 0.154 (0.422) | 0.143 (0.335) |
| Pr-Prom-Dir | 0.992† (1.371) | 0.992† (1.371) | 0.992† (1.371) | 0.993† (1.382) | 1.013† (1.425) | 1.032* (1.679) | 1.044* (2.021) | 1.045* (2.098) |
| Pr-Prom-Own | -0.005 (-0.424) | -0.005 (-0.424) | -0.005 (-0.424) | -0.005 (-0.424) | -0.005 (-0.424) | -0.005 (-0.424) | -0.005 (-0.424) | -0.005 (-0.424) |
| Pr-Forgn-Own | 0.044† (1.282) | 0.044† (1.282) | 0.045† (1.291) | 0.045† (1.291) | 0.048† (1.311) | 0.048† (1.311) | 0.048† (1.311) | 0.049† (1.326) |
| D/E ratio | 0.001 (0.434) | 0.001 (0.434) | 0.001 (0.434) | 0.001 (0.434) | 0.001 (0.434) | 0.001 (0.434) | 0.001 (0.434) | 0.001 (0.434) |
| NAS ratio | -0.21** (-2.563) | -0.21** (-2.563) | -0.19** (-2.356) | -0.19** (-2.356) | -0.16* (-2.203) | -0.16* (-2.203) | -0.15* (-2.123) | -0.15* (-2.123) |
| R&D-int | 1.447** (8.868) | 1.451** (8.941) | 1.457** (9.627) | 1.463** (9.992) | 1.461** (9.911) | 1.459** (9.867) | 1.459** (9.867) | 1.459** (9.867) |
| Advert-int | 0.032 (1.221) | 0.031 (1.165) | 0.029 (1.123) | 0.029 (1.123) | 0.029 (1.123) | 0.028 (0.823) | 0.028 (0.823) | 0.027 (0.535) |
| Trd-int | 0.000 (-0.054) | 0.000 (-0.054) | 0.000 (-0.054) | 0.000 (-0.054) | 0.000 (-0.054) | 0.000 (-0.054) | 0.000 (-0.054) | 0.000 (-0.054) |
| MarCap | 1.197** (6.549) | 1.197** (6.549) | 1.193** (6.447) | 1.192** (6.376) | 1.192** (6.376) | 1.192** (6.376) | 1.191** (6.296) | 1.191** (6.296) |
| Adjusted $R^2$ | 0.38 | 0.37 | 0.38 | 0.38 | 0.39 | 0.38 | 0.39 | 0.39 |
| N | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 |

*Note: OLS estimates are shown in above table (t-statistics appear in parentheses).*

**** p < 0.001. ** p < 0.01. * p < 0.05, and † p < 0.1. TQ: Tobin-Q; Comm-BS: Median committee to board size; BS: Board size; Pr-Ind-Dir: Independent directors proportion; Pr-Prom-Dir: Promoter directors proportion ; Pr-Prom-Own: Promoters ownership proportion; Pr-Forgn-Own: Foreign ownership proportion; D/E ratio: Debt-equity ratio; NAS Ratio: Non-audit fees to total fees of auditor; R&D-intensity: Research & development intensity; Advert-intensity: Advertisement intensity; Trd-intensity: Trade intensity; MarCap: Market-capitalization.*

**Table 7.** Effects of busyness, governance, and control variables on firm performance (measured by TQ) in the government sector in India

| *TQ (dependent variable)* | *(a)* | *(b)* | *(c)* | *(d)* | *(e)* | *(f)* | *(g)* | *(h)* |
|---|---|---|---|---|---|---|---|---|
| | Spline Node=3 | Spline Node=4 | Spline Node=5 | Spline Node=6 | Spline Node=7 | Spline Node=8 | Spline Node=9 | Spline Node=10 |
| Intercept | 1.113 (0.574) | 1.111 (0.523) | 1.111 (0.523) | 1.111 (0.523) | 1.112 (0.591) | 1.112 (0.591) | 1.112 (0.591) | 1.113 (0.574) |
| Spline-1 | -0.002 (-0.396) | -0.003 (-0.427) | -0.003 (-0.427) | -0.002 (-0.396) | -0.003 (-0.427) | -0.004 (-0.487) | -0.004 (-0.487) | -0.004 (-0.487) |
| Spline-2 | 1.457** (6.443) | 1.461** (6.729) | 1.465** (7.222) | 1.471** (8.443) | 1.471** (8.443) | 1.476** (9.025) | 1.479** (9.443) | 1.481** (9.624) |
| Comm-BS | -0.501 (-1.106) | -0.501 (-1.106) | -0.513 (-1.233) | -0.579† (-1.867) | -0.623† (-2.028) | -0.662† (-2.089) | -0.704* (-2.192) | -0.704* (-2.192) |
| BS | -0.147† (-1.335) | -0.147† (-1.335) | -0.148† (-1.387) | -0.149† (-1.427) | -0.149† (-1.427) | -0.151† (-1.503) | -0.154† (-1.589) | -0.155† (-1.621) |
| Pr-Ind-Dir | 0.069 (0.899) | 0.071 (0.924) | 0.071 (0.924) | 0.071 (0.924) | 0.073 (0.934) | 0.075 (0.954) | 0.076 (1.112) | 0.076 (1.112) |
| Pr-Prom-Dir | -0.051 (-0.683) | -0.053 (-0.737) | -0.051 (-0.683) | -0.049 (-0.627) | -0.048 (-0.563) | -0.051 (-0.683) | -0.051 (-0.683) | -0.052 (-0.706) |
| Pr-Prom-Own | 0.131† (1.298) | 0.131† (1.298) | 0.131† (1.298) | 0.132† (1.309) | 0.132† (1.309) | 0.132† (1.309) | 0.133† (1.321) | 0.133† (1.321) |
| Pr-Forgn-Own | 0.129† (1.287) | 0.129† (1.287) | 0.129† (1.287) | 0.125 (1.223) | 0.124 (1.205) | 0.124 (1.205) | 0.123 (1.176) | 0.123 (1.176) |
| D/E ratio | -0.623* (-2.043) | -0.623* (-2.043) | -0.631* (-2.087) | -0.632* (-2.098) | -0.632* (-2.098) | -0.633* (-2.126) | -0.634* (-2.143) | -0.636* (-2.157) |
| NAS ratio | -0.003 (-0.451) | -0.002 (-0.379) | -0.002 (-0.379) | -0.001 (-0.265) | -0.001 (-0.265) | -0.001 (-0.265) | -0.001 (-0.265) | -0.001 (-0.265) |
| R&D-int | 0.006 (0.163) | 0.008 (0.191) | 0.008 (0.191) | 0.008 (0.191) | 0.011 (0.256) | 0.011 (0.256) | 0.013 (0.317) | 0.013 (0.317) |
| Advert-int | 0.048 (0.642) | 0.051 (0.719) | 0.051 (0.719) | 0.048 (0.642) | 0.048 (0.642) | 0.048 (0.642) | 0.049 (0.681) | 0.049 (0.681) |
| Trd-int | 0.077† (1.285) | 0.077† (1.285) | 0.077† (1.285) | 0.065 (0.823) | 0.065 (0.823) | 0.063 (0.782) | 0.062 (0.763) | 0.062 (0.763) |
| MarCap | 1.225** (4.443) | 1.227** (4.591) | 1.227** (4.591) | 1.229** (4.656) | 1.229** (4.656) | 1.231** (4.721) | 1.233** (4.862) | 1.237** (5.112) |
| Adjusted $R^2$ | 0.31 | 0.29 | 0.29 | 0.31 | 0.32 | 0.32 | 0.31 | 0.31 |
| N | 772 | 772 | 772 | 772 | 772 | 772 | 772 | 772 |

*Note: OLS estimates are shown in above table (t-statistics appear in parentheses).*

**** p < 0.001; ** p < 0.01; * p < 0.05, and † p < 0.1. TQ: Tobin-Q; Comm-BS: Median committee to board size; BS: Board size; Pr-Ind-Dir: Independent directors proportion; Pr-Prom-Dir: Promoter directors proportion ; Pr-Prom-Own: Promoters ownership proportion; Pr-Forgn-Own: Foreign ownership proportion; D/E ratio: Debt-equity ratio; NAS Ratio: Non-audit fees to total fees of auditor; R&D-intensity: Research & development intensity; Advert-intensity: Advertisement intensity; Trd-intensity: Trade intensity; MarCap: Market-capitalization.*

Table 7 exhibits that for government firms, multiple directorships held by the corporate directors increases firm performance. The coefficient of the spline-2 variable remains significantly positive throughout at all busyness levels up to spline-node-10. Perhaps, this is the most unexpected result, as, with regard to the busyness of corporate directors of government firms, it might be expected that proliferation of bureaucracy in the public sector of India would suggest directors' busyness is underpinned by the agency theory argument more than the resource dependence argument, and that firm value would reduce as the busyness of directors increases. However, the argument that follows in support of the above finding is that in a public sector company, directors are appointed by a ministry or similar statutory body on the basis of merit, and the CEOs have the less discretionary power to handpick directors. Once again, this finding questions the wisdom of the regulatory requirements limiting the number of directorships to ten in India (MCA, 2013). The coefficient of Comm-BS affects firm value negatively at busyness level six and beyond. The increasing coefficient of Comm-BS implies that when the intensity of busyness increases, there is a negative effect on firm value, at the higher level of busyness. Based on the above findings $H_{1b}$ is rejected and $H_3$ is accepted.

Table 8 highlights the effects of multiple directorships, and governance and control variables on firm performance firms in the full sample. The coefficients of spline-1 and spline-2 affect firm value negatively (at spline-node-6 and above) and positively (at spline-node-4 and below), respectively. In other words, multiple directorships affect a firm favourably only up to the level of four directorship assignments in other firms. On the other hand, multiple directorships affect a firm unfavourably when its directors take up six or more directorship assignments in other firms. This result highlights the interplay of agency, and resource dependence theory when studying the relationship between multiple directorships and firm value. The coefficient of Comm-BS affects firm value negatively at a multiple directorship level of six or above. For the overall sample $H_1$ and $H_3$ are true at a relatively higher level of busyness, however, $H_2$ is valid only at lower levels.

**Table 8.** Effects of busyness, governance, and control variables on firm performance (measured by TQ) for the full sample

| *TQ (dependent variable)* | *(a)* | *(b)* | *(c)* | *(d)* | *(e)* | *(f)* | *(g)* | *(h)* |
|---|---|---|---|---|---|---|---|---|
| | Spline Node=3 | Spline Node=4 | Spline Node=5 | Spline Node=6 | Spline Node=7 | Spline Node=8 | Spline Node=9 | Spline Node=10 |
| Intercept | 1.442 (1.271) | 1.442 (1.271) | 1.441 (1.223) | 1.441 (1.223) | 1.439 (1.187) | 1.439 (1.187) | 1.439 (1.187) | 1.439 (1.187) |
| Spline-1 | -0.342 (-1.196) | -0.342 (-1.196) | -0.414 (-1.277) | -0.512$^{*}$ (-2.221) | -0.739$^{**}$ (-4.337) | -0.752$^{**}$ (-4.889) | -0.786$^{**}$ (-5.442) | -0.814$^{**}$ (-6.296) |
| Spline-2 | 0.221$^{*}$ (1.891) | 0.219$^{*}$ (1.843) | 0.182 (1.262) | 0.159 (1.198) | 0.154 (1.165) | 0.139 (1.112) | 0.135 (0.923) | 0.123 (0.773) |
| Comm-BS | -0.323 (-1.167) | -0.363 (-1.221) | -0.422 (-1.281) | -0.776$^{**}$ (-5.345) | -0.791$^{**}$ (-5.481) | -0.797$^{**}$ (-5.526) | -0.797$^{**}$ (-5.526) | -0.799$^{**}$ (-5.614) |
| BS | -0.303 (-1.034) | -0.303 (-1.034) | -0.329 (-1.127) | -0.421 (-1.225) | -0.509$^{\dagger}$ (-1.554) | -0.528$^{\dagger}$ (-1.623) | -0.571$^{*}$ (-2.291) | -0.577$^{*}$ (-2.324) |
| Pr-Ind-Dir | -0.363 (-1.219) | -0.378 (-1.243) | -0.378 (-1.243) | -0.403 (-1.257) | -0.403 (-1.257) | -0.509$^{*}$ (-2.212) | -1.441$^{**}$ (-6.698) | -1.441$^{**}$ (-6.698) |
| Pr-Prom-Dir | 0.082$^{\dagger}$ (1.345) | 0.079$^{\dagger}$ (1.323) | 0.076$^{\dagger}$ (1.309) | 0.074$^{\dagger}$ (1.299) | 0.074$^{\dagger}$ (1.299) | 0.072$^{\dagger}$ (1.287) | 0.055 (1.239) | 0.047 (1.178) |
| Pr-Prom-Own | 0.081$^{\dagger}$ (1.331) | 0.076$^{\dagger}$ (1.309) | 0.073$^{\dagger}$ (1.295) | 0.052 (0.712) | 0.047 (0.657) | 0.047 (0.657) | 0.039 (0.562) | 0.039 (0.562) |
| Pr-Forgn-Own | 0.023 (0.422) | 0.023 (0.422) | 0.022 (0.403) | 0.022 (0.403) | 0.023 (0.422) | 0.022 (0.403) | 0.021 (0.361) | 0.021 (0.361) |
| D/E ratio | -0.046 (-0.765) | -0.047 (-0.801) | -0.051 (-0.867) | -0.052 (-0.927) | -0.085$^{**}$ (-2.824) | -0.083$^{**}$ (-2.622) | -0.083$^{**}$ (-2.622) | -0.083$^{**}$ (-2.622) |
| NAS ratio | -0.703$^{*}$ (-1.723) | -0.711$^{*}$ (-1.762) | -0.714$^{*}$ (-1.791) | -0.715$^{*}$ (-1.823) | -0.716$^{*}$ (-1.871) | -0.717$^{*}$ (-1.896) | -0.718$^{*}$ (-1.914) | -0.718$^{*}$ (-1.914) |
| R&D-int | 0.083$^{\dagger}$ (1.378) | 0.082$^{\dagger}$ (1.356) | 0.079$^{\dagger}$ (1.321) | 0.078$^{\dagger}$ (1.302) | 0.078$^{\dagger}$ (1.302) | 0.073$^{\dagger}$ (1.287) | 0.073$^{\dagger}$ (1.287) | 0.073$^{\dagger}$ (1.287) |
| Advert-int | 0.037 (0.521) | 0.037 (0.521) | 0.037 (0.521) | 0.037 (0.521) | 0.037 (0.521) | 0.037 (0.521) | 0.037 (0.521) | 0.037 (0.521) |
| Trd-int | 0.786$^{**}$ (3.346) | 0.862$^{**}$ (5.137) | 0.934$^{**}$ (6.723) | 0.934$^{**}$ (6.723) | 1.008$^{**}$ (7.111) | 1.101$^{**}$ (7.472) | 1.104$^{**}$ (7.723) | 1.104$^{**}$ (7.723) |
| MarCap | 0.893$^{*}$ (2.228) | 0.893$^{*}$ (2.228) | 0.894$^{*}$ (2.261) | 0.894$^{*}$ (2.261) | 0.896$^{*}$ (2.291) | 0.896$^{*}$ (2.291) | 0.897$^{*}$ (2.303) | 0.898$^{*}$ (2.322) |
| Adjusted $R^2$ | 0.61 | 0.63 | 0.64 | 0.66 | 0.63 | 0.63 | 0.63 | 0.63 |
| N | 3733 | 3733 | 3733 | 3733 | 3733 | 3733 | 3733 | 3733 |

*Note: OLS estimates are shown in above table (t-statistics appear in parentheses).*

**** p < 0.001; ** p < 0.01; * p < 0.05, and † p < 0.1*

*TQ: Tobin-Q; Comm-BS: Median committee to board size; BS: Board size; Pr-Ind-Dir: Independent directors proportion; Pr-Prom-Dir: Promoter directors proportion ; Pr-Prom-Own: Promoters ownership proportion; Pr-Forgn-Own: Foreign ownership proportion; D/E ratio: Debt-equity ratio; NAS Ratio: Non-audit fees to total fees of auditor; R&D-intensity: Research & development intensity; Advert-intensity: Advertisement intensity; Trd-intensity: Trade intensity; MarCap: Market-capitalization.*

## 6. CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH SUGGESTIONS

The results show that for the sub-sample of local private firms and for the full sample, the busyness of corporate directors adversely affects firm level performance. For local private firms and the full sample, the board level busyness of directors is detrimental to the firm performance even before reaching the maximum limit of multiple directorships. Furthermore, for the local private firms, the above mentioned negative effect starts at the busyness cut-off point of five and for the full sample the same starts at spline node six. For the sub-samples of foreign and government firms, board busyness positively affects the firm value throughout, whereas, for the full sample, the same positive effect does not extend beyond the busyness limit of four. With regard to the intensity of busyness, the findings show that in the sub-sample of local private firms, the negative effect starts at the very low level of busyness of four directorships, however, for the sub-sample of government firms and the full sample, the negative effect of the intensity of busyness does not begin before the spline node of six. Interestingly, for the full sample and each of the three sub-samples, empirical findings contradict the limits imposed by the regulator. Therefore, *'one size does not fit all'*.

About theoretical contributions, first, the association between the busyness of corporate directors and firm performance is problematized and analysed through the interplay of two distinct and, arguably, conflicting theoretical arguments are drawn from the agency, and resource dependence theories. Second, the current study highlights the importance of factors, such as multiple directorships, that determine the independence of boards.

In terms of practical contributions, first, the current study is one of very few conducted in the setting of an emerging economy like India, and the findings of the current paper can be useful to study the similar relationship in other emerging markets with a corporate governance structure similar to that of India. Second, current paper highlight relevance of endogenously determined limits of busyness as against those imposed exogenously by regulators. Furthermore, the busyness limits are not only determined for the full-sample but also separately for each of the ownership groups, that is, local private, foreign and government firms. Therefore, the current paper recognises the institutional settings and ownership characteristics of firms. Third, the current paper also explores the effects of promoters' ownership and control, a peculiar feature of Indian corporate settings, on firm performance.

Nonetheless, the current paper has several limitations and further research to overcome them. First, the effect of busyness on firm performance can be studied by creating multiple categories of directors, such as executive, non-executive and affiliate directors. Second, alternative measures of busyness can be tested in future research. Third, measure reputational capital of directors can be explored in future studies. Lastly, in the current paper private sector firms are comprised of group-affiliated firms only, however, in the future studies, standalone firms can also be studied when analysing the effects of busyness on firm performance.

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