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**Article**

## Board composition and performance in Indian firms: A comparative analysis empirical

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# **The International Journal of Management Science and Information Technology (IJMSIT)**

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**BOARD COMPOSITION AND PERFORMANCE IN  
INDIAN FIRMS: A COMPARATIVE ANALYSIS EMPIRICAL**

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## **ABSTRACT**

*This paper attempts to describe the relationship between board composition and performance in Indian firms. Indian firms have been classified into four groups—public sector undertakings (PSUs), stand-alone firms, private business group affiliated firms, and subsidiaries of foreign firms. The paper analyzes the relationship between the study and independent variables, using a multiple regression model. Results indicate that the larger boards are less effective in Indian firms, except in the case of PSUs. Board size is becoming an insignificant variable in determining the performance of Indian PSUs. Surprisingly, board independence is insignificant across all categories in India, as per the results of this study, which calls for detailed studies in this area.*

## **INTRODUCTION**

Fama and Jensen (1983) defined residual claimants as the ones who bear residual risk, i.e., the difference between stochastic inflows of resources and promised payment to agents. When the managers, who make decisions, are not the major residual claimants, and hence do not bear a major share of the financial effects of their decisions, agency problems arise.

To address agency problems, internal, as well as external, corporate governance mechanisms have been put into place, like the board of directors, proxy fights, large shareholders, hostile takeovers and financial structure (Hart, 1995). The most important internal corporate governance mechanism is the board of directors (Subramanian and Swaminathan, 2008). The role of the board is not simply to fulfill its legal requirements. The board of a company provides strategic guidance and leadership, objective judgment, independent of management, to the company and exercises control over the company, while at all times remaining accountable to the shareholders. An effective corporate governance system is one which allows the board to perform these dual functions efficiently. However, shareholders do not escape agency problems by leaving them to the board of directors, since the directors are themselves agents, whose interests are not necessarily aligned with the shareholders (Hermalin and Weishbach, 1991). Although, allowing management to choose their own overseers might lead to agency problems related to independent directors. Nonetheless, there are many good reasons to believe that outside directors will exhibit some checks and balances on the top management. There are many widely studied

board characteristics like board composition, which includes board size and the proportion of independent directors, board committees, as well as remuneration to the directors.

## **LITERATURE REVIEW**

### **BOARD COMPOSITION**

Research works indicate that board composition plays a substantial role in corporate performance. Board composition refers to the number of directors and the type, as determined by the usual insider-outsider classification. Insiders are the current members of top management teams, and employees of the company or its subsidiaries. Outside directors have no such association, but are further classified into affiliated or non-affiliated. Affiliated outsiders are not members of the current management, or employees of the company, but have some influential link with the firm, or example, as consultants. Non-affiliated outsiders are usually referred to as independent directors. These independent directors are recruited primarily because of their expertise, name, recognition and skills (Pearce and Zahra, 1992).

### **BOARD SIZE**

There are different schools of thought when it comes to linking board size with corporate performance. One school of thought suggests a positive association between board size and firm performance. Proponents of this view (Pearce and Zahra, 1992; Dalton et al., 1999) argue that as board size increases, the strategic decision making capabilities of the board increase. This is due to the knowledge and intellect that is brought to the board by members coming from varied backgrounds. Golden and Zajac (2001) argued that smaller boards are assumed to have inadequate confidence and unclear understanding in making strategic changes.

The counter view also prevails, which argues that larger boards are less effective than smaller boards. It is mainly based on group dynamics and social psychological research. When board size increases, the costs associated with it, like coordination cost and communication costs, also increase (Raheja, 2005). As a result, the board becomes more of a symbol and less a part of the management process. Many researchers provide empirical evidence which supports the view that a negative relationship exists between board size and firm performance. Yermack (1996) empirically demonstrated that there is a negative relationship between board size and firm performance. It is also suggested that measures of

operating efficiency and profitability are negatively related to the board size (Yermack, 1996). Eisenberg et al. (1998), in their study on small firms, also found this negative relation between firm performance and board size. Van Ees et al. (2003) performed a similar study on the listed firms in Netherlands and found that, even though the system of control mechanism is different in Netherlands than in their US counterparts, there is a negative relation between board size and firm performance in Netherlands, similar to the US.

Vateas (1999) proposed that there is an optimum board size, below which there is a positive relationship, and above which there is a negative relationship. Other than these two, there is one more school of thought which assumes that the relationship between board size and firm performances is in the nature of an 'Inverted U'. The inherent assumption is that a minimum number of board members is required to get the necessary intellect on the board, but if the number crosses the optimum mark, various problems relating to coordination and group dynamics come into play, adversely affecting firm performance.

#### **BOARD INDEPENDENCE**

As discussed above, board of directors is one of the most vital internal governance mechanisms that act as a bridge between the aspirations of the shareholders and the managers. Over the years, board independence has been an important characteristic and the subject of many studies, as the presence of outside directors in the board is thought to be vital for the functioning, especially on issues of strategy, performance, management of conflicts and standards of conduct.

Corporate governance committee reports across the world, like the Blue Ribbon committee 1999 in the US, have placed considerable stress on the role of independent directors. However, the 'Companies Act' of most of the countries across the world does not make any distinction between the different categories of directors in terms of their responsibilities, and all directors are equally and collectively responsible by law for a board's actions and decisions. Further, the Cadbury committee report 1992 says, "The board should include non-executive directors of sufficient caliber and number for their views to carry significant weight in the board's decisions".

Zahra and Pearce (1989) suggested that four major perspectives have dominated studies on the composition of board of directors in an organization. These are legalistic, class hegemony, agency theory, and resource dependence. Although all four are totally different approaches, the one thing common to all of them is that they agree that board of directors is a very important control mechanism and the presence of outsiders on the board increases its effectiveness. They identify the three most important roles for the board—service, strategy and control. An integrated model of board attributes

and roles is proposed by them, along with the composition of boards, which includes size and outsiders presence as important factors. Another study by Pearce and Zahra (1992) claimed that there is positive relationship effect on firm performance on some fortune 500 companies. Their findings clearly state that there is a positive relationship between the presence of outside directors on the board and firm performance. They argue that, by expanding boards and recruiting experienced and professional outside directors, firms would benefit by making use of their expertise and experience (Pearce and Zahra, 1992).

However, Barnhar et al. (1994) claim that there is little evidence suggesting that board composition is important for the quality of overall firm performance, and that they found negative correlation between firm performance and board independence. In their study, they attempted to determine whether, after controlling the effects of managerial ownership, the proposition of independent outside directors is related to overall firm performance. They did not use the Tobin's Q approach, but rather measured firms' performance on the market value to book value ratio of common stock equity. They found a curvilinear relationship between board composition and firms' corporate financial performance. A similar study done by Barnhart and Rosenstein (1998) discussed board composition, ownership structure, and firm performance interrelationships. Their empirical study came out with the results that a weak curvilinear relationship exists between board composition, in terms of outsider's presence, and firm performance. They also indicated that institutional ownership and board composition are substitutes for managerial ownership. Managerial ownership has a strong control over board composition and a strong performance allows insiders to retain control over the board of directors.

Hermalin and Weisbach (1991) argued that there is no relationship between board composition and firm performance, as opposed to the general belief. They suggested that it is good to have inside directors' presence in the board of directors, as they help CEOs to maximize value by providing both advice and knowledge about the day-to-day operations of the company. They suggested that top management has a control over board selection. Hence, board composition does not matter, as inside or outside directors are equally good or bad. Bhagat and Black (1999) also supported this view that there is no strong correlation between board independence and firm performance. They stated that different firms need different degrees of board independence, depending upon their growth rate. Fogel and Geier (2007) also indicated in their study that no pattern emerges to suggest that it makes any difference at all to shareholders' wealth creation whether a board has a higher or lower percentage of independent directors. They reviewed the best and the worst return on equity performers across 50 separate industries and showed that the worst ROE performers in each of the 50 industries have approximately the same percentage of independent directors as the best ROE performers.

Raheja (2005) proposed a model in which the tradeoffs of inside versus outside directors were considered. It was argued that board size and composition affect the incentives of board members and

play a crucial role in board effectiveness. She argued that firms in which it is easier for outsiders to verify projects have a majority of outsiders, while those in which it is difficult have a majority of insiders on the board.

## INDIAN CONTEXT

Research relating to firm performance and board composition is available in the Indian context also. As with worldwide studies, in which no conclusive evidence to any one school of thought has been provided, the same is the case with India. The results have been mixed in nature. It has been suggested in some research studies that larger board size leads to improved firm performance, whereas there have also been evidence of larger boards being inefficient in nature. Kathuria and Dash (1999) pointed that there is an improvement in performance with the increase in board size, but the firm does not gain much if an additional board member joins, considering that it already has a big board to contend with. Dhawan (2006) supported this finding by pointing out that the size of the board increases with turnover, but only up to a certain level, beyond which the increasing turnover does not have any influence. Hence, knowledge and skill of the board members are of paramount importance, rather than the size of the board. Thus, it can be argued that the size of the board may be increased up to the point where marginal benefits equal marginal costs (Beiner et al. 2003). Dwivedi and Jain (2005), in their study on board size and firm value, also suggested a positive relationship. On the other hand, there are studies which point to a negative relationship between board size and firm performance in the Indian context. Prominent among them is the work done on Indian nonfinancial firms by Ghosh (2006). The author in his empirical study on the relationship between financial performance and board parameters which include board size found that larger board size tends to have a negative influence on firm performance.

In India, the Kumar Mangalam Birla Committee (1999), on corporate governance, appointed by the securities and exchange board of India (SEBI), gave recommendations which are concurrent with the majority of the world's view that the presence of outside directors results in better management of firms' affairs. Research on the Indian corporate governance system points out that, until the early 2000s, Indian companies filled their boards with representative of the promoters of the company. Independent directors, if chosen, were also handpicked by the management, thereby ceasing to be independent. This change occurred after the implementation of the Kumar Mangalam Birla Committee recommendations. Today, increasingly, boards comprise the following groups of directors—promoter directors, and executive and non-executive directors, some of whom are independent.

Prasanna (2006) suggested that independent directors bring brand credibility and better governance. Overall, independent directors contribute to boards' effectiveness and functioning. She also emphasized that, just like any other job, there should be a periodic evaluation of the independent

directors, and their appointment process should be a formal one. Hence, the author supported the view that board independence is positively related to firm performance.

## **GROUP AND STAND-ALONE FIRMS IN INDIA**

Indian business groups are collections of publicly traded firms in a wide variety of industries, with a significant amount of common ownership and control, usually by a family (Khanna and Palepu, 2000). Khanna and Palepu (2000) argued that, in an emerging market like India, where there are major agency and information problems, major sources of potential benefits of group affiliated firms have access to foreign capital, access to latest technology, and some control over political groups.

## **OBJECTIVES OF THE STUDY**

In the above context, we propose to study the relationship between board composition and firm performance of stand-alone and group firms in India, along with firm performance of public owned and foreign subsidiaries firms and their board composition in India. Since India is a rapidly developing economy and its corporate governance norms are now almost at par with those of the developed nations, this study attempts to shed much light on the board composition existing in group affiliated and stand-alone firms in India. As mentioned above, most of the group affiliated firms in India are family owned, and hence, agency problems in India are not because of management, but because of majority shareholding. In this context, it becomes even more important to study board composition, as it would add to the body of knowledge for the minority shareholders, as well as for academicians who study company performance and board composition.

## **METHODOLOGY**

As discussed in the previous sections, board composition consists of two components, i.e., board size and board independence. A conceptual framework of linking board composition to performance of the firms has been hypothesized. This study takes into considerations four categories of firms—stand-alone private Indian firms, group affiliated firms, PSUs, and foreign subsidiaries (Figure 1).



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## **DATA**

Data was collected from the Centre for Monitoring Indian Economy (CIME) database and from firms' annual reports for a time period of one financial year, i.e. 2006-2007. The sample consisted of organizations listed on the Bombay stock exchange (BSE) 500 index. Financial institutions and banks were removed, as their financial structure is substantially different from that of other firms; these firms have a higher leveraged capital structure, and therefore, we cannot compare them with other firms on the same platform. After the removal of financial institution, the sample size was reduced to 437. The data for 17 firms was found to be either missing or insufficient for further analysis, and thus, they were also removed, bringing the final sample size to 420. Of these 420, the category-wise numbers are 237 group companies (56.4%), 118 private stand-alone (Indian) firms (28.1%), 32 foreign subsidiaries (7.6%), and 33 governments owned PSUs (7.9%).

## **VARIABLES**

### **DEPENDENT VARIABLES**

Firm performance is the dependent variable in our study, which can be measured by using two types of proxy—accounting-based measures and market-based measures (Dwivedi and Jain, 2005). Accounting-based measures used are profit before interest and tax (PBIT), profit after tax (PAT)/ sales, economic value added (EVA), etc., and market-based measures, which include market capitalization to BV ratio (Barnhart [et. al](#)), and market value added (MVA) and Tobin's Q (Yermak, 1996). For this study, Tobin's Q has been taken as proxy to measure

firm performance. Tobin's Q is defined as the ratio of MV and BV of assets. MV of firm is taken as the sum of MV of equity and debts. Since debts are not publicly traded in Indian secondary markets, BV of debts and preference shares have been considered for calculating Tobin's Q.

$$Q = (MVE + PS + DEBT) / TA$$

To remove the effect of market volatility from our analysis, the average of 365 days closing prices have been considered. In total assets, we have considered all the relevant items on the assets side of the balance sheet.

### **INDEPENDENT VARIABLES**

Board size and board independence are the explanatory variables for this study. Board size is taken as the number of sitting directors on the board of a company. In this study, we assume that there is no interaction effect between these two independent variables.

### **CONTROL VARIABLES**

To control different factors like firm's growth, and capital structure, which also influence firm performance to a great extent; the following variables have been considered as control variables to explain the variation in Tobin's Q left unexplained by the independent variables.

- Growth opportunities: The control variables for growth opportunities are research and development/sales and advertisement and marketing expenses/sales (ADS).
- Firm size: It has been pointed out by earlier studies that firm size and board size can be correlated in complicated ways. Hence, firm size, which has been proxied by log market capitalization, is another control variable (SIZE).
- Funds Utilization: The effective fund utilization also influences firm performance. Return on capital employed, which is a well-accepted measure of fund utilization, has been taken as proxy to control this factor
- Capital structure: Capital structures have implications for governance of firms. Hence, to control its effects, we have used debt equity ratio as its proxy (DE).

Table 1 describes the descriptive statistics.



<b>Table 1: Descriptive Statistics</b>				
A: Break-Up of Firms				
Firm Type	No.	BOARDSIZE	BOARDIND (%) (AVG.)	
Group companies	237	11.62	61	
Foreign subsidiaries	32	11.72	60	
Govt. majority	33	15.33	67	
Private stand-alone	118	10.46	57	
Total	420	-	-	
B: Descriptive statistics of the Variables				
Variable	Mean	SD	Variance	Range
ROCE	0.1682	0.35234	0.124	7.34
DE	0.8305	1.18882	1.413	17.08
TOBIN Q	2.9728	2.36082	5.573	15.54
BOARDSIZE	11.5905	3.41678	11.674	22.00
BOARDIND	7.0024	2.73185	7.463	19.00
SIZE	3.4729	0.55469	0.308	2.95

#### Model

$$\text{TOBIN Q} = \alpha + \beta_1 \text{BOARDSIZE} + \beta_2 \text{BOARDIND} + \beta_3 \text{DE} + \beta_4 \text{ADS} + \beta_5 \text{RDS} + \beta_6 \text{SIZE} + \beta_7 \text{ROCE} + \epsilon$$

The above model has been proposed to measure the effect of board composition on firm performance for all the four categories of firms. Ordinary least squares method has been used to investigate whether board composition has significant association with firm performance or not.

#### RESULTS AND DISCUSSION

The summary of the regression results is presented in Table 2. From the regression results for the overall sample, it is evident that the variables included in the model explain firm performance at statistically significant level, as indicated by the F-statistic (1% level of significance). The adjusted R<sup>2</sup> is 0.22, which means that our model is explaining 22% of the variation of firm's performance. A more detailed examination of the explanatory factors reveals that board's size is statistically significant at 1% level of significance, in the regression model. For our overall sample, we have found that board independence does not have a statistically significant effect on firm performance.

**Table 2: Dependent Variable: TOBIN Q**

Independent variable	Overall			Stand-Alone Firms			Group Companies			PSUs			Foreign Subsidiaries		
	Co-efficient	t-stat	p-value	Co-efficient	t-stat	p-value	Co-efficient	t-stat	p-value	Co-efficient	t-stat	p-value	Co-efficient	t-stat	p-value
<i>Intercept</i>	-1.297	-1.921	0.06	-3.701	-2.458	0.02**	-3.181	-4.684	0.00*	-4.765	-1.571	0.13	-2.342	-3.567	0.00*
<i>ROCE</i>	1.216	4.028	0.00*	1.977	1.600	0.11	1.056	4.316	0.00*	9.498	2.023	0.05**	1.529	5.632	0.00*
<i>DE</i>	-0.157	-1.764	0.08	-0.337	-2.166	0.03**	0.093	1.067	0.29	0.489	0.509	0.61	0.104	1.452	0.04**
<i>ACS</i>	-12.265	-3.754	0.00*	-10.381	-1.707	0.09	19.691	5.374	0.00*	-102.30	-0.363	0.72	14.320	4.876	0.00*
<i>RDS</i>	9.571	3.150	0.00*	4.505	0.799	0.43	-1.302	-0.316	0.75	-45.805	-0.697	0.49	-1.653	-0.418	0.53
<i>BOARDSIZE</i>	-0.121	-2.470	0.01*	-0.231	-2.078	0.04**	-0.103	-2.403	0.02*	0.150	0.646	0.52	-0.094	-1.942	0.01*
<i>BOARDIND</i>	-0.099	-1.607	0.11	-0.031	-0.217	0.83	0.024	0.408	0.68	-0.418	-1.707	0.10	0.032	0.506	0.54
<i>SIZE</i>	1.806	8.994	0.00*	3.067	6.514	0.00*	1.793	9.578	0.00*	1.861	2.586	0.02**	1.793	11.534	0.00*
Adjusted R2	0.220			0.3			0.36			0.234			0.27		
F-Statistic	17.87*			10.13*			19.85*			2.39**			9.25*		

Note: \* significant at 1% level; and \*\* significant at 5% level.

**CATEGORY 1: PRIVATE STAND-ALONE INDIAN FIRMS**

From the regression results for the overall sample, it is evident that the variables included in the model explain firm performance at statistically significant level, as indicated by the F-statistic (1% level of significance). The adjusted R2 is 0.30, which means that our model is explaining 30% of the variation of firm’s performance. A more detailed examination of the explanatory factors reveals that board size is statistically significant at 5% level of significance, in the regression model, as indicated by the p-value. For our overall sample, we have found that board independence does not have a statistically significant effect on firm performance.

**CATEGORY 2: GROUP AFFILIATED FIRMS**

From the regression results for the overall sample, it is evident that the variables included in the model explain firm performance at statistically significant level, as indicated by the F-statistic. The adjusted R2 is 0.36, which means that our model is explaining 36% of the variation for firm’s performance. A more detailed examination of the explanatory factors reveals that board size is statistically significant at 5% level of significance, in the regression model, as indicated by the p-value. For our overall sample, we have found that board independence does not have a statistically significant effect on firm performance.

### **CATEGORY 3: PUBLIC SECTOR UNITS**

From the regression results for the overall sample, it is evident that the variable include in the model explain firm performance at statistically significant level, as indicated by the F-statistic (5% level of significance). The adjusted R2 is 0.23, which means that our model is explaining 23% of the variation of firm's performance. A more detailed examination of the explanatory factors reveals that board size, as well as board independence, do not have a statistically significant effect on firm performance at 5% level of significance, in the regression model, as indicated by the p-value.

### **CATEGORY 4: FOREIGN SUBSIDIARIES**

From the regression results for the overall sample, it is evident that the variables included in the model explain firm performance at statistically significant level, as indicated by the F-statistic (1% level of significance). The adjusted R2 is 0.27, which means that our model is explaining 27% of the variation of firm's performance. A more detailed examination of the explanatory factors reveals that board size is statistically significant at 1% level of significance, in the regression model, as indicated by the p-value. For our overall sample, we have found that board independence does not have a statistically significant effect on firm performance.

### **CONCLUSION**

The findings of this empirical study reveal that larger boards are less effective than small boards in all the categories, apart from PSUs. The evident reasons, as suggested by previous scholars, are very pertinent. As board size increases, group dynamics, communication gap and coordination costs increase; this affects firms negatively. Board size is becoming insignificant for PSUs as a performance measure, and the reasons are straightforward. PSU performance in India is subject to political control, and here, the board is not as strong a corporate governance mechanism as it should be.

Board independence is insignificant across all categories in India, as the present study suggests. As a result, it can be said that board independence is not a vital factor in the determination of firm performance. Board independence in India is heavily influenced by the incumbent family owners or private individuals who are actually responsible for the appointment of independent directors. Hence, it may be concluded that independent directors usually go with the management's decision and are not so strong a force, as is desired by the regulators.

## LIMITATIONS AND SCOPE FOR FUTURE RESEARCH

The current study is quite exhaustive in the sense that four different categories of firms operating in the Indian markets have been considered. However, further research can be carried out in order to understand the reasons or factors that are responsible for affecting board size negatively. The Indian firms are also slowly, but surely, moving towards the Anglo-American model of corporate governance, wherein the diffused ownership patterns, as opposed to the concentrated ownership patterns, emerge. Along with this, board independence would gain greater prominence and affect firm performance, as opposed to the current situation. Whether this happens or not can again be a subject for future research.

## REFERENCES

1. Barnhart Scott W and Rosenstein Stuart (1998), "Board composition, Managerial Ownership and firm performance: An Empirical Analysis", *The Financial Review*, Vol. 33, pp. 1-16.
2. Barnhart Scott W, Marr Wayne M and Rosenstein Stuart (1994), "Firm Performance and Board Composition: some new evidence", *Managerial and Decision Economics*, Vol. 15, pp. 329-340.
3. Beiner S, Drobetz W, Schmid F and Zimmermann H (2003), "Is Board sizes an independent corporate governance mechanism?" Working paper, university of Basel, Basel, Switzerland.
4. Bhagat Sanjai and Black Bernard (1999), "The Uncertain Relationship between Board Composition and Firm Performance", *Business Lawyer*, Vol. 54, pp. 92 1-963.
5. Dalton D R, Daily C M, Johnson J L, and Ellstrand A E (1999), "Number of Directors and Financial Performance: A Meta-Analysis", *Academy of Management Journal*, Vol. 42, No. 6, pp 674-686.
6. Dhawan Jyothi (2006), "Board of Directors and corporate governance in large listed firms in India", *the icfai journal of corporate governance*, vol. 5, pp. 39-61.
7. Dwivedi Neeraj and Arun Jain (2005), "corporate governance and performance if Indian firms: the effect of board size and ownership", *employee responsibility and rights journal*, vol. 17, No. 3, pp. 161-172.
8. Hart O and Moore J (1990), "Property Rights and the Nature of the Firm", *Journal of Political Economy*, Vol. 94, p. 691.
9. Hart O and Moore J (1990), "Property Rights and the Nature of the Firm", *Journal of Political Economy*, Vol. 98, pp. 1119-1158.

10. Hart O and Moore J (1994), "A Theory of Debt Based on the Inalienability of Human Capital", Quarterly Journal of Economics, Vol.109, No.4, pp. 841-879.
11. La Porta R, Lopez De Silanes F and Shleifer A (1999), "Corporate Ownership around the World", Journal of Finance, Vol. 54, pp. 471-518.
12. Prahalad C K and Hamel G (1990), "The Core Competence of the Corporation", Harvard Business Review, May-June, pp. 79-91.
13. Simon H (1951), "A Formal Theory of the Employment Relationship", Econometrica, Vol. 19, pp. 293-305.
14. Williamson O E (1988), "Corporate Finance and Corporate Governance", Journal of Finance, Vol. 43, pp. 567-591.
15. Zingales L (1995), "What Determines the Value of Corporate Votes?" Quarterly Journal of Economics, Vol. 110, No. 4, pp. 1047-1073.
16. Kathuria Vinish and Dash Shridhar (1999), "Board size and corporate financial performance: An investigation", Vikalpa, Vol. 24, No. 3, pp.11-17.
17. Khanna Tarun and Palepu Krishna (2000), "Is group affiliation profitable in emerging markets? An analysis of diversified Indian business groups", The Journal of Finance, Vol. 55, No. 2, pp. 867-891.
18. Pearce John A and Zahra Shaker A (1992), "Board composition from a strategic contingency perspective", Journal of Management Studies, Vol. 29, pp. 411-438.
19. Prasanna Krishna (2006), "Independent directors and expectations Gap: An empirical Analysis", The ICFAI Journal of Corporate Governance, Vol. 5, No. 2, pp. 56-72.
20. Raheja Charu (2005), "Determinants of board size and composition: A theory of corporate boards", Journal of Finance and Quantitative Analysis, Vol. 40, pp. 283-306.
21. Subramanian S and Swaminathan S (2008), "Corporate governance in India: A survey of the literature", ICFAI Journal of Corporate Governance, Vol. 7, No. 3, pp. 31-45.
22. Vafeas N (1999), "Board meeting frequency and firm performance", Journal of Financial Economics, Vol. 53, pp. 113-142.
23. Van Ees H, Postma T J B M and Sterken E (2003), "Board characteristics and corporate performance in the Netherlands", Eastern Economic Journal, Vol. 29, No. 1, pp. 41-58.
24. Yermack D (1996), "Higher market valuation of companies with smaller boards of directors", Journal

of financial economics, Vol. 40, pp. 185-211.

25. Zahra S and Pearce J (1989), "Board of directors and corporate financial performance: A review and integrative model", journal of management, Vol. 15, No. 2, pp. 29 1-334.

## **COMMITTEE REPORTS**

1. Blue Ribbon Committee (1999), available at [www.nasdaq.com/about/blue\\_ribbon\\_pane.pdf](http://www.nasdaq.com/about/blue_ribbon_pane.pdf)
2. Kumar Mangalam Birla Committee on Corporate Governance (1999), available [www.sebi.gov.in/commreport/corpgov.html](http://www.sebi.gov.in/commreport/corpgov.html)
3. Cadbury Committee Report on Corporate Governance,1992.  
[www.ecgi.org/codes/documents/cadbury.pdf](http://www.ecgi.org/codes/documents/cadbury.pdf)