The Effect of Board Composition and Ownership Structure

on Firm Performance:

Evidence from India

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Abstract

This paper investigates the relationship between the independence of board of directors and firm performance in India. Our results are, largely, in harmony with the findings of Sarkar and Sarkar (2000) that the convergence of interest hypothesis seems to prevail in India. We find that the proportion of independent directors on the board is negatively related to the firm performance, while the degree of negative relationship gradually decreases as the level of inside director ownership increases. Upon further examination, however, by dividing the sample into two groups, we find sharply contrasting results for Group A firms (the more well established businesses). Among Group A firms, the beneficial effect of independent directors on firm performance peaks at the inside director ownership level of 40%. We believe these findings are attributable to the peculiarity of developing countries in terms of their market structure and influenced by firm size, political connections, and other network advantages.

JEL Classification: G3, G32, G34

Keywords: Board Independence, Board Size, Corporate Governance, Firm Performance, India, Ownership Structure, Tobin's Q

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1. INTRODUCTION

The emergence of large corporations in the 20th century has fuelled the efforts of both practitioners and academics in search for solutions to the problem of conflicts of interest at many different levels and ties of relationships. Moreover, the rapid growth of capitalism around the world has rendered the delegation of authorities at organisations and investments in stock markets more prevalent than ever before.

Along with these changes, market participants came to realise the importance and the difficulties involved with governing the actions and inactions of agents who should, in theory, work in the best interest of the principals. The agency problem, however, is not limited to the agent-principal relationship[1]. More recently, especially in developing countries, researchers have attempted to study the conflicts between the inside dominant shareholders, who practically have full control of the affairs of the company, and the minority shareholders. Varma (1997) states;

> "[C]orporate Governance problems in India are very different. The governance issue in the U.S. or the U.K. is essentially that of disciplining the management who have ceased to be effectively accountable to the owners. The problem in the Indian corporate sector is that of disciplining the dominant shareholder and protecting the minority shareholders."

Corporate Governance related abuses and ill-treatment, whether by the management or dominant shareholders, eventually and most effectively get solved either by the regulators such as the SEBI in India or capital market through stock price changes. When the latter cannot be relied upon the poor Corporate Governance measure is often blamed for threatening investments of the public and

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[1] La Porta *et al*. (2000) discusses various agency problems and expropriation by the insiders.

minority shareholders who are vulnerable to expropriation. If so, the regulators ought to intervene and maintain vigilance. From experiences in Asian Financial Crisis and debacles of Enron and WorldCom, market participants have come to realise the need for an early intervention by the regulators, even at the cost of inefficiency. The consequences of failures of self-correcting market mechanism is too severe. Moreover, victims of inadequate Corporate Governance measures are not limited to the stakeholders of the firm such as employees, customers, suppliers and so forth, but also include the general public of the dithering economy.

In response to the above mentioned carrot-and-stick approach on Corporate Governance measures, regulatory organisations, intermediaries and academics are striving to ameliorate governance mechanism with the aim of minimising the compliance cost and at the same time maximising the benefit of such intervention. Reliable Corporate Governance measure no longer is a choice but it has become one of the mandatory requirements for every economy. The regulators are in a desperate need of policing the affairs of the corporations proactively rather than passively to wait for the misfortune to occur.

Since the early 1990s, regulators from both developed and developing countries have largely focused on two different, but proactive, methods of Corporate Governance mechanisms. They are the obligation to form an Internal Audit Committee within the organisation and the second is the imposition of Independent Directors on the Board of Directors with the aim of enhancing the monitoring of insider. We test on the effectiveness of the latter in one of the developing countries: India.

Berle and Means (1932) and Jensen and Meckling (1976) was the beginning wave of agency theory. These researchers have argued for the 'convergence of interest' hypothesis. It suggests positive relation between managerial equity ownership and firm value since high managerial equity ownership will deter insiders and directors to take excessive amount of perquisite and minimise misallocation of

valuable resources. Fama (1980), Fama and Jensen (1983), Demsetz (1983), and Demsetz and Lehn (1985), however, disagreed and contended that even without managerial equity ownership, independent director works for his or her reputation in the labour market. Moreover, their 'entrenchment' hypothesis suggests that excessive managerial ownership may allow managerial consumption of perquisites and reduce probability of bidding by outside agents, thus reducing the firm value.

From these two opposing hypotheses, we review previous literature on ownership structure, board composition, and firm performance. Morck, Shleifer, and Vishny (1988) find evidence for both convergence of interests and entrenchment hypotheses in their sample. Until the inside ownership reaches 5 percent level, Tobin's q increases with the level of ownership. However, the relationship becomes negative when the inside ownership is between 5 and 25 percent. McConnell and Servaes (1990) and Hermalin and Weisbach (1991), largely, confirm Morck et al (1988) findings but with slightly different cut-off points.

Weisbach (1988) and Hermalin and Weisbach (1998) use CEO turnover and director appointments to examine and conclude the relevance of board composition on firm performance while Byrd and Hickman (1992) and Borokhovich, Parrino and Trapani (1996) use tender offer and CEO succession, respectively. Brickley, Coles, and Terry (1994) and Cotter, Shivdasani and Zenner (1997) also confirm the positive effect of independent directors on firm performance by measuring the average stock market reaction in response to the poison pills. In contrast, there are numerous studies which have failed to confirm any significant relationship between the board composition and firm performance. Fosberg (1989), Hermalin and Weisbach (1991), and Klein (1998) all fail to confirm that the outside directors increase firm performance. Bhagat and Black (1997) and Bhagat and Black (2002) find that the proportion of independent director does not seem to have positive relationship with firm performance.

Li (1994) and Denis and Sarin (1999), however, find some interesting results. They found significant correlation between the ownership structure and board composition, without linking them to firm performance. In spirit of these studies, we examine the relationship between board composition and firm performance while controlling for ownership structure.

Sarkar and Sarkar (2000) provide evidence for convergence of interest hypothesis in India, which we closely follow in our study, while Khanna and Palepu (2000) find useful evidence in explaining the unique characteristics of Indian setting. Unlike U.S. conglomerates, Indian business groups of affiliated firms with most highly diversified businesses have superior firm performance than all other firms in the economy. The central theme of our research is the relationship between board composition and firm performance. We also add the aspect of inside director ownership by controlling with a dummy variable in relation to the board composition. Moreover, in this empirical study, a number of different aspects of the board are explored in relation to firm performance.

The principle of free-capitalism and successful promotion of Foreign Institutional Investors have forced both regulatory organisations and Indian businesses to act swiftly and effectively to enhance the level of transparency in business and market transactions. Just like most other developing countries, Indian business communities are in desperate need of earning trust and gaining confidence from Indian public, foreign investors and business partners. Furthermore India's recent change in political framework to parliamentary democracy is a big 'if' to take it as a matter of course and it is not uncommon to confront divergent opinions and witness hiccups in the process of a battle for the new government.

We believe India is one of the forerunners in promoting the Rules of Corporate Governance in the field of Board of Directors, Audit Committees, Disclosures, and Whistle Blow Policy. Despite good intentions behind its implementation, however, there has been a long standing criticism on the practicality

surrounding the solutions suggested by regulatory organisations. For example, researchers and business practitioners have been hammering on the controversial issue of mandatory imposition of independent directors on every board of every listed company. Our study, therefore, examines one aspect of the controversy, namely, the board composition, by testing the relationship between the proportion of independent directors and firm performance using companies listed on Bombay Stock Exchange.

We also believe that we are in an excellent time-period to study the effect of Corporate Governance in developing countries such as India. During early 1990s, India has for the first time attempted to provide a comprehensive Corporate Governance measure, which was finalised and implemented by the end of 1990s. The unexpected regulatory reform, mainly due to the opening of doors to the Foreign Institutional Investors, provides us a natural setting to test the effect of Corporate Governance. It is because prior to the implementation of Corporate Governance measures, we believe the market has not been tainted by any previous attempts to improve the Corporate Governance in general. Moreover, expeditiously performed regulatory reforms enable us to capture the natural market reactions in the light of the reform. It could be highly inefficient to impose one rigid set of Rules of Corporate Governance to all the firms in the country. Moreover, we believe it to be even more inefficient for countries with different business culture to adopt similar Rules of Corporate Governance.

Readers should note, just as with other countries, the Securities and Exchange Board of India is in the course of setting up most sound and appropriate Rules and Codes of Corporate Governance for Indian companies, via the Listing Agreement, with help from three major Committees and principles of the Cadbury Report.

Table 1 Research Questions and Hypotheses – Table of Summary

Hy	Relationships	Previous Literature	Our Hypotheses	Our Findings
1	**Board Size and Firm Performance**	Negative	Positive	Positive
2	**Independence Ratio[2] and Firm Performance**	Mixed	Positive	Negative
-	**Independence Ratio Spline[3] and Firm Performance**	N/A	N/A	Mixed
3	**Unitary Leadership[4] and Firm Performance**	Positive	Positive	Positive
4	**Number of Board Meeting and Firm Performance**	N/A	Negative	Mixed
5	**Independent Director Attendance[5] and Firm Performance**	N/A	Positive	Positive
6	**Dependent Director Attendance and Firm Performance**	N/A	Positive	Insignificant
7	**Outside Directorship by Indpt Dir and Firm Performance**	N/A	Negative	Positive
8	**Outside Directorship by Dpt Dir and Firm Performance**	N/A	Positive	Insignificant
-	**Firm Size and Firm Performance**	Negative	Positive	Mixed

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[2] Independence Ratio = Proportion of outside independent directors on the board
[3] Dummy variable of one is given to Independence Ratio, if the inside director shareholding exceeds the specified spline node, zero otherwise.
[4] Unitary Leadership = One person occupies both positions of Chief Executive Officer and Chairman
[5] Board meeting attendance rates by each class of directors tested against firm performance.

The SEBI not only has to review and consider recommendations submitted by the Committees and other concerned organisations but also subject to amending legislations by the parliament which legally supersedes the powers of the SEBI. The Listing Agreement has been imposed on Indian companies less than five years ago, thus a lot of clauses and definitions are still being edited and amendment bills are being drafted and withdrawn as we write.

Furthermore, Indian setting allows us to test the clear definition of independent directors versus non-independent directors since they do not bring the less clear classification of non-executive directors. Clause 49 is clear cut in that it requires the companies to fill the board with independent directors, not non-executive directors.

Poor corporate governance can ruin both foreign investments and economic growth. If needed, Indian government should directly intervene with regulatory measure with the aim of heightening investor confidence and promote foreign investment, though it should be done with caution. It is because the imposition of inappropriate governance measure can bring more adverse effects and worse outcome than had the intervention not taken place.

The paper is organised as follows. Section 2 discusses corporate governance in relation to Board Composition, Ownership Structure and Firm Performance. Section 3 describes the sample-selection procedure and empirical methods. Section 4 presents results and interpretations, and Section 5 concludes the paper.

2. The Corporate Governance

As the Indian economy experienced liberalisation of financial markets and privatisation of economic activities in 1990s, amounts of foreign direct investment (FDI) into Indian economy grew rapidly. As aforementioned, the future is rather ominous for markets without foreign investments or FDIs as they play a preponderant

role as the engine of economic growth via technological upgrading and indirect contribution through positive externalities which benefit local businesses. Consequently, corporate governance has become one of the most important issues for long-term stable growth of every economy around the world.

India's corporate governance system is a hybrid of the arms-length market-based systems of U.K. and U.S. and the insider-dominated bank-based systems of Germany and Japan[6]. The idiosyncratic structure of the corporate governance of India intuitively tells us the rules of governance should accordingly be tailor to suit the business structures of India. Blindly chasing the rules of governance of developed countries could put Indian businesses and economy in harms way.

India belongs to the common-law family which is based on the legal system of England thus modelled on English law. Unlike in civil law countries, the common law values case outcomes which are resolved by judges through applying legislations enacted by the parliament. These precedents from judicial decisions shape common law and this has spread to the British colonies, including the United States, Canada, Australia, India, New Zealand and a few other countries.

The reliability of a country's legal system should, *ceteris paribus*, be positively correlated with the amount of foreign investments in that country. Sound legal rules, fair and equitable judicial process, and effective enforcement of law increase and maintain both domestic and foreign investor confidence. For instance, a reliable business rule of law will support the rights attached to securities, efficient and accurate dividend payouts, expeditious bankruptcy and liquidation procedures, and upholding of priority rule for secured creditors.

According to La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997) India has relatively poor legal system. Out of 18 common law countries, India has received

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[6] See Sarkar and Sarkar (2000)

the fifth lowest mark of 4.17 in the group which had an average of 6.46[7] on a scale from 0-10. Lower scores equate to lower tradition for law and order. In their subsequent paper, La Porta et al (1998), further examine and find that laws differ markedly around the world which entitles an investor to very different bundles of rights. They conclude that, on average, countries whose legal rules originate in the common-law tradition tend to protect investors considerably more than the countries whose laws originate in the civil-law. The investors' rights are determined by laws; they are not inherent in securities themselves.

Furthermore, Bertrand, Mehta and Mullainathan (2002) investigated and confirmed evidences of tunnelling among large Indian corporations ascertaining one of many anecdotal evidences surrounding mal-practices of Indian corporations. They found that much of tunnelling occurs via non-operating components of profit.

What does it all mean for investors in India? Despite the common law legal system in India, from above studies and numerous anecdotal evidences on corruption and fraudulent business transactions one could easily envisage that being a shareholder in India gives an investor worse privilege than being a shareholder in the United States, Canada, Australia or New Zealand.

India is notoriously known for inadequate and time-consuming bankruptcy and liquidation laws and procedures. Most liquidation cases take anywhere between one to two decades to complete, which seriously works against the interests of employees and secured creditors. As a result, businesses in India fear filing for bankruptcy or liquidation least and leads to discouragement of foreign investments and deprivation of future economic growth.

Securities traded on the Exchanges are classified into a number of different groups. The table below briefly explains the nature of each group:

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[7] Top scoring (score of 10) common law countries include Australia, Canada, New Zealand and the United States.

Group	Description
A	Companies with large capital base, large shareholder base, and good growth record with regular dividends & greater volumes in secondary market
B1	Relatively liquid scrips with good management & satisfactory growth prospects & volumes
B2	Securities other than A & B1 excluding non-convertible debentures
C	Odd lot Segment
F	Segment for Non-convertible debentures
G	Central and State Government Securities
Renunciation	Renunciation of Rights

The Cadbury Report of U.K. is the primary source for today's Indian rules of Corporate Governance and it becomes more evident in the next section where we compare the key concepts and theories between the three documents, namely, 'The Cadbury Report', 'A Desirable Code' and 'The Clause 49 of the Listing Agreement'.

The most noticeable difference is in the Board Composition. While the Cadbury Report and the Desirable Code brings in both 'Non-Executive Directors' and 'Independent Directors' in their context, clause 49 amalgamates the two and only uses 'Independent Director' as their requirement for board composition, thereby excluding 'Non-Executive Director'. The stricter definition of 'Independent Director' under the Listing Agreement unambiguously lessens the confusion for both companies and regulators since all 'Independent Directors' are 'Non-Executive Directors' but not vice-versa.

In other words, as far as the Board Composition is concerned, the Cadbury Report and the Desirable Code uses three categories of directors, namely, 'Executive', 'Non-Executive' and 'Independent', whereas the Listing Agreement only

uses two categories, namely, 'Independent' and 'Non-Independent', which includes 'Executive Directors'.

3. DATA AND METHODOLOGY

We test the above hypotheses concerning the relationship between the board composition and firm performance using a sample of firms from Prowess. Prowess is a publicly available database provided by the Centre for Monitoring Indian Economy (CMIE). It is the most reliable and empowered corporate database in India covering information on around 8000 companies. Prowess also deals with the problems of different accounting practices in different companies by CMIE's methodological framework for database normalisation. This is a crucial process as companies in India do not follow uniform accounting standards. In India, the adoption of uniform International Accounting Standards Committee (IASC) standards by companies is not yet mandatory and it would suffice for a company to disclose its accounting policies by way of a note in its audited accounts.

Our sample consists of firms that have either been filing Corporate Governance reports prior to or began filing during the three-years of compliance phase, namely, between March 31st, 2001 and March 31st, 2003 period. We have divided the sample into three categories as defined by the Securities Exchange.

All 898 firms have their three-year average market capitalisation above the median of the entire listed companies' market capitalisation. Firms with three-year average market capitalisation lower than those of three-year average median market capitalisation of the entire listed companies were excluded from the selection process.

We have 271 companies in Group A, which have filed their Corporate Governance reports for all three years, namely from March 31st 2001 to March 31st

2003, as stipulated in the Listing Agreement. There is, however, a slight variation in the definition of 'Group A' in our sample.

There are 225 Group A firms under the definition of the Exchange, but we have also included firms with above the median mark and which have filed the Corporate Governance reports for all three years in accordance with the Listing Agreement. On the other hand, failure to comply with the Listing Agreement resulted in deletion from the sample despite being one of 225 Group A firms as defined by the Exchange. This approach well suits our intention to study the effect of imposition of the Listing Agreement in India.

In Group B, we have 535 companies in the sample which have filed their Corporate Governance reports for two financial years in 2002 and 2003. There are over 1,000 firms classified as Group B, but we have selected every second firm in an alphabetical order and arrived at selecting 541 companies. It is a sufficient sample size to examine the hypotheses and observe differences, if any, from Group A firms. As with in Group A, we have excluded firms from the sample base if it has failed to file a Corporate Governance reports both in 2002 and 2003.

Group C consists of 86 Government companies and suffers the most from missing data problem. Not only a significant number of government firms have failed to file the Corporate Governance reports, a lot of filed reports lack clear definitions and essential information required by Clause 49 of the Listing Agreement. Had all of government firms filed the reports, there should be over 300 companies under Group C alone. We have obtained a final sample of 2,141 observations for 892 companies across three years.

Our performance measure is the Approximate q, as advanced by Sarkar and Sarkar (2000). In India and many developing countries, as mentioned in Sarkar and Sarkar (2000), some components of Tobin's q are difficult to ascertain. Therefore, we

have made a slight variation to the original Tobin's q[8]. For example, because institutional debt is inactively traded in the Indian debt market, it is extremely difficult, if not impossible, to ascertain the market value of debt for companies. The Approximate q replaces the market values with book values, thus defining q as:

$$\textit{Approximate (Tobin's) q} = \frac{(\text{MKT CAP + Par of Pref. Stock + Total Liabilities})}{\text{Total Assets}}$$

We expect the Approximate q to reflect similar to what Tobin has originally intended in his study, which is to examine a causal relationship between q and investment. From the above formula one can envisage that if, at the margin, q exceeded unity, firms would have an incentive to invest, since the value of their new capital investment would exceed its cost. Moreover, we expect that if all such investment opportunities were exploited, the marginal value of q should tend toward unity.

Most of the data have been directly retrieved from Prowess except for Total Liabilities, which was calculated by deducting 'Net Worth' from 'Total Assets'. Moreover, most of the Par value of Preferred Stock was zero with only a few exceptions. In case of missing data for any of the components, we could not calculate the Approximate q and thus the company is excluded from our sample.

Due to some positive skewness in the Approximate q values, we have performed a statistical technique of winsorisation. The positive skewness is mainly attributable to the largeness of market capitalisation (MKT CAP) calculated as the number of outstanding stock multiplied by the closing stock price. Winsorisation, however, have not significantly affected the results in any of the empirical sections, therefore reported results are not subject to winsorisation.

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[8] Chung and Pruitt (1994). Authors develop and show at least 96.6% of the variability of Tobin's q is explained by Approximate *q*.

There are nine variables of interest and their definitions are:

Board Size	**=**	Total Number of Directors on the Board
Independence Ratio	**=**	$\dfrac{\text{Number of Independent Directors}}{\text{Total Number of Directors}}$
Independence Ratio Spline	**=**	Independence Ratio, if director ownership is above the specified spline level
Chairperson Independence	**=**	1 if Chairperson = CEO, zero otherwise
Board Meeting	**=**	Total Number of Board Meetings
Attnd of Indpt Directors	**=**	$\dfrac{\text{Actual Attendance by Independent Directors}}{\text{Attendance Required by Independent Directors}}$
Attnd of Dpt Directors	**=**	$\dfrac{\text{Actual Attendance by Dependent Directors}}{\text{Attendance Required by Dependent Directors}}$
Outside Directorship (Indpt)	**=**	$\dfrac{\text{Total Outside Directorship held by Independent Directors}}{\text{Total Number of Independent Directors}}$
Outside Directorship (Dpt)	**=**	$\dfrac{\text{Total Outside Directorship held by Dependent Directors}}{\text{Total Number of Dependent Directors}}$

Board Size is the total number of directors, both independent and dependent, as at the end of financial year. For consistency, we have excluded directors who have resigned and included directors who have been appointed any time during the year. In other words, we have counted the number of directors as at 31st of March of every year.

Using 452 large U.S. industrial corporations, Yermack (1996) finds negative relationship between the size of the board of directors and their profitability. A study of Finland market by Eisenberg, Sundgren, and Wells (1998) also reaches a similar conclusion. In our model, BRD_SIZE variable will allow us to test the effectiveness of the board in relation to their size in Indian market and compare the results from earlier findings.

Independence Ratio is the proportion of independent directors on the board as at the end of each financial year. We have used a 'two-way classification' for

categorisation of directors, thus every director belongs either to independent or dependent, instead of the popular 'three-way classification'.

We have decided to use the two-way classification for two reasons. Firstly, Prowess provides the data in two-way classification style and it would be extremely difficult, if not impossible, to obtain corporate proxy statements for all sample years. Secondly, Borokhovich, Parrino, and Trapani (1996) have also used two-way classification and successfully found the effects on the firm value in relation to the replacing director of a fired CEO. Moreover, the inability to use Byrd and Hickman (1992)'s three-way classification would work against finding of our results.

Nominee and non-official directors have been classified as independent directors following from the definitions provided by Prowess. Moreover, every independent director is, unsurprisingly, a non-executive director.

Independence Ratio with Spline is the variable that allows us to capture the relationship between independent directors and firm performance in light of the shareholding patterns. We do this by controlling for promoters' equity ownership by adopting the Spline method used by Sarkar and Sarkar (2000).

We allocate a dummy variable that receives a value of one if the promoters' shareholding is above the specified level of ownership or zero otherwise. For instance, if we set the limit at 40% spline, this variable captures the difference between the firms with less than 40% insider ownership and the firms with more than 40% insider ownership. This variable enables us to understand the effect of independent directors on firm performance by isolating companies with different structure of insider ownership.

Although chairperson independence has been recommended by a number of Indian Government Advisory Committees that the chairperson and the Chief Executive Officer (CEO) should not be a same person, it has not yet been regulated under the Clause 49 of the Listing Agreement. The intuition behind separating titles of CEO and Chairman of the board is the enhancement of monitoring process and,

therefore, to reduce the agency cost by separating decision management and decision control. Despite such an intuition and regulatory recommendations showing the benefits of separation of CEO and Chairman, more recently, there have been studies demonstrating otherwise.

The availability of data in Prowess on the number of board meetings held in a financial year has allowed us to examine its relationship with firm performance. There are not many studies in relation to the number of board meetings. We have not taken natural logarithm on the number of board meetings but directly used raw data since it appears to have be normally distributed.

On top of the number of board meetings, Prowess provides details of attendances at board meetings and Annual General Meetings (AGMs) of all directors in a company. Again, the testing of rate of attendance by independent directors and their relationship with the firm performance is relatively new. We have included attendance records of directors who had resigned or newly appointed in the middle of a financial year.

It is common for directors to hold more than one directorship in listed companies at one point in time, which are reflective of his or her availability and commitment towards a particular company. We have followed the definition of 'outside directorship' as provided by Prowess. It includes the number of directorships and chairmanships held in other publicly, but not privately, listed companies. Moreover, both domestic and foreign listed companies have been counted.

Based on U.S market, Booth and Deli (1996) studied the factors affecting the number of outside directorship held by CEOs. In our study, however, the availability of data in Prowess enables us to extend the study to all the directors in a company. We have grouped directors into two based on their dependency status on the board, which enables us to examine the relationship between the firm performance and directors' availability or the level of commitment by different types of directors.

The following firm-specific variables minimise any spurious relation between the performance variable and the variables of interest. They are the most commonly applied control variables and designed to remove other external factors which may or may not influence the performance variable. All values are retrieved from Prowess except for the industry dummy variables.

$$SIZE = \text{ln (Total Assets)}$$

$$INTAN = \text{Intangibles / Total Assets}$$

$$DEBT = \text{L-T Borrowing / Total Assets}$$

$$AGE = \text{ln (Number of years to 2004 since incorporation)}$$

$$GROUP = \text{One for the firms that belong to a Group, zero otherwise}$$

$$INDUSTRY\ DUMMY = \text{One for the Industry the firm belongs to, zero otherwise}$$

While SIZE variable is widely used since it controls for a different number of external factors, in this study, it controls an important aspect that larger companies tend to have larger boards. The inclusion of SIZE variable aids us in levelling the differently sized firms in the sample and finds the true relationship between the firm performance and the variables of interest, especially the BRD_SIZE variable. Likewise INTAN and DEBT variables level the different holdings of intangible assets and debt by each of the sample firms. AGE variable[9] aims at controlling for the old and mature companies. Mature companies could have either built reputation, which gives them an advantage over infant competitors, or lost the ability to respond swiftly to changes in the environment. We have inserted a Group firm variable to capture any differences arising from group firms.

Previous studies in U.S. have struggled to ascertain the relationship, if there is any, between the size of the firm and the composition of the board. Using the announcement of new director appointments on *Wall Street Journal*, Rosenstein and

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[9] Although Sarkar and Sarkar (2000) have used raw number of years as their AGE variable, we observe severe positive skewness in our sample for AGE. Thus we have taken the natural logarithm on every sample and improved normality in the data.

Wyatt (1990) found positive relationship between the appointment of outside directors and the firm performance regardless of the pre-announcement composition. Although the study is one of many mixed evidences on the merits of independent or outside directors, it is interesting to note that the authors were unsuccessful in finding the size effect.

Unlike in U.S. data, CMIE database does not have pre-made industry classification of firms. We, therefore, have constructed an industry classification schedule similar to that of SIC Division Structure. The Structure breaks down into 10 Divisions and within those divisions 99 Major Groups have been re-classified. Prowess, however, does provide Industry Type and Economic Activity of each and every single firm, which we have used in conjunction with the SIC Division Structure to create 15 industry groups.

We have used industry dummy variable by giving one to the industry that the sample firm belongs to and the rest of 14 groups get zero. The following table enumerates related products and services that are produced or provided under each industry.

We use multivariate regression analysis to investigate the relationship between firm performance and independent directors. We have Approximate *q* as the dependent variable and nine explanatory variables covering independent directors, board meetings, and chairmanship. Although *q* is undoubtedly a noisy signal of firm performance, we believe it is well-suited to our purpose.

We also extend Sarkar and Sarkar (2000) spline method to test different levels of ownership structure, namely 25%, 40%, 60%, 70%, and 80%. Testing at above different levels of inside ownership allows us to examine their effect on explanatory variables.

Approximate q = α + β_1 BRD_SIZE
                    + β_2 INDPC_RATIO
                    + β_3 INDPC_RATIO_DUM

$$+ \beta_4\,CHAIR\_INDPC$$
$$+ \beta_5\,BRD\_MTING$$
$$+ \beta_6\,ATTND\_INDPT$$
$$+ \beta_7\,ATTND\_DPT$$
$$+ \beta_8\,OUT\_INDPT$$
$$+ \beta_9\,OUT\_DPT$$
$$+ \beta_{10}SIZE + \beta_{11}INTAN + \beta_{12}DEBT + \beta_{13}AGE + \beta_{14}GROUP$$
$$+ \beta_{15}CONSUM + \beta_{16}FABRIC + \beta_{17}CHEMCL + \beta_{18}PLASTC$$
$$+ \beta_{19}CEMENT + \beta_{20}METALS + \beta_{21}MACHNE + \beta_{22}TRANS$$
$$+ \beta_{23}PHARMC + \beta_{24}COMPTR + \beta_{25}FININS + \beta_{26}PROPTY$$
$$+ \beta_{27}BUSERV + \beta_{28}PICTRS + \beta_{29}DIVFSD$$

We initially run the regression for a different group of samples without adopting Sarkar and Sarkar's spline method by omitting the INDPC_RATIO_DUM variable. The relationships, therefore, are examined without taking the ownership structure into consideration. Subsequently, however, inclusion of the INDPC_RATIO_DUM variable and further tests with different level of spline cut offs allows us to understand not only the relationship between independent directors and firm performance but also the effects of the ownership structure.

Although the underlying principle of spline method by Sarkar and Sarkar (2000) in testing a non-liner relationship between inside director ownership and firm performance is preserved, our approach is slightly different from their work for the following two reasons. Firstly, we try to examine the relationship between board composition and firm performance while controlling for inside director ownership and secondly, at any given spline node, we use a dummy variable to capture the difference between a group of firms with less than the specified inside director ownership against firms greater than the specified level of inside director ownership. Consequently, the interpretations and significance of INDPC_RATIO_DUM variables are relative to the measures of the base variable, INDPC_RATIO.

4. RESULTS AND INTERPRETATIONS

Table 2
Characteristics of the Board of Directors for Group A Firms

271 firms filed corporate governance reports for the three years in 2001-2003, which is a slight variation from the original definition of Group "A" given by the Securities Exchange of India. For consistency, identical firms are used for the all sample periods. A sample is excluded for that year only, if data is not available for any reason. Board Size represents the total number of directors on the board. If one person act as both the CEO and the Chairman, value of one is allocated, zero otherwise. Likewise, if a firm belongs to a Group firm, value of one is allocated, zero otherwise. Age of the firm is calculated as the current year minus the year of incorporation.

	2001	2002	2003	Three Year Average
Number of Firms	271	271	271	271
Approximate q	1.11	1.16	1.00	1.09
Board Size	9.08	9.07	9.06	9.07
Independence Ratio	0.53	0.55	0.56	0.55
Chair Independence	0.29	0.29	0.29	0.29
Number of Board Meetings	6.95	6.72	6.46	6.71
Rate of Independent Directors' Attendance at Board Meetings	0.69	0.73	0.74	0.72
Rate of Dependent Directors' Attendance at Board Meetings	0.82	0.82	0.82	0.82
Number of Outside Directorships held by Independent Directors	5.52	4.82	4.28	4.87
Number of Outside Directorships held by Dependent Directors	5.88	5.11	4.48	5.16
Group Firms	0.69	0.69	0.69	0.69
Age of the Firms in Years	29.25	30.24	31.22	30.24

The number of Group A firms is arbitrarily fixed at 271 for all three years. As expected, the value of Approximate q scores around one. On average there are nine directors on the board while slightly more than a half of the directors are on average independent directors strictly defined by clause 49 of the Listing Agreement. The position of chairmanship of board of directors is reasonably independent. Only three out of ten Group A firms seem to have unitary leadership structure while on average six to seven board meetings are held in a year.

It is interesting to note that, although by small margin, the rate of board meeting attendance by independent directors gradually increases while the rate of attendance by dependent directors remains constant. We believe that this is attributable to the strict imposition of clause 49 of the Listing Agreement, thus by implicitly adding more pressure on independent directors to participate and closely monitor the board meetings. Likewise the number of outside directorships held by independent and dependent directors dropped significantly over the three years. Again we suspect the Listing Agreement to be responsible for the changes, which specifies the maximum number of outside chairmanship and committee membership that each director may hold. Lastly, it is notable that the imposition of the Listing Agreement seems to have minimal impact on the structure of Group firms, at least in short-run. Although we do not conjecture any dispersion of Group firm structure merely due to the imposition of more stringent corporate governance regulations, however, in the long-run it would be interesting to observe correlation of changes in the structure of Group firms.

Group B consists of 535 sample firms and as with Group A, the average Approximate q hovers around the value of one. Group B firms, on average, have eight directors on the board which is slightly lower than the Group A firms, though proportionately more independent directors occupy the seats of the board than Group A firms. Unitary leadership structure is marginally higher among Group B firms while on average six board meetings are held each year.

Although to a lesser degree, we observe improving rate of board meeting attendance by independent directors and decreasing average number of outside directorships by both independent and dependent directors. Proportionately less firms in Group B belongs to a Group firm. Note that the average age of the firms in Group B is around 60 which is twice the average age of firms in Group A.

Table 3

Characteristics of the Board of Directors for Group B Firms

Thousands of Group B firms had filed corporate governance reports for the two years in 2002-2003. 535 firms are randomly chosen and for consistency, identical firms are used for both sample periods. A sample is excluded for that year only, if data is not available for any reason. Board Size represents the total number of directors on the board. If one person act as both the CEO and the Chairman, value of one is allocated, zero otherwise. Likewise, if a firm belongs to a Group firm, value of one is allocated, zero otherwise. Age of the firm is calculated as the current year minus the year of incorporation.

	2002	2003	Two Year Average
Number of Firms	535	535	535
Approximate q	1.04	0.97	1.01
Board Size	8.08	8.03	8.06
Independence Ratio	0.58	0.59	0.59
Chair Independence	0.34	0.33	0.34
Number of Board Meetings	6.25	6.00	6.13
Rate of Independent Directors' Attendance at Board Meetings	0.70	0.72	0.71
Rate of Dependent Directors' Attendance at Board Meetings	0.83	0.83	0.83
Number of Outside Directorships held by Independent Directors	3.94	3.69	3.82
Number of Outside Directorships held by Dependent Directors	4.35	4.13	4.24
Group Firms	0.61	0.61	0.61
Age of the Firms in Years	59.78	60.78	60.28

As one of developing countries, Indian companies, not surprisingly, seem to have highly concentrated ownership structure by the inside directors, which is attributable to predominance of family-owned businesses. We have divided the ownership structure into promoters and non-promoters in order to isolate the effect of inside ownership on the firm performance. This requires us to combine both Indian domestic and foreign owners into the one category of 'Promoters'. Non-promoters are further divided into five categories as provided by Prowess Database.

Table 4

Ownership Structure of Group A Firms

Numbers are in percentage format and they represent yearly average of equity ownership by respective categories of owners. Insider shareholding is an addition of Indian domestic and foreign promoters. NRI stands for Non-Resident Indians while OCB is the Overseas Corporate Bodies. The information is directly from Prowess Database provided by the Centre for Monitoring the Indian Economy (CMIE)

	2001	2002	2003	Three Year Average
Promoters				
Inside Director Ownership	46.0	46.7	48.3	46.4
Non-Promoters				
Institutional Investor / Banks	14.3	13.2	12.7	13.8
Private Corporate Bodies	7.5	7.3	7.2	7.4
Indian Public	25.5	26.3	25.8	25.9
NRIs & OCBs	4.9	4.8	4.3	4.9
Others	1.3	1.0	1.5	1.2

Institutional Investors are the government-owned mutual fund such as the Unit Trust of India. Private Corporate Bodies are mostly substantial blockholders in private companies within the business groups.

Sarkar and Sarkar (2000) remark on how the Indian corporate governance system is by and large a hybrid of the 'outsider systems' of the U.S. and U.K., and the 'insider systems' of continental Europe and Japan. They base their allegation on the fact that India's equity holdings by non-financial corporations are as high as Germany and Japan while the participation of the small investors in corporate equity is also as active as in the U.S., with India having the largest number of listed companies in the world. In support, we have also found the average shareholding of Indian public to be relatively high at an average of more than 25%.

Table 5

Ownership Structure of Group B Firms

Numbers are in percentage format and they represent yearly average of equity ownership by respective categories of owners. Insider shareholding is an addition of Indian domestic and foreign promoters. NRI stands for Non-Resident Indians while OCB is the Overseas Corporate Bodies. The information is directly from Prowess Database provided by the Centre for Monitoring the Indian Economy (CMIE).

	2001	2002	2003	Three Year Average
Promoters				
Inside Director Ownership	47.3	49.3	51.2	49.3
Non-Promoters				
Institutional Investor / Banks	9.9	9.6	8.5	9.3
Private Corporate Bodies	8.3	7.3	7.1	7.6
Indian Public	29.2	28.6	28.8	28.9
NRIs & OCBs	3.3	3.4	2.9	3.2
Others	0.7	0.4	0.6	0.6

Ownership structure of 535 Group B firms is similar to that of Group A firms though the level of Inside Director Ownership and Indian Public on average are slightly higher.

Table 6 shows the results for regression analysis on all 806 firms for period 2001-2003 that brings a total of 1883 observations. Most notably, significant and negative *Board Independence Ratio* variables tell us that the higher the proportion of independent directors on board of directors, the worse the firm performance. On the first column, it reports -0.084 with significant t-statistics of -2.92. Intrigued by the negative relationship between board composition and firm performance, we control for inside director ownership by including the *Board Independence Dummy* variable at different levels of spline-nodes. Although the control dummy variable does not materially change the results, the coefficients at different levels of inside ownership provide us with insight on the relationship between board composition and firm performance.

At 25% spline-node, in other words controlling for a group of companies with inside director ownership of more than 25%, column two of Table 5 reports the difference of -0.046 (-0.142+0.096) between *Board Independence Ratio* and *Board Independence Dummy* variables. This negative coefficient differential, however, decreases to -0.040 and below as the spline-node increases to 40% and above. Although the negative relationship between board composition and firm performance persists at every level of inside director ownership, the decreasing coefficient differentials suggests that the imposition of independent directors are less harmful on the firm performance as the level of inside director ownership increases. We suggest that this is because at high levels of inside director ownership, say 40% or above, inside directors will find it a lot easier to control and manage the affairs of the company as they see fit despite the presence of outside independent directors. With the shareholders' majority vote in the hands of inside directors, independent directors will have minimal power to influence the decisions of the board.

A negative relationship between the proportion of independent directors and firm performance is attributable to the negative effect of monitoring of inside directors, which is considered to be the primary role of independent directors. As shown in Table 6, when the inside director ownership is relatively low (say at 25%) their vigilance will not only hinder inside directors to operate business as they see fit but also unnecessarily retain independent directors who lack company specific knowledge and amount to inefficient allocation of resources. In other words, when the inside director ownership is low, the cost of having less inside directors with company specific knowledge is greater than the benefits of monitoring brought by independent directors.

Are independent directors really being harmful on the firm performance at inside director ownership level of 25% than any other ownership level? The answer to this question lies in the findings of Sarkar and Sarkar (2000). Sarkar and Sarkar

(2000) report that MBVR[10] declines by 0.8% for every 1% increase in directors' holdings up to 25% and thereafter MBVR increases by 1.3% for every 1% increase in directors' holdings. They conclude that the results provide support for the 'convergence of interest' hypothesis rather than the 'entrenchment' or 'conflict-of-interest' hypotheses. Our finding on Table 6 is largely in harmony with Sarkar and Sarkar (2000) because of the following reason.

The 'convergence of interest' in developing countries like India entails slightly different meaning from that of developed countries. In the latter, the phrase conveys the meaning of converging interest between the management and the shareholders. Due to high inside director ownership, however, among developing countries the phrase more correctly describes the interest between the controlling and minority shareholders since inside directors with high ownership practically manage and control the company. This perspective, combined with the findings of Sarkar and Sarkar (2000), implies that in India, high inside director ownership increases firm performance.[11] In turn, this leads to suggest that the 'coerced imposition of independent directors' are likely to decrease the firm performance[12] since the controlling shareholders are no longer able to manage and control the affairs of the company as they see fit.

Not coincidentally, Table 6 reports the largest negative coefficient differential of -0.046 at the 25% spline-node, which also is the threshold point for a company value to increase as found by Sarkar and Sarkar (2000). In other words, at 25% inside director ownership the negative effective brought by independent directors on

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[10] This is one of two measures of firm performance used by the authors.

[11] This is the essential of our Network Benefit argument.

[12] A shortcoming of the above argument lies on the fact that we are unable to separate and observe the private benefit of controlling and minority shareholders from the above used definition of firm performance. If we were able to separate the benefits, we could have also precisely measure the benefits brought to minority shareholders by imposing independent directors. The current definition of firm performance, however, requires us to assume that the private benefits of controlling and minority shareholders fluctuate in proportion to the changes in the firm performance measured by Approximate q.

the firm performance is greatest[13]. Therefore, the results in Table 6 are largely in harmony with the findings by Sarkar and Sarkar (2000). We confirm the 'convergence of interest' hypothesis in India indirectly via board composition, firm performance, and inside director ownership.

One may easily note that our finding is in sharp contrast with the principles and codes of most of the recently developed Corporate Governance regulations and legislations around the world, which invariably imposes minimum proportion of independent directors on every listed company. The finding is important since despite the transparency and monitoring of business transactions being essential factors for every economy to stabilise and prosper, regulating the minimum proportion of independent directors on every board may not be a panacea to the problems of Corporate Governance.

The *Chairperson Independence* variable confirms previous literature that the benefits of unitary leadership of Chief Executive Officer and Chairperson are likely to outweigh the benefits of separation. This again is in contrast to the principles of what regulators and government advisors have perceived as the best solution. Moreover, our finding confirms a study by Brickley, Coles and Jarrell (1997) and we further suggest that although it will be difficult to measure, the quantifiable benefits of unitary leadership in developing countries such as India will be higher than the benefits realised in developed countries such as U.S or U.K.

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[13] Since Sarkar and Sarkar (2000), however, do not report the results from the spline-node at other levels such as 40% or 60% we cannot directly link their findings to the rest of the results on our Table 5.

Table 6

Group A & B: 806 Firms – Relationship between Approximate *q,* Board Composition and Ownership Structure for pooled 2001-2003

The table reports regression estimates of the board composition and ownership structure on firm performance for pooled years 2001-2003. The sample includes Group A and B firms defined by the Security Exchange of India and firms which filed corporate governance reports for two and three years during 2001-2003. Dependent variable is Approximate *q* as discussed above. In accordance with clause 49 of the Listing Agreement, highly strict definition of independent directors is adopted. Both grey and inside directors are classified as dependent directors. The effect of inside director ownership is isolated by using the spline method and dummy variable. A particular level of inside directors' ownership is arbitrarily set as spline-nodes, which enable us to allocate a value of one if the level of inside directors' ownership exceeds the specified spline-node threshold, zero otherwise. A chairmanship is independent if both chairmanship and Chief Executive Officer are not occupied by same individual. Every regression includes industry dummy variables but results are not reported. t-statistics appear in parentheses below each estimate.

Explanatory Variables	Spline-nodes: Level of inside director ownership threshold					
	0%	25%	40%	60%	70%	80%
Intercept	0.818	0.687	0.881	0.791	0.760	0.796
	(0.65)	(0.55)	(0.69)	(0.63)	(0.60)	(0.63)
Board size	0.054	0.057	0.060	0.055	0.055	0.054
	(1.67)*	(1.76)*	(1.85)*	(1.72)*	(1.72)*	(1.66)*
Board independence ratio	-0.084	-0.142	-0.107	-0.087	-0.086	-0.087
	(-2.92)**	(-3.99)**	(-3.55)**	(-3.02)*	(-2.99)**	(-3.02)**
Board independence dummy		0.096	0.073	0.047	0.056	0.054
		(2.76)**	(2.45)**	(1.71)*	(2.02)*	(1.98)*
Chairperson independence	0.107	0.100	0.100	0.105	0.102	0.104
	(3.77)**	(3.53)**	(3.51)**	(3.71)**	(3.57)**	(3.68)**
Number of board meetings	-0.034	-0.029	-0.028	-0.033	-0.033	-0.035
	(-1.22)	(-1.04)	(-0.98)	(-1.19)	(-1.18)	(-1.23)

Board meeting attendance by Indpt directors	0.064 (2.31)*	0.063 (2.27)*	0.067 (2.39)**	0.066 (2.38)**	0.066 (2.39)**	0.066 (2.37)**
Board meeting attendance by Dpt directors	-0.022 (-0.77)	-0.022 (-0.78)	-0.020 (-0.69)	-0.021 (-0.72)	-0.016 (-0.57)	-0.019 (-0.64)
Outside directorships held by Indpt directors	0.139 (4.68)**	0.132 (4.46)**	0.136 (4.55)**	0.140 (4.74)**	0.143 (4.82)**	0.143 (4.81)**
Outside directorships held by Dpt directors	0.003 (0.11)	0.005 (0.16)	0.007 (0.22)	0.003 (0.09)	0.001 (0.04)	0.001 (0.05)
Firm size	-0.006 (-0.18)	0.007 (0.18)	-0.002 (-0.06)	-0.002 (-0.07)	-0.002 (-0.06)	-0.003 (-0.09)
Intangibles	-0.034 (-1.21)	-0.031 (-1.08)	-0.032 (-1.11)	-0.035 (-1.22)	-0.032 (-1.14)	-0.033 (-1.16)
Leverage	0.171 (5.97)**	0.174 (6.10)**	0.171 (5.96)**	0.174 (6.09)**	0.175 (6.12)**	0.170 (5.96)
Age of the Firms	-0.025 (-0.86)	-0.023 (-0.78)	-0.023 (-0.78)	-0.024 (-0.82)	-0.025 (-0.87)	-0.024 (-0.81)
Group or Private Firm	0.011 (0.35)	0.008 (0.25)	0.013 (0.42)	0.012 (0.39)	0.010 (0.32)	0.015 (0.48)
R^2 (Adjusted)	0.124	0.129	0.129	0.125	0.126	0.126
Number of observations	1883	1883	1883	1883	1883	1883

** Statistically Significant at the 1 percent confidence level; * Statistically Significant at the 5 percent level.

This notion stems out from our argument of 'Network Benefit in Developing Countries', which is to be discussed in more detail in the next section. Briefly what this view suggests is that especially in developing countries, a few powerful and influential politicians and business people can bring immense Network Benefit for the company. This argument, unfortunately, is largely based on anecdotal evidences. The most relevant academic studies showing these intangible benefits in India would be Khanna and Palepu (2000).

Outside Directorships held by Independent Directors variable is positive and significant and provides supporting argument for our findings above. The positive estimates are largely attributable to two reasons. First and the more plausible reason is that in order for inside directors to 'converge the interest' of the shareholders, inside directors would desire less intervention by independent directors. If so, independent directors will inevitably have less time to intervene if they hold more outside directorships, which in turn should increase firm performance[14]. Secondly, it is possible that independent directors will bring some Network Benefits by holding more outside directorships thereby providing wider range of contacts and improve on company relations. Since the nature of independent directors, however, requires them to be impartial and objective we doubt on the scale of Network Benefit that could be brought by independent directors, thus this argument does not seem too convincing.

Unfortunately, *Board Meeting Attendance by Independent Directors* variable is difficult to explain under our model and incoherent with above arguments. It suggests that the higher rate of board meeting attendance by independent directors is likely to improve firm performance. Because Table 6 largely confirms the 'converge of interest' hypothesis led by controlling shareholders and the less need of

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[14] Again we are assuming that the benefits received by minority shareholders from controlling shareholders operating the company autonomously is larger than the benefits received by independent directors' intervention. This is the core of Network Benefit in developing countries.

independent directors on the board, it is challenging for us to provide economic interpretation for this finding.

In Table 6, the only statistically significant control variable is the leverage variable and it is positive and significant. As discussed by Sarkar and Sarkar (2000), this is consistent with the signalling argument advanced by Ross (1977) that a more efficient management may signal its expertise by committing to high fixed payments.

Group A firms are companies with large capital base, large shareholder base, good growth record with regular dividends and greater volumes, thus high liquidity, in secondary market. On average there are a little more than 200 Group A firms listed on Bombay Stock Exchange (BSE) but the list gets reviewed and updated by BSE every six months. Although there is no set number of companies to be classified as Group A firms, the guidelines for classification of Group A are similar to S&P 500 index, which implies that Group A firms are considered to be the best Indian companies.

Readers should note that the sample size for Group A firms is 271, which is slightly more than the average number of Group A firms of around 200. The discrepancy is due to Stock Exchange's constant review and updates of the list of Group A firms while we tried to examine identical firms for all three years. Confronted with the difficulty of isolating identical Group A firms for all three years, we have chosen firms that have filed Corporate Governance reports for all three years as stipulated by the schedule of implementation, hence ended up with slightly more than the currently registered Group A firms. These additional firms voluntarily complied with the schedule one year in advance and it implies that they have had reliable and effective Corporate Governance measures in place prior to implementation, thus needing minimum changes.

We are of the opinion that as far as the Corporate Governance is concerned, these additional firms will assist us in isolating and analysing the relationship between Corporate Governance and firm performance.

Note that it is worth distinguishing the nature and classification of Group A firms from Group B firms as explained above because as far as the empirical results are concerned the distinction is the only justification for the findings in Table 7, which is fundamentally different from Table 6.

Table 7 reports vastly different results from Table 6 and warrants a closer look. At zero percent spline-node the *Board Independence Ratio* still reports negative and significant coefficient of -0.095. After controlling for inside director ownership, however, the differential is significant and positive, which peaks at 40% spline-node with the score of 0.322 (0.452-0.130). This means there is a positive relationship between the proportion of independent director and firm performance among Group A firms. The benefit of independent directors on firm performance, however, declines with the increase in the level of inside director ownership.

Table 7

Group A: 271 Firms – Relationship between Approximate *q*, Board Composition and Ownership Structure for pooled 2001-2003

The table reports regression estimates of the board composition and ownership structure on firm performance for pooled years 2001-2003. The sample includes Group A firms defined by the Security Exchange of India and firms which filed corporate governance reports for three years during 2001-2003. Dependent variable is Approximate *q* as discussed above. In accordance with clause 49 of the Listing Agreement, highly strict definition of independent directors is adopted. Both grey and inside directors are classified as dependent directors. The effect of inside director ownership is isolated by using the spline method and dummy variable. A particular level of inside directors' ownership is arbitrarily set as spline-nodes, which enable us to allocate a value of one if the level of inside directors' ownership exceeds the specified spline-node threshold, zero otherwise. A chairmanship is independent if both chairmanship and Chief Executive Officer are not occupied by the same individual. Every regression includes industry dummy variables but results are not reported. t-statistics appear in parentheses below each estimate.

Explanatory Variables	Spline-nodes: Level of inside director ownership threshold					
	0%	25%	40%	60%	70%	80%
Intercept	1.231 (3.04)**	1.024 (2.52)**	1.053 (2.46)**	1.001 (2.45)**	0.960 (2.43)**	1.179 (2.97)**
Board size	0.026 (0.56)	0.030 (0.66)	0.042 (0.88)	0.032 (0.70)	0.031 (0.68)	0.024 (0.53)
Board independence ratio	-0.095 (-2.28)*	-0.182 (-3.74)**	-0.130 (-3.01)**	-0.098 (-2.38)**	-0.099 (-2.42)**	-0.095 (-2.33)**
Board independence dummy		0.158 (3.36)**	0.452 (2.83)**	0.117 (3.07)**	0.176 (4.65)**	0.189 (5.09)**
Chairperson independence	0.034 (0.84)	0.020 (0.51)	0.030 (0.74)	0.043 (1.08)	0.027 (0.68)	0.014 (0.36)
Number of board meetings	-0.101 (-2.45)**	-0.089 (-2.17)*	-0.081 (-1.97)*	-0.098 (-2.40)**	-0.101 (-2.50)**	-0.106 (-2.62)**

Board meeting attendance by Indpt directors	-0.028 (-0.69)	-0.033 (-0.83)	-0.027 (-0.67)	-0.019 (-0.47)	-0.036 (-0.90)	-0.039 (-0.98)
Board meeting attendance by Dpt directors	0.032 (0.78)	0.032 (0.79)	0.040 (0.99)	0.033 (0.81)	0.052 (1.28)	0.042 (1.04)
Outside directorships held by Indpt directors	0.088 (2.00)*	0.074 (1.68)*	0.085 (1.89)*	0.105 (2.38)**	0.110 (2.51)**	0.106 (2.44)**
Outside directorships held by Dpt directors	-0.014 (-0.33)	-0.016 (-0.36)	-0.016 (-0.36)	-0.025 (-0.58)	-0.033 (-0.77)	-0.030 (-0.70)
Firm size	0.320 (5.90)**	0.348 (6.41)**	0.348 (6.41)**	0.321 (5.98)**	0.318 (5.97)**	0.311 (5.86)**
Intangibles	-0.067 (-1.70)*	-0.055 (-1.38)	-0.067 (-1.68)*	-0.066 (-1.69)*	-0.061 (-1.56)	-0.058 (-1.45)
Leverage	-0.213 (-4.86)**	-0.207 (-4.77)**	-0.216 (-4.88)**	-0.021 (-4.60)**	-0.193 (-4.46)**	-0.212 (-4.93)**
Age of the Firms	-0.210 (-4.82)**	-0.199 (-4.62)**	-0.209 (-4.70)**	-0.197 (-4.58)**	-0.197 (-4.62)**	-0.198 (-4.66)**
Group or Private Firm	-0.038 (-0.81)	-0.046 (-0.97)	-0.027 (-0.57)	-0.041 (-0.86)	-0.058 (-1.25)	-0.034 (0.73)
R^2 (Adjusted)	0.203	0.217	0.214	0.214	0.231	0.236
Number of observations	813	813	813	813	813	813

** Statistically Significant at the 1 percent confidence level; * Statistically Significant at the 5 percent level.

We believe the results suggest that among Group A firms the independent directors bring maximum benefit to the firm performance around 40% inside director ownership by effectively preventing expropriation of minority shareholders through excessive consumption of perquisite, building empire, and so forth.

But the benefits of independent directors seem to decrease as the level of inside director ownership increases above 40% level. We believe it is due to the insiders' high cash-flow rights at 60% or 70% ownership level. At such high ownership, insiders will have less incentive to expropriate the cash flows of the firm. When their ownership is high enough, they will end up paying 70 or 80 cents in a dollar that they expropriate and/or waste the resources of the company.

Results in Table 7 are in sharp contrast with that of the results reported in Table 6. Most of the material findings in Table 6 not only disappear in Table 7 but they are in sharp contract and difficult to believe they come from the same pool of samples. We simply cannot reconcile the arguments derived in Table 6 to the results in Table 7 and vice-versa. We can only strive to justify the discrepancies by finding the differences in the characteristics of two groups, namely, Group A and B. We, therefore, scrutinise the results of control variables for Group A firms in the hope to find some answers.

In Table 7, *Firm Size*, surprisingly, has positive estimates and statistically significant t-values which tells us that the bigger the firm size, the better the firm performs. There is no doubt these results are in sharp contrast with the well known literature that the firm performance is negatively related to the firm size. How about the *Leverage* variable? Again the statistically significant negative estimates are opposite to the well known 'signalling' theory and the estimates on Table 7 tell us that the higher the leverage, the worse the firm performance. Negative estimates on *Intangible* are not easy to understand either. We would expect firms with high intangible assets to increase firm performance, thereby firm value but barely significant t-statistics suggest negative relationship between the intangibles and firm

performance. *Age of the Firm* variable is also a mystery since the negative coefficients imply that the younger firms are expected to have better firm performance.

We can only draw one conclusion from Table 7. The allegedly 200 best companies on BSE seem to have fundamentally different business structure. They undoubtedly have edge in Indian market but their strength seem to have been tailored and manipulated to best fit the economy and regulatory environment of India. We are not suggesting that they are mere monopoly firms but are suggesting that they have gained market advantage either through superior business operations and development, political connections with Indian government officials, or a mixture of both. This is the core of 'Network Benefit' that was briefly discussed in the previous sections. It is a widely accepted perspective that the conglomerates in developed countries are unlikely to maximise the firm value due to their size and resulting horizontal diversification. But it seems that what is important in India is size and political & other business Network.

Further changes from Table 6 include the *Chairperson Independence* and *Board Meeting Attendance by Independent Director* variables, which have lost statistical significance while the *Number of Board Meetings* report negative and significant t-values. This implies that the firms in trouble are more likely to have extra board meetings, thus these best performing firms tend to hold less board meetings. *Outside Directorships held by Independent Directors* is one of the rare variables which report similar results with Table 6. As discussed before, these positive and statistically significant results are large due to two reasons, namely 'less intervention by independent directors' and 'independent directors' extended Network Benefit'. Again we believe the former reason is more convincing and plausible considering other circumstances. It is the inside or dependent directors who are expected to excel with their Network Benefit.

There are more than 5000 firms under Group B, which is further divided into B1 and B2. Group B1 firms are companies with relatively liquid scrips with good management and satisfactory growth prospects & volumes while Group B2 is securities other than A & B1 excluding non-convertible debentures.

Table 8 shows results from 535 randomly selected firms. Unsurprisingly, the results are largely similar to the results in Table 6 because it represents regression results from all 806 firms, consisting of 271 Group A firms while 535 firms from Group B. When we pool the two groups into one, the results in aggregate are inevitably scaled toward the heavily weighted Group B results. One difference, however, is in the *Firm Size* variable which reports negative and statistically significant values for them. The negative relationship between firm size and firm performance combined with the positive relationship between leverage and firm performance suggests that Group B firms seem to have firm characteristics more akin to those of developed countries.

In the next section of 'Conclusion', we discuss some implications of our results, limitations of our study and possible areas of future research.

Table 8

Group B: 535 Firms – Relationship between Approximate *q*, Board Composition and Ownership Structure for pooled 2002-2003

The table reports regression estimates of the board composition and ownership structure on firm performance for pooled years 2002-2003. The sample includes Group B firms defined by the Security Exchange of India and firms which filed corporate governance reports for two years during 2002-2003. Dependent variable is Approximate *q* as discussed above. In accordance with clause 49 of the Listing Agreement, highly strict definition of independent directors is adopted. Both grey and inside directors are classified as dependent directors. The effect of inside director ownership is isolated by using the spline method and dummy variable. A particular level of inside directors' ownership is arbitrarily set as spline-nodes, which enable us to allocate a value of one if the level of inside directors' ownership exceeds the specified spline-node threshold, zero otherwise. A chairmanship is independent if both chairmanship and Chief Executive Officer are not occupied by same individual. Every regression includes industry dummy variables but results are not reported. t-statistics appear in parentheses below each estimate.

Explanatory Variables	Spline-nodes: Level of inside director ownership threshold					
	0%	25%	40%	60%	70%	80%
Intercept	0.611 (0.42)	0.530 (0.37)	0.644 (0.44)	0.614 (0.42)	0.664 (0.44)	0.623 (0.43)
Board size	0.115 (2.70)**	0.116 (2.74)**	0.115 (2.70)**	0.114 (2.70)**	0.115 (2.70)**	0.115 (2.71)**
Board independence ratio	-0.068 (-1.74)*	-0.112 (-2.22)*	-0.079 (-1.90)*	-0.067 (-1.69)*	-0.067 (-1.71)*	-0.648 (-1.69)*
Board independence dummy		0.067 (1.38)	0.032 (0.77)	-0.021 (-0.54)	-0.025 (-0.65)	-0.014 (-0.38)
Chairperson independence	0.130 (3.30)**	0.127 (3.23)**	0.128 (3.23)**	0.132 (3.33)**	0.133 (3.35)**	0.130 (3.30)**
Number of board meetings	-0.034 (-0.89)	-0.033 (-0.86)	-0.031 (-0.81)	-0.034 (-0.89)	-0.034 (-0.89)	-0.033 (-0.88)

Board meeting attendance by Indpt directors	0.085 (2.25)*	0.085 (2.26)*	0.087 (2.31)*	0.084 (2.23)*	0.082 (2.12)*	0.083 (2.21)*
Board meeting attendance by Dpt directors	-0.059 (-1.49)	-0.059 (-1.50)	-0.058 (-1.45)	-0.060 (-1.52)	-0.062 (-1.55)	-0.060 (-1.52)
Outside directorships held by Indpt directors	0.152 (3.94)**	0.149 (3.84)**	0.150 (3.84)**	0.153 (3.95)**	0.151 (3.91)**	0.152 (3.90)**
Outside directorships held by Dpt directors	0.041 (0.98)	0.043 (1.04)	0.042 (1.01)	0.040 (0.96)	0.040 (0.97)	0.041 (0.99)
Firm size	-0.110 (-2.52)**	-0.105 (-2.41)**	-0.106 (-2.43)**	-0.112 (-2.56)**	-0.114 (-2.58)**	-0.112 (-2.55)**
Intangibles	-0.018 (-0.43)	-0.019 (-0.47)	-0.017 (-0.41)	-0.017 (-0.41)	-0.018 (-0.44)	-0.017 (-0.42)**
Leverage	0.266 (6.82)**	0.268 (6.89)**	0.266 (6.83)**	0.264 (6.76)**	0.264 (6.75)**	0.266 (6.83)**
Age of the Firms	0.047 (1.17)	0.047 (1.19)	0.046 (1.16)	0.046 (1.17)	0.047 (1.19)	0.046 (1.17)
Group or Private Firm	0.025 (0.61)	0.024 (0.56)	0.025 (0.61)	0.025 (0.58)	0.025 (0.60)	0.024 (0.57)
R^2 (Adjusted)	0.158	0.159	0.157	0.157	0.157	0.157
Number of observations	1070	1070	1070	1070	1070	1070

** Statistically Significant at the 1 percent confidence level; * Statistically Significant at the 5 percent level.

5. CONCLUSION

Inpired by the Berle and Means (1932) "convergence-of-interest" hypothesis, there has been a vast development on the agency theory in the late 20th century. More recently, the Asian financial crisis and debacles of Enron and WorldCom have alarmed on the importance and the need for a good corporate governance measure in every firm and economy.

The agency theory has been largely divided into two branches. The convergence of interest hypothesis put forward by Jensen and Meckling (1976), the proponents of Berle and Means (1932) while the entrenchment hypothesis argued by Fama (1980) and Demsetz (1985) have gained credibility in later years. In more recent years, especially in developing countries, the third branch of 'aligning the interest of controlling shareholders and minority shareholders' has emerged.

These theories and academic debate have shaped the principles of corporate governance in practice. The leading corporate governance measures include the Cadbury Report of U.K. 1992 and the Sarbanes-Oxley Act 2002 in U.S. India has been at the forefront among developing countries. In 1995, India had drafted the voluntary Code of Corporate Governance and from 2001 the Securities and Exchange Board of India (SEBI) began imposing mandatory corporate governance measures on all listed companies via the Listing Agreement, which largely has adopted the principle of the Cadbury Report.

Using 806 firms listed on the Bombay Stock Exchange (BSE) in the period of 2001-2003 we have examined the impact on the firm performance by the imposition of minimum proportion of independent directors on the boards. Our results are, largely, in harmony with the findings of Sarkar and Sarkar (2000) that the convergence of interest hypothesis seems to prevail in India. We find that the proportion of independent directors on the board is negatively related to the firm performance, while the degree of negative relationship gradually decreases as the level of inside director ownership increases. We, however, further examined our

sample by dividing it into two groups as classified by the SEBI. 271 Group A firms, which are the best performing and most well established companies on the Exchange and 535 firms from Group B, which are randomly selected from a pool of over 5000 companies. While the results from all sample reports the negative effect of independent directors on firm performance, Group A reports that the benefits of independent directors outweigh the costs until it begins to decline as the level of inside director ownership increases. This decline is attributable to insiders' high cash-flow rights. We propose that the different findings are largely attributable to the fact that Group A firms enjoy the Network Benefit to the greater extent.

We conclude that although it is critical to improve on the transparencies of business practices, especially in developing countries, it seems that it is inappropriate to merely follow the corporate governance measures prepared by other developed countries. The mere imposition of minimum proportion of independent directors on every listed company does not seem to be a panacea to the problems of corporate governance. While the importance of monitoring the insiders and incumbent management should not be undermined, the cost of imposing independent directors could very well outweigh the benefits of monitoring. Encouraging more transparent business practices should certainly be one of the objectives of regulators but the means of achieving them should not be gambled with imitating foreign regulations with different business culture. They need to scrutinise and reinforce the fundamental flaws embedded in the business environment of developing countries, which includes, but not limited to, the level of corruption and expropriation of minority shareholders. Until the regulators promote the business environment where independent directors could truly monitor the actions and inactions of controlling shareholders, mere imposition of them would bring no benefit to the firm or the economy.

Future studies on India and other developing countries could focus on examining different groups or categories of companies separately. Designing a test

to better capture the effect of different nature of firms, in terms of not only industry but also their Network Benefit and other market advantages only prevalent in that particular market, could indicate the need for different levels of independence of board of directors. As there are numerous studies measuring the degree and impact of insiders expropriating the minority shareholders interest, understanding and isolating the Network Benefits that these huge Group companies have in developing countries could aid the regulators in better formulating the rules by considering the true impact of adoption of these stringent requirements. This could include finding ways to prevent the business deals made behind closed doors or hammering down on the level of corruption on the government officials. Anticipating independent directors to heed and solve them will only create more friction between them and the insiders, who will find other ways to evade interference of independent directors. Developing countries should take a step back and rectify the inadequacies of their fundamental flaws in the business environment, rather than merely imposing more independent directors in the hope that they will police insiders, protect the interest of minority shareholders and maximise firm value.

　　　　The shortcoming of our study is in the period of testing the sample. Testing the years of 2001-2003, which immediately follows the imposition of the Listing Agreement, may not have given adequate time to Indian companies to fully implement and appreciate the terms of the regulation. Furthermore, due to lack of reliable database, we could not measure the proportion of independent directors on the board prior to the implementation of the Listing Agreement. Future studies could also test the changes in the proportion of independent directors and their impact on the firm performance.

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