
India Studies in Business and Economics
Achin Chakraborty
Indrani Chakraborty Editors
Indian Business Groups and Other Corporations
Comparative Organisational Perspectives on Indian Corporate Firms
Springer

India Studies in Business and Economics

The Indian economy is one of the fastest growing economies of the world with India being an important G-20 member. Ever since the Indian economy made its presence felt on the global platform, the research community is now even more interested in studying and analyzing what India has to offer. This series aims to bring forth the latest studies and research about India from the areas of economics, business, and management science, with strong social science linkages. The titles featured in this series present rigorous empirical research, often accompanied by policy recommendations, evoke and evaluate various aspects of the economy and the business and management landscape in India, with a special focus on India's relationship with the world in terms of business and trade. The series also tracks research on India's position on social issues, on health, on politics, on agriculture, on rights, and many such topics which directly or indirectly affect sustainable growth of the country.

Review Process

The proposal for each volume undergoes at least two double blind peer review where a detailed concept note along with extended chapter abstracts and a sample chapter is peer reviewed by experienced academics. The reviews can be more detailed if recommended by reviewers.

Ethical Compliance

The series follows the Ethics Statement found in the Springer standard guidelines here. https://www.springer.com/us/authors-editors/journal-author/journal-author-helpdesk/before-you-start/before-you-start/1330#c14214

Achin Chakraborty · Indrani Chakraborty
Editors

Indian Business Groups and Other Corporations

Comparative Organisational Perspectives on Indian Corporate Firms

Springer

Editors
Achin Chakraborty
Institute of Development Studies Kolkata
Kolkata, West Bengal, India

Indrani Chakraborty
Institute of Development Studies Kolkata
Kolkata, West Bengal, India

ISSN 2198-0012 ISSN 2198-0020 (electronic)
India Studies in Business and Economics
ISBN 978-981-99-5040-9 ISBN 978-981-99-5041-6 (eBook)
https://doi.org/10.1007/978-981-99-5041-6

Preface and Acknowledgments

With changes in policy regimes and institutional environments over time and across countries, which have culminated in more developed and complex financial markets and better-designed regulations, it is unlikely that any generalizable explanation of persistence of business groups in the present world can be arrived at. Empirical evidence shows that the dominance of the business groups in the Indian economy has not declined in the post-reform period. The diversity of experiences of business groups in different countries calls for more country-specific research on them as they form the dominant mode of economic organization in many countries. The literature on business groups in India—ranging from the analytically rigorous studies informed by organizational–institutional perspectives, based on such data sources as Prowess, on the one hand, to media commentaries and investigative reports by journalists based on controversial facts, on the other—shows the contested nature of the issues. A comprehensive understanding of the role of business groups vis-à-vis that of other corporate firms in the Indian economy was therefore needed.

With the aim of throwing more light on these issues, the Institute of Development Studies Kolkata (IDSK) organized a national conference on "Rethinking the Role of Business Groups in Contemporary India: Analyses, Reviews and Reflections", which was held during 28–29 March, 2018 at the institute's campus. The present volume is the culmination of the papers presented at the conference.

Many people have helped us in this endeavor. We are greatly indebted to Amiya Kumar Bagchi, former Director and presently Emeritus Professor of IDSK, for constant support and inspiration in organizing the conference. We are also indebted to the faculty members and administrative staff of IDSK for helping us to organize the conference successfully. We finally express our gratitude to all the scholars who have made contributions to this volume, for their active participation in the conference which enriched the quality of deliberations, as well as their sincere cooperation

which made it possible for us to prepare the volume. Finally, we thank Springer Nature, for agreeing to publish this volume.

Kolkata, India

Achin Chakraborty
Indrani Chakraborty

Contents

Editors and Contributors

About the Editors

Achin Chakraborty is a Professor of Economics at the Institute of Development Studies Kolkata (IDSK). He was earlier at the Centre for Development Studies, Thiruvananthapuram. He received Ph.D. in Economics from the University of California at Riverside, USA. He has published widely in such journals as *Economic Theory, BMJ Global Health, Social Indicators Research, Economics Bulletin, Journal of Quantitative Economics*. He jointly authored the book 'Limits of Bargaining: Capital, Labour, and the State in Contemporary India' (2019) and co-edited three books—'The Land Question in India: State, Dispossession and Capitalist Transition' (2017), 'Changing Contexts and Shifting Roles of the Indian State' (2019) and 'Capital' in the East (2019), with the latter being translated in German as well.

Indrani Chakraborty is a Professor of Economics and currently the Director of the Institute of Development Studies Kolkata. She was formerly at the Centre for Development Studies, Thiruvananthapuram. She received Ph.D. in Economics from the University of Calcutta and is a recipient of CICOPS scholarship and Liverpool-India Fellowship to work at University of Pavia and University of Liverpool Management School, respectively. She has published widely in reputed journals and contributed to many book volumes on the impact of capital inflows, the role of financial development on economic growth, capital structure of corporate firms, impact of reforms on firms' performance, impact of mergers and acquisitions on firm performance and so on. She authored 'Exploring What Drives Indian Stock Market During Covid-19: Fads or Fundamentals' (2023) and co-edited 'Market, Regulations and Finance: Global Meltdown and the Indian Economy' (2014).

Contributors

Rohit Azad Jawaharlal Nehru University, New Delhi, India

Achin Chakraborty Institute of Development Studies Kolkata, Kolkata, India

Indrani Chakraborty Institute of Development Studies Kolkata, Kolkata, India

Subhra Choudhury Madras School of Economics, Chennai, India

Chirashree Das Gupta Centre for the Study of Law and Governance, Jawaharlal Nehru University, New Delhi, India

Gaurav Gupta FORE School of Management, New Delhi, India

Jitendra Mahakud Department of Humanities and Social Sciences, Indian Institute of Technology, Kharagpur, India

Surajit Mazumdar Centre for Economic Studies and Planning, Jawaharlal Nehru University, New Delhi, India

Jhuma Mukhopadhyay Independent Researcher, Kolkata, India

J. Dennis Rajakumar EPW Research Foundation, Mumbai, India

Ansgar Richter Rotterdam School of Management, Erasmus University, Rotterdam, Netherlands

Jayati Sarkar Indira Gandhi Institute of Development Research, Mumbai, India

Ekta Selarka Madras School of Economics, Chennai, India

Chapter 1
Business Group Firms in India: A Short Introduction

Indrani Chakraborty and Achin Chakraborty

1.1 The Backdrop

Scholarly interest in business groups has intensified in recent years, perhaps because of the long history of persistence and resilience of business groups in spite of highly diverse and occasionally changing institutional contexts in which they thrive in different countries. A business group could be seen as "an informal coalition of legally independent firms, operating in single or multiple industries, which are bound together by persistent formal (equity) and informal (family) ties" (Khanna and Yafeh 2007).[1]

Historically, business activities in India saw the emergence of the business houses in the latter half of the nineteenth century. Tatas, Khataus, Birlas and Mafatlals began their journeys around that time. The business houses gradually rose to dominance in the twentieth century. It is rather commonplace to seek explanation of the origin of the business groups in the prevailing institutional contexts, which were typically characterized by under-developed capital markets and high transaction costs. However, with changes in policy regimes and institutional environments over time and across countries, which have culminated in more developed and complex financial markets and better-designed regulations, it is unlikely that any generalizable explanation of persistence of business groups in the present world can be arrived at. The diversity of

[1] Drawing on a host of definitions of business groups, Sarkar (2010) provides a consolidated one as follows: "an agglomeration of privately held and publicly traded firms operating in different lines of business, each of which is incorporated as a separate legal entity, *but* which are collectively under the entrepreneurial, financial, and strategic control of a common authority, typically a family, and are interlinked by trust-based relationships forged around a similar persona, ethnicity, or community" (p299).

I. Chakraborty (✉) · A. Chakraborty
Institute of Development Studies Kolkata, Kolkata, India
e-mail: indranic.61@gmail.com

A. Chakraborty and I. Chakraborty (eds.), *Indian Business Groups and other Corporations*, India Studies in Business and Economics,
https://doi.org/10.1007/978-981-99-5041-6_1

experiences of business groups in different countries calls for more country-specific research on them as they form the dominant mode of economic organization in a number of countries, especially in the developing world. The literature on business groups in India—ranging from the analytically rigorous studies informed by organizational–institutional perspectives, based on such data sources as Prowess, on the one hand, to media commentaries and investigative reports by journalists based on controversial facts, on the other—shows the contested nature of the issues. A comprehensive understanding of the role of business groups in the Indian economy would perhaps require critical inquiries using all possible sources of information. This book intends to fill this gap.

Indian business groups, often referred to as "Business Houses", date back to the colonial times. About three-fourths of the largest companies in India are family businesses. There are about 400 business groups in India with variation in size and levels of diversification. The role of the business groups in the evolution of the Indian economy is believed to have changed since the economic reforms initiated in 1991, which has been supported by a number of empirical studies. For example, the pattern of distribution of firms in general, and group-affiliated firms in particular, and capital structure of those firms have been found to have changed considerably (Chakraborty 2013). If we group the firms into four categories, namely, stand-alone firms with low/high leverage and group-affiliated firms with low/high leverage, we find that in India the percentage of stand-alone firms having low leverage has increased sharply since 1990. In the pre-reform years, the percentage of firms belonging to the low-leverage and group-affiliated category was the highest among the four categories, and reversing the trend, the share of this category reached the lowest position in 2010. From the distribution of firms among the four categories, it is evident that stand-alone firms became the dominant category in terms of their number during the first two decades of reforms. However, the presence of business groups in the Indian context is still significant in terms of their overall influence on the business ecosystem (Chakraborty 2013).

Since the mid-1980s, the Indian economy experienced acceleration in the growth rate of GDP, growing roughly at 6% per annum, which is remarkable compared to its performance in the earlier decades since independence. This growth episode triggered a debate on whether the orientation of the Indian economic policies had been "pro-business" or "pro-market" (Kohli 2006, 2007; Rodrik and Subramanian 2004; Panagariya 2008; Mody et al. 2011). While Kohli (2006, 2007) argued that it was a pro-business orientation of the Indian state—in which business groups formed the main political ally—that contributed to the acceleration in growth, Panagariya (2008) differed and preferred to characterize the policy direction in the 1980s as pro-market rather than pro-business. Both, however, agreed that from 1950 to 1980 India followed a statist, import substitution model of development. Kohli argued that partially influenced by the East Asian model of development the Indian state followed a growth-oriented path with a visible hand of the state in which the business class was encouraged to play the leading role. In support of his argument, he presents a detailed account of how India's two older national chambers of commerce, namely, Federation of Indian Chambers of Commerce and Industry (FICCI) and Associated Chambers

of Commerce and Industry (Assocham) gradually gave way to the Confederation of Indian Industry (CII), which emerged as the representative of the more modern segment of industries that saw a better future in embracing the global markets. CII developed close ties with bureaucracy, and the government invited the private sector to take part in the decision-making process. External sector liberalization as one of the most important strategies of economic reforms since 1991 was much favored by the members of CII. Even the older business houses that thrived well during the import substitution regime of the earlier period eventually joined the advocates of external trade liberalization. This process of transition of the India's chambers of commerce is indicative of how Indian capital joined hands to promote its interest in the liberalizing regime and became a part of the growth process in the post-reform period.

By contrast, the pro-market view regards the reduced restrictions and external liberalization as the main drivers of changes in performance (Panagariya 2008). The liberalization measures that had been undertaken since 1991 include removal of import quotas, reduction of tariffs, devaluation of currency, liberalization of foreign investment and easing of restrictions on external financial transactions. These changes are supposed to have pushed the Indian firms towards greater efficiency by exposing them to competitive pressures. There was indeed a significant increase in the number of stand-alone firms in the mid-1990s. There was a simultaneous increase, but at a smaller level, in the number of new business houses as well (Mody et al. 2011). Mody et al. (2011) observed persistence of profits in the Indian corporate sector in the post-reform period till the early 2000s, which could be attributed to improved performance. They argue that the persistence of profits indicates that Indian corporate firms were able to withstand competitive pressures from firms in the same industry. Their study shows a consistent relationship between increase in firm-level profitability and market share for both business groups and stand-alone firms, and they argue that it was due to the effect of better underlying firm performance rather than the exertion of market power.

1.2 Business Group Affiliates and Stand-Alone Firms

Against this larger backdrop if we further narrow down the focus on the two groups of corporate firms—business group affiliates and stand-alone firms—a comparative perspective almost naturally comes to one's mind. The nature of corporate control differs between group-affiliated firms and stand-alone firms, which has different implications for firm performance. There is a large literature on the performance differences between group-affiliated and stand-alone firms. It is generally believed that business groups have the advantage of internal capital, labor and product markets which help them resolve the so-called "institutional void" (Khanna and Palepu 2000). Institutional void in the developing countries arises when specialized intermediaries that typically provide these services in developed countries are absent. The Indian

economy in the pre-reform era could be seen as characterized by greater imperfections in the markets for capital, product and managerial labor, and business groups were supposed to have the necessary resources and capabilities to overcome the problems through their internal markets. However, with changes in policy regimes and institutional environments in India due to economic reforms, which have culminated in more developed and complex financial markets and better-designed regulations, it is observed that there is no performance difference between group-affiliated firms and stand-alone firms in post-reform India (Richter and Chakraborty 2015; Mitra and Pattanayak 2013; Jadhav and Reddy 2017; Zattoni et al. 2009). In a similar vein, Sarkar (2010) shows that during the period from 1991 to 2006, the share of group-affiliated firms in total assets declined from 85% in 1991 to 75% in 2006. However, she observes that the share of top-most groups increased during this period. Similar observation emerges from a more disaggregated study by Jadav and Reddy (2017), which divided the business group firms between top 30 business groups and other group firms for the period from 1990 to 2012. They show that the dominance of the top 30 business groups has actually increased while that of the rest of the groups has declined. Therefore, in a sense, the dominance of the business groups in the Indian economy has not declined in the post-reform period as the concentration in the top 30 business group firms has increased significantly.

We extend the analysis of Jadav and Reddy (2017) here for comparing different classes of firms, including top 50 business groups, other business group firms, and stand-alone firms, for the years 2010, 2015 and 2020 to have a comparative picture and report the results in Tables 1.1 and 1.2. Both the tables show continuing dominance of business group firms during the 10-year period. However, between the top 50 and the rest of the business group firms, the importance of the latter has significantly increased in terms of total assets as well as total sales. This is in conformity with the finding of Jadav and Reddy (2017) that the controlling power of the Indian corporate business is largely concentrated in the hands of business groups till now. However, both in terms of assets and sales, the top 50 business groups' shares have declined. The share of the stand-alone firms in total sales has increased significantly in this period.

A particular difference that has frequently surfaced in the literature is that the group affiliated firms are believed to be less transparent than the stand-alone firms, and therefore external monitoring of the former poses more challenges than it does in the latter type of firms. Given their more complicated structures, business groups

Table 1.1 Distribution of assets across firms

Year	Total assets (Rs. Million)			% of total assets		
	Top 50 BG	Other BG	Stand-alone	Top 50 BG	Other BG	Stand-alone
2010	11,788,754	41,097,983	6,668,421	19.79	69.01	11.19
2015	7,159,397	85,003,645	14,242,910	6.72	79.88	13.38
2020	22,903,121	1.4E + 08	24,134,833	12.25	74.83	12.90

(*Source* Authors' calculation from prowess data)

Table 1.2 Distribution of sales across firms

Year	Total sales (Rs. Million)			% of total sales		
	Top 50 BG	Other BG	Stand-alone	Top 50 BG	Other BG	Stand-alone
2010	12,938,933	9,093,368	3,131,620	51.41	36.13	12.44
2015	33,474,148	15,806,825	6,230,707	60.30	28.47	11.22
2020	15,808,194	17,271,500	8,281,320	38.22	41.75	20.02

(*Source* Authors' calculation based on prowess)

are also known to have more opportunities to engage in questionable practices to the detriment of minority shareholders. They are also better equipped to insulate themselves from strong regulation and monitoring because of their generally better links to the power that be.

It has been argued that business groups expropriate minority shareholders through entrenchment (Khanna and Yafeh 2007; Morck et al. 2005), over-exploit natural resources by exercising their power to manipulate, and engage in lobbying with the power-that-be to grab more than their fair share (Faccio 2006; Kim 2008; Hillman et al 2004; Lawton et al 2012). Business groups also engage in what is called "tunneling of resources through pyramids" at the expense of minority shareholders (Bertrand et al. 2002; Johnson et al. 2000). In a business group, typically a single family completely controls several independently traded firms but has significant cash flow rights in only a few of them. This discrepancy in cash flow rights between the different firms that the family controls creates strong incentives to expropriate. The controlling group members tend to transfer profits across firms—from where they have less cash flow rights to those where they have high cash flow rights. The transfer can be made through high-interest loans or selling assets to each other at prices different from market prices. Thus with small investment, controlling owners exercise control over the large number of companies through pyramiding, and the practice of tunneling may have serious consequences on the growth in the equity market and overall financial development (Bertrand et al. 2002). Almeida and Wolfenzon (2006) argue that pyramids are formed because they magnify a given level of personal wealth into control over corporations. As a well-functioning capital market requires that the minority shareholders benefit from their holdings, tunneling may pose a serious obstacle to financial development. It is also argued that because of their larger size relative to the rest of the economy, large pyramidal groups enjoy a price setting power in their domestic capital market (Morck et al. 2000). Thus, the frictions in the underdeveloped capital markets may persist in an emerging economy, due to the presence of pyramidal groups. Moreover, owner managers in group firms may pursue objectives other than profit maximizing to increase their private benefits instead of maximizing firm value.

It has also been argued that strong dominance by the family business group firms has led to oligarchic control in corporate affairs in India, which is considered to be a major barrier to growth of entrepreneurship and innovation in India. An economy with extensive pyramidal structure tends to experience less innovation than what

should otherwise be (Morck et al. 2005). Because start-ups face difficulties in raising finance, they would invest less in innovation. On the other hand, pyramidal firms with large shareholders will be more interested in tunneling resources from firms with low cash flow rights, and there will be less incentive for them to innovate. Using cross-country data, Fogel (2006) finds evidence in support of this. She also observes that countries with oligarchic family control in the corporate sector are likely to have worse socio-economic outcomes. She found that oligarchic family control is more prevalent in those countries where bureaucracies are less efficient and political rent-seeking is prevalent and financial markets are less developed. This implies that larger corporate groups with concentrated ownership and control emerge as a response to poor institution, but are likely to develop a symbiotic relationship with the very institutions, which comes in the way of maturation of the institutions. Thus, highly concentrated business groups perpetuate poor institutions and poor institutions in turn benefit the business groups. There is a mutually reinforcing relationship between the two and hence oligarchic family control is harmful for economic growth and social welfare, Fogel argues.

It seems that the core competence of many business groups in India is their ability to influence politicians to tilt policies in their favor. These firms, and the groups they belong to, influence governments in many ways—through campaign contributions, direct lobbying, extending the membership of politicians on company boards, and quite often through bribery. Oligarchic capitalism leads to economic entrenchment which is defined as the "concurrence of oligarchic capitalism, weak institutions and slow growth in a stable but Pareto-inferior equilibrium" by Morck et al. (2005). Government policies are endogenous in the sense that oligarchic groups use their resources for political lobbying; and lobbying costs are usually lower for the controlling owners of pyramidal groups than for the managers of stand-alone firms. Moreover, the transaction costs are also lower for pyramidal group firms. However, due to political connections, these business group firms enjoy preferential access to government subsidies, financing from government-owned enterprises and banks, tax breaks and are often exempted from rigid regulations (Shleifer and Vishny 1993, 1994).

Corporate governance in business group firms thus becomes very important in the Indian context. Tunneling, as we indicated earlier, is a major concern in business groups with pyramidal ownership structure and inter-firm cash flows. Bertrand et al (2002) find that firms lower down in the pyramidal structure are less affected by industry-specific shocks than those nearer the top, which suggests that positive shocks at the bottom of the pyramid are siphoned off to the latter helping the controlling shareholders but hurting the minority shareholders. However, Khanna and Yafeh (2007) question how this logic would make them less sensitive to negative shocks. There is also some evidence (e.g., Khanna and Palepu 2000) that business group firms show superior performance than stand-alone firms. Kali and Sarkar (2007) have argued that diversified business groups deepen the problem of the lack of transparency about within-group funds flow leading to widening of the gap between control and cash flow rights and the likelihood of tunneling also increases. This incentive for

tunneling explains to some extent the Indian business groups' occasional heavy investment in businesses with low profitability.

Faccio (2006) further shows that political connections of businesses are prevalent in countries with higher levels of corruption and are less common in countries that have more rigorous regulations on political connections. In this connection, we argue that the unholy nexus between politicians and business groups is what largely explains the persistence and resilience of business groups in contemporary India.

Several scholars have argued that weak corporate governance in business groups was the main reason for the East Asian financial crisis (Johnson et al. 2000; Mitton 2002; Baek et al. 2004, Corsetti et al. 1999). A kind of "crony capitalism" helped the business groups to borrow without difficulties and the moral hazard problem associated with this led to the crisis (Chang 2000). Thus, the dominance of the business groups in the corporate sector in India also raises the risk of a similar kind. However, some scholars disagree with this alarmist prognosis. They ask whether it can be generalized that the microeconomic governance problems of family-controlled businesses turn into macroeconomic problems (Khanna and Yafeh 2007). Besides, as Stulz (1999) argued, one may not find strong arguments to reject the Asian way of doing business. One can even view the Asian business model as a case of cooperation between business and government, which is believed to deliver more positive results in terms of growth and overall welfare (Singh and Zammit 2006).

1.3 Chapters in This Volume

The 10 chapters in this book address a select number of issues with reference to corporate India, with a special focus on business groups, public policy and corporate governance. The analytical perspectives that have been adopted by the contributors are varied, which, in our opinion, have been a strength rather than weakness of the volume.

The extant literature on business groups in India encompasses a wide range of sub-disciplines, such as management science, institutional economics, economic sociology and so on. However, the familial basis of ownership and control of business groups remains an obscure area of study. The organization of the "business house" found legal sanction through multiple legislations spanning corporate and tax laws and forms the object of studies in "corporate governance". On the other hand, the institution of the "family" has fallen in the ambit of the study of "personal laws". While the first aspect is significant in establishing the institutional basis of concentration of capital combining the modalities of ownership and control, the second has implications for not only accumulation, investment and concentration of capital but also tax avoidance and evasion (Das Gupta 2013). The relationship between these two aspects and the regimes of accumulation in independent India has been largely unexplored in the otherwise growing corpus of literature on the relationships among business group, corporate governance and public policy. In Chap. 2, Chirasree Dasgupta addresses the issue of capital accumulation in the Hindu Undivided Family

(HUF) and the business groups in India since independence. She argues that, it is the dual existence of the HUF as both a family and a firm that makes it distinct from all other institutional categories. She discusses the channels through which family control over the organizational structure of business groups and the ownership of wealth by the family generated through these structures are maintained. The interlocking of the caste Hindu patriarchal family with corporate governance institutions is formally embedded in law in India. It is the materiality of capital that forges the social entity of the family-owned business group. This materiality is formally legally embedded in the seamless interlock of the firm and the family where the firm becomes the family in the case of the HUF. This spans state codification of Hindu family law, corporate governance laws and taxation laws. She further argues that, it is capital in its material social role in the circuit of financial and capital flows, which drives the network of institutions that constitutes the "family-owned business group" in India legally. This is formally undergirded by caste, patriarchy and religion. Moreover, she shows that, this unique legal family/firm interlock is not available to Muslims, Christians, Parsis or Jews and hence constitutes a perverse legal privilege to the Hindu family.

Dennis Rajakumarin Chap. 3 analyzes corporate responses to public policy changes. Using data from National Accounts Statistics and Reserve Bank of India's Studies of Company Finances, he shows that the response of private corporate sector to the public policy changes has been in line with the expected outcomes of increasing the sector's contribution to the growth process. Not only that the sector's share of capital formation and savings in country's NDP increased but also the sector aided their growth as well. However, the way corporate sector responded brought about a shift in the composition of corporate income with profit share rising considerably. This was largely attributable to the sector's increased reliance on shareholders' fund. With reductions in direct corporate tax rate, the incidence of corporation tax showed an upward trend. Although the sector's engagement with the rest of the world was facilitated by trade and foreign investment-related policies, the sector continued to have lower earnings than their expenditure in foreign currencies. The chapter also reports that market valuation remained higher relative to the replacement cost (that is, Tobin's Q exceeding unity), implying that corporate investment decisions were driven by market sentiments. This changing character of the private corporate sector has implications for income distribution as well as for achieving stability in growth, as Rajakumar argues.

Jayati Sarkar in Chap. 4 analyzes how the ownership, control and board governance of Indian business groups have evolved over time against the backdrop of evolving laws and regulations in India. Her analysis is based on a panel data of group affiliated and unaffiliated firms for the period 2005–2018 during which the governance reforms that were initiated in the earlier years took root, and several new ones were introduced through revisions of existing regulation and laws. The chapter seeks to answer mainly two questions. First, have the nature of the agency problems pertinent to business groups as manifested in their ownership and control structures fundamentally changed in response to dynamic changes in their institutional environment? Second, have reforms introduced to change the ways in which

groups are governed by the board of directors made any impact on the way these groups are actually governed? Contrary to the expectations drawn from the institutionalist perspective that the relevance of business groups that fill institutional voids will wane as markets develop, the analysis in this chapter points to the continued predominance and persistence of Indian business groups within the corporate sector. She shows that, several of the groups, such as the Tatas and Birlas, which were established in the pre-independence era, have continued to remain in leadership position with a handful of large business groups continuing to dominate the sector, irrespective of the changes in the institutional environment. Big groups have become even bigger in terms of their asset base, and changes in the relative positions of groups at the top end of the distribution have been sticky at best even after more than 100 years of their existence and continued entry of new groups from time to time. Within groups, ownership structures have become more concentrated over time, with promoters of almost of all groups now having majority control in all the listed firms of the groups. She further argues that the pervasiveness, persistence and dominance of promoters in Indian business imply that there is little scope for monitoring internal management by other large block holders. Hence, a disproportionate burden of governance has to fall on the board of directors of group companies. This is perhaps why the major governance reforms in India since their initiation in early 2000s have focused on good board governance. Board independence of listed companies as reflected in the requirement of the percentage of independent directors has been emphasized. While the agency problems of business groups have stayed the same or even aggravated, board regulations have exhibited the dynamism to address the potential agency costs, the chapter observes.

Surajit Mazumdar in Chap. 5 focuses on the aspect of multi-entity structure and control in business group firms. He argues that, the business group structure in India can and does incorporate several companies/firms, which are neither publicly listed nor even individually large. So much so that several apparently stand-alone companies can also be parts of networks connecting them to other such companies/firms. The interconnections that link these several entities are, however, crucial *inter alia* to the exercise of control by business families over capital and wealth far in excess of what is legally owned by them. Concentrated control over assets as well as concentrated "ownership" of companies is the related outcome of this process, which provides an important reason for the resilience of the multi-entity group structure. His analysis shows that, the specific structure of the network of individual business groups and their participating entities changes over time in response to changing institutional contexts as well as due to its endogenous dynamics.

Jitendra Mahakud and Gaurav Gupta in Chap. 6 explore the effect of business group affiliation on determination of corporate investment policy of the manufacturing companies in India. They find that the firm-specific variables like cash flow, Tobin's q ratio, sales revenue, age of the company, financial leverage are the major determinants of corporate fixed investments. They also show that, companies affiliated to a business group invest more in the fixed assets than the stand-alone companies. Group affiliation reduces the impact of cash flow in determining corporate fixed investment. Their results indicate that financial distress plays a negative role in the

determination of corporate investment. They also find that financial distress does not affect the investment-cash flow sensitivity of the affiliated firms in India.

Ansgar Richter and Indrani Chakraborty in Chap. 7 analyze how performance of publicly listed firms in India is affected by the pattern of promoter ownership and highlight the specific role of business group affiliation in this respect. They have analyzed a sample of 4056 publicly quoted firms with promoter ownership in India during 2007–2013. They find that in group-affiliated firms, the level of promoter ownership has no effect on performance of firms, as measured by Tobin's q and ROA. However, in stand-alone firms, the level of promoter ownership has a U-shaped relationship with Tobin's q and no relationship with ROA. Moreover, group-affiliated firms show a lower performance than stand-alone firms. They have argued that, this happened due to the development of the capital market in post-reform India, which has greatly reduced the financing constraints for both group-affiliated and stand-alone firms.

Jhuma Mukhopadhyay in Chap. 8 presents an account of the differences in the performance of group-affiliated firms and stand-alone firms in the post-reform period. This study is based on 14,274 BSE-listed manufacturing firms. She finds that group-affiliated firms outperform the stand-alone firms. While examining the role of the factors responsible for better performance of affiliated firms, her study finds that both ownership opacity and internal financial capital are responsible for improved performance of group-affiliated firms. This refutes the institutional void theory.

Corporate disclosures for protecting shareholders' interests play an important role in corporate governance. In this context, related party transactions (RPTs) have emerged as one of the recurring areas of concern in developed as well as developing economies. These transactions are often diverse complex business transactions between a company and its key personnel—directors, or principal owners. Not only are they considered difficult to audit, abuse of such transactions can be detrimental to minority shareholder's wealth. This is consistent with the conflict of interest hypothesis of Jensen and Meckling (1976). On the contrary, efficient contracting or efficient transactions hypothesis-related party transactions that are carried out at "arm's length" can reduce transaction costs and further increase the profitability of the company thereby increasing the overall value to the shareholders. These conflicting hypotheses suggest that the effect of disclosing RPT is an empirical question that captures the trade-off between the management's incentive to report competitive transactions thereby reducing the agency risk in share price and a source of entrenchment by management or insiders that increases the agency risk in share price.

In Chap. 9, EktaSelarka and Subhra Choudhury investigate the relationship between disclosure of RPT and stock price crash risk faced by the Indian firms. Using a large sample of all the NSE-listed firms for the period 2005–2012, this study provides evidence that related party disclosure is associated with a decrease in the stock price crash risk faced by the firms. This finding is consistent with the view that information asymmetry increases crash risk. Further, the authors find that such decrease is observed more in the firms with higher risk.

Rohit Azad in Chap. 10 addresses the question whether Minsky's "Instability

Hypothesis" does not hold good in the context of Indian corporate firms. To test the hypothesis, he takes a look at financial fragility (defined as inverse interest coverage ratio) and the debt-capital ratio as two widely accepted markers of financial fragility of the sector. Financial fragility is measured here as the ratio between interests owed to profits earned of the sector as a whole. Higher the ratio the more fragile the sector is because it shows that the companies (as a whole) are not even able to cover the interest owed to the lenders. The average ratios are considered for the entire corporate sector, in this study. He shows that, as the economy booms, overall leverage decreases in the Indian corporate firms. He further shows that the correlation coefficient with respect to GDP growth for both financial fragility and leverage is strongly negative, quite the opposite of what Minsky predicted. He argues that this result should not be surprising because this is the macroeconomic fallacy in Minsky's argument. Then he carries out analyses of some specific industries and shows that some degree of instability was building up which would lead to financial fragility in the long run. This financial fragility is supposed to be generated by sudden decline in profitability of enterprises as a result of demand or supply shocks.

The chapters in this volume present, in the Indian context, the complexity in the relationships between certain specific features of the business group firms and their performance, financial distress, stock price crash risk and governance. In this context, the important role played by public policy and the evolving laws and regulations in India are unraveled in greater detail in this volume. These chapters capture the nuances in this relationship as observed in India since independence till the post-reform period. We feel that these chapters together form an important contribution to our knowledge on the nature and effects of these complex relationships in the dynamics of the corporate behavior in India.

References

Almeida H, Wolfenzon D (2006) A theory of pyramidal ownership and family business groups. J Fin 61:2637–2681

Baek JS, Kang JK, Park KS (2004) Corporate Governance and firm value: evidence from the Korean financial crisis. J Finanl Econ 71:265–331

Bertrand M, Mehta P, Mullainathan S (2002) Ferreting out tunnelling: an application to Indian business groups. Quart J Econ 117:121–148

Chakraborty I (2013) Economic reforms, business groups and changing pattern of distribution of profitability across corporate firms in India: a semi-parametric analysis. Appl Finanl Econ 23(7):589–602

Chang H-J (2000) The hazard of moral hazard: untangling the Asian crisis. World Dev 28(4):775–788

Corsetti G, Pesenti P, Roubini N (1999) What caused the Asian currency and financial crisis? Japan World Econ 11:305–373

Das Gupta C (2013) The tenacity of the hindu undivided family: gender, religion and tax concessions. Econ Pol Weekly 48(40):73–75

Faccio M (2006) Politically connected firms. Am Econ Rev 96(1):369–386

Fogel K (2006) Oligarchic family control, social economic outcomes, and the quality of government. J Intl Bus Stud 37:603–622

Hillman AJ, Keim GD, Schuler D (2004) Corporate political activity: a review and research agenda. J Manage 30:837–857
Jadav AM, Reddy VN (2017) Indian business groups and their dominance in the Indian economy. Econ Pol Weekly 52(29)
Jensen MC, Meckling WH (1976) Theory of the firm: managerial behavior, agency costs and ownership structure. J Fin Econ 3(4):305–360
Johnson S, La Porta R, Lopez-de-Silanes F, Shleifer A (2000) Tunneling. Am Econ Rev 90:22–27
Kali R, Sarkar J (2007) Diversification and tunneling: evidence from Indian business groups. Working Paper, Indira Gandhi Institute of Development Studies
Khanna T, Palepu K (2000) Is group affiliation profitable in emerging markets? An analysis of diversified Indian business groups. The J Fin 55(2):867–891
Khanna T, Yafeh Y (2007) Business groups in emerging markets: Paragons or parasites? J of Econ Lit 45(2):331–372
Kim J (2008) Corporate lobbying revisited. Bus Pol 10(2):1–23
Kohli A (2006) Politics of economic growth in India, 1980–2005 Part I & Part II: the 1990s and beyond. Econ Pol Weekly April 1, **41**(13):1251–1259 and April 8, 41(14): 1361–1370
Kohli A (2007) State, business, and economic growth in India. Stud Comp Intl Dev 42:87–114
Lawton T, McGuire S, Rajwani T (2012) Corporate political activity: A literature review and research agenda. Intl J Manage Rev 15(1):86–105
Mitra A, Pattanayak M (2013) Business groups, block holdings and firm value. Intl J Discl Gov 10(1):39–57
Mitton TA (2002) Cross-firm analysis of the impact of corporate governance on the East Asian financial crisis. J Finl Econ 64(2):215–241
Mody A, Nath A, Walton M (2011) Sources of corporate profits in India: Business dynamism or advantages of entrenchment? IMF Working paper No. WP/11/8
Morck R, Stangeland DA, Yeung B (2000) Inherited wealth, corporate control and economic growth: the Canadian diseas. In: Morck R (ed) Concentrated corporate ownership. University of Chicago Press, Chicago, pp 319–369
Morck R, Wolfenzon D, Yeung B (2005) Corporate governance, economic entrenchment and growth. J Econ Lit 43:657–722
Panagariya A (2008) India: the emerging giant. Oxford University Press, New York
Richter A, Chakraborty I (2015) Promoter ownership and performance in publicly listed firms in India: does group affiliation matter? IDSK Occasional Paper, p 45
Rodrik D, Subramanian A (2004) From 'Hindu Growth' to productivity surge: the mystery of the Indian growth transition. Working Paper WP/04/77, International Monetary Fund
Sarkar J (2010) Business groups in India. In: Ch 11 in Colpan AM, Hikino T, Linkoln JR (eds) The Oxford handbook of business groups. Oxford University Press, Oxford
Shleifer A, Vishny RW (1993) Corruption. Quart J Econ 108(3):599–617
Shleifer A, Vishny RW (1994) Politicians and firms. Quart J Econ 109(4):995–1025
Singh A, Zammit A (2006) Corporate governance, crony capitalism and economic crises: should the US business model replace the Asian way of "doing business"? Corp Gove Intl Rev 14(4):220–233
Stulz R (1999) Globalization of equity markets and the cost of capital. Unpublished working paper, Ohio State University
Zattoni A, Pedersen T, Kumar V (2009) The performance of group-affiliated firms during institutional transition: a longitudinal study of Indian firms. Corp Gov Intl Rev 17(4):510–523

Chapter 2
The Regime of Capital Accumulation, the *Hindu Undivided Family* and the Business Group in Independent India

Chirashree Das Gupta

Abstract The chapter addresses the issue of capital accumulation in the Hindu Undivided Family (HUF) and the business groups in India since independence. The organization of the 'business house' found legal sanction through multiple legislations spanning corporate and tax laws and forms the object of studies in 'corporate governance'. The chapter argues that, it is the dual existence of the HUF as both a family and a firm that makes it distinct from all other institutional categories. It discusses the channels through which family control over the organizational structure of business groups and the ownership of wealth by the family generated through these structures are maintained. The interlocking of the caste Hindu patriarchal family with corporate governance institutions is formally embedded in law in India. It is the materiality of capital that forges the social entity of the family owned business group. This materiality is formally legally embedded in the seamless interlock of the firm and the family where the firm becomes the family in the case of the HUF. This spans state codification of Hindu family law, corporate governance laws and taxation laws. The chapter further argues that, it is capital in its material social role in the circuit of financial and capital flows, which drives the network of institutions that constitutes the 'family owned business group' in India legally. This is formally undergirded by caste, patriarchy and religion. Moreover, it shows that, this unique

This chapter is an extended and updated version of the publication of our paper Das Gupta and Gupta (2017) The *Hindu Undivided Family* in Independent India's Corporate Governance and Tax Regime, *SAMAJ* 15. This earlier publication from 2017 is under a creative commons license. This chapter presents case studies in Sections 2.2 and 2.3 which are different from the ones in the 2017 article. The macro-level tax data analysed in Section 2.3 is updated till 2018 in this chapter. In the 2017 article, the data was upto 2012-13 in some cases and 2014-15 in other cases. However, the premise and the main arguments have significant overlap in both the publications. I am grateful to Mohit Gupta for his help with the tax data updation for this chapter.

C. Das Gupta (✉)
Centre for the Study of Law and Governance, Jawaharlal Nehru University, New Delhi, India
e-mail: chirashree@gmail.com

A. Chakraborty and I. Chakraborty (eds.), *Indian Business Groups and other Corporations*, India Studies in Business and Economics,
https://doi.org/10.1007/978-981-99-5041-6_2

legal family/firm interlock is not available to Muslims, Christians, Parsis or Jews and hence constitutes a perverse legal privilege to the Hindu family.

2.1 Firm-Family Duality and the HUF in India

In the mainstream of the discipline of economics, the two institutions that are taken as units of analysis are firms and households (with the household often conflated with family though the two words have entirely different meanings). For example, a household can consist of people living under one roof without any familial relationships. Similarly, a family maybe dispersed across multiple households. Moreover, a household can consist of people who have no familial relationships. These two units, namely the firm and the household are taken as mutually exclusive spheres of production and consumption respectively in mainstream economics despite the fact that households do produce and firms do consume. In this conception, the social becomes exogenous to the economic and is regarded as beyond the scope of economics. There is very little exploration of the link between the two even in institutional economics which does recognize the interplay between the social and the economic. Almost no literature exists on these inter-related units as institutions of capital accumulation. And yet business families inhabit our life world and the everyday.

In the emerging literature on business groups in India, the entity of the 'business group' has found its place in institutional economics, economic sociology and the larger social science literature. But the familial basis of ownership and control of business groups remains an obscure area of study. The organisation of the 'business house' found legal sanction through multiple legislations spanning corporate and tax laws and form the object of studies in 'corporate governance'. On the other hand, the institution of the 'family' has fallen in the ambit of study of 'personal laws'. The first aspect is significant in establishing the institutional basis of concentration of capital combining the modalities of ownership and control. The second has implications for not only accumulation, investment and concentration of capital, but also tax avoidance and evasion (Das Gupta 2013). The relationship between these two aspects and the regimes of accumulation in independent India has been largely unexplored in the otherwise growing corpus of literature on the relation between the business group and 'corporate governance' and public policy.

The Hindu Undivided Family (HUF) as an institution in India has a long history. It got legal recognition in colonial India in the late nineteenth century, but it was only with the promulgation of the Income Tax Act of 1922 that it got the status of a separate and distinct tax entity. The legal category of the HUF exists in the tax code since then and its inclusion in the code is based on a much longer history of recognition of customary law by the British colonial state in India. In the interpretation of the colonial state, the HUF represented a joint family that was held together by strong ties of kinship and comprised of a variety of joint property relations among the members. These relationships created blurred and porous boundaries between the cultural underpinnings of the family as a social entity and the commercial existence

of the family as a trading entity. These porous boundaries were a complex function of marriage, lineage, patriarchal ties, and trade and business (Das Gupta and Gupta 2017).

The colonial interpretation of the entity did not recognize the complex networks which resulted in the family as a business entity being governed by personal laws as against firms being defined by legal contracts. This had its roots in the colonial legal system which set a clear dividing line between the 'public' and the 'private'. The 'public' side of it aimed at making an individual free of moral relations, and the law was meant to shape the individual's relations freely in the market; while the personal side of it entrenched the denominational status based on caste, religion and family as basis for individual right (Das Gupta and Gupta 2017). This dual characteristic of the HUF shaped its legal status as a unit of business and taxation. It was recognized as a trading entity/ family firm as an income generating entity on the production side of the economy. But the arguments against it being taxed were premised on recognizing cultural ties, customary existence and the notion that the family preceded the firm, and that 'family income' was solely for the purpose of maintenance of the unit and fulfilling of customary obligations leading to the interpretation that the HUF is an income utilizing entity on the consumption side of the economy.

This sharp exclusivity of definition inherent in the neoclassical conception of economic activities in the tight compartmentalization of production and consumption created the dilemma for the colonial state in deciding what exactly the HUF was at the time of the passing of the Income Tax Act of 1860 and 1886 (Das Gupta and Gupta 2017). Both the acts recognized the HUF as a variant of a legal person under the category of 'individuals '(Birla 2008). Finally in the debate on the Super Tax Bill of 1917, the HUF was proposed to be recognized as a distinct category for taxation to overcome the problem of having to negotiate the dual characteristics of being a family and a business entity. This interpretation led to the recognition of the HUF as a separate tax entity which was subsequently incorporated into the Income tax Act 1922 (Newbigin 2013). It is this dual existence of the HUF as both a family and a firm that makes it distinctive from all other institutional categories as we shall see in the rest of this chapter.

The independent Indian state took the HUF as a distinct category in its legal framework and thus avoiding any engagement with the 'duality' question allowing the HUF a seamless transition as a legal entity from colonial to independent India. It was in the first decade after independence with the state's encoding of Hindu customary and personal law that the HUF was legally sanctified as originating in state code and then integrated into the Indian corporate governance and taxation system. Thus the HUF's sanctification in the state code of Hindu law is the only major departure in its status after independence as compared to the colonial period (Das Gupta and Gupta 2017).

Family owned business groups in India comprise of a plethora of corporate bodies spanning joint stock companies (public and private limited), partnership firms, trusts and other body incorporates and limited liability partnerships. Each of these vehicles of corporate governance are regulated by different pieces of legislations namely

the Companies Act 2013; the Indian Partnership Act 1932, the Societies Registration Act 1860 and the Limited Liability Partnership Act 2008 respectively. Despite these different pieces of legislation regulating these different corporate entities, interlocking directorships and inter-locking shareholdings across these entities constitute these into the social entity of the business group in India (Das Gupta 2013). The top twenty two business houses in India through this system of interlocks directly controlled 25% of gross capital formation in the Indian economy in 1951. By 1990, this accounted for 28% of gross capital formation in India and is estimated to be at least 40% today. The extent of this control is however exercised by less than 1% actual investment by the business group (Das Gupta 2016). The key houses of business, both old and new, have found ways to maintain control over decision making through the institutional structure of the *family run business house* (Das Gupta 2010).

There are two distinct channels through which family control over the organizational structure of business groups and the ownership of wealth by the family generated through these structures are maintained. The first has to do with the legal provisions of 'corporate governance' structures which facilitate the optimum mix of various forms of registered companies like partnerships, private limited companies, unregistered and registered public limited companies, and limited liability partnerships under the umbrella business group through interlocking share-holdings and directorships. These are done within the enabling legal provisions of the Indian Partnerships Act of 1932, the Companies Act of 1956 and 2013 and the Limited Liability Partnership Act of 2008. Apart from risk spreading, this structure had also ensured avenue to escape the minimal restrictions on expansion under Monopolies and Restrictive Trade Practices after 1973 till it was repealed after liberalization. It was also important for labor deployment and control with employers often making sure that each company only had less than seven employees and pre-empting any possibility of trade union formation under the stipulations of the Trade Union Act of 1926. The second is through the legal sanctity given to the category of the *Hindu Undivided Family* (HUF) by interweaving it into corporate governance structures, family laws and the tax codes.

Interlocked firms and families are the legal structure in which capital accumulation is institutionally embedded in India. It may also be noted that the first level of the firm-family interlock is germaine to capitalist firms universally i.e. individual members of families own and control shares. But in India, the HUF interlock with firms is unique and specific in not only maintaining control of the family, but this privilege as a legal entity is only endowed to Hindus as defined in the state's codification of Hindu personal and family law ie a Hindu is anyone who is not Muslim, Parsi, Christian or Jew. After defining the HUF through the codification of personal laws in 1955–56, the state then took the next step to perpetuate the 'Hindu Undivided Family' (HUF) as an entity recognized by the Wealth Tax Act 1957 and Section 2 of the Income Tax Act 1961 as a distinct unit of taxation with grant of tax avoidance facilities on 'family income' with higher exemptions and lower tax rates compared to other categories of assesses. The tax rates for the HUF is the same as that of individuals since the intervention of the Wanchoo Committee and the K N Raj Committee but HUFs were subject to a lower rate of taxation than individuals before these interventions.

Social science has largely not engaged with this socio-legal entity. In corporate law, tax law and personal law—the three spaces it inhabits—it has been largely regarded as a 'loophole' that is incongruent with 'modern' corporate governance and taxation structures. It is often referred to as a remnant from the archaic which does not serve any purpose in contemporary modes of capital accumulation. The women's movement in India that has had the closest engagement with this structure has often associated it with feudal structures of land and property holdings. Its implications on capital accumulation in the 'modern' sectors have not been studied at all. This paper, based on analysis of macroeconomic data and case studies extracted from a comprehensive primary research on 150 family owned business groups in India is an attempt to interrogate such propositions and to arrive at a comprehensive delineation of the role of the HUF in the capital accumulation regime in independent India.

The paper is divided into three sections. Section 2.1 above has elucidated the process through which the HUF was institutionally embedded into the state's codification of the Hindu personal and family law. Section 2.2 analyses the institutional embedding of the HUF in corporate governance structures. Section 2.3 dwells on installation and use of the HUF in tax structures and the role it plays as a vital institution in tax avoidance processes. The three sections together show the critical role the HUF plays in the circuits of capital accumulation in India.

2.2 Institutional Embedding of the HUF in Corporate Governance Structures

In our study of 150 family owned business groups in India carried out in two phases (2003–05 and 2008–11), except for the two groups which were not of Hindu origin in our survey, all business groups had Hindu Undivided Family (HUF) accounts. On an average, each group controlled directly and indirectly about 47 companies. Each business group had on an average three to four holding companies along with one to three flagship companies. In these companies, the Karta of the family along with other members held shares as individuals. The next biggest single share-holding in these companies was by HUFs belonging to the family. At least two family members in every case were directors of these companies. These companies in turn owned shares of other public limited, private limited and partnership firms which they controlled. In such firms and companies, family members and close associates from other business families are directors. In addition, these groups control trusts governed by the Societies Registration Act 1860 (as we shall see later) and other related legislation (Table 2.1).

This forms the formal structure of ownership and control through which all activities related to capital accumulation by business families is controlled. In 35.3% of the groups surveyed, stocks in group companies were not held by HUFs in publicly listed companies, but were held in the 'private limited' companies. The *Karta*s of the HUF or other HUF members however held stocks in the publicly listed companies

Table 2.1 Summary of the survey on HUFs and business groups

Number of business families surveyed	150
Number of firms affiliated to business groups which were analyzed for institutional interlocks	7500
Average number of companies/firms in a family owned/controlled business group	47
Average number of HUFs found to be interlocked in each business groups	9
Average number of trusts/registered societies found to be interlocked with each business group	4
Number of detailed case studies of family owned business groups	25
Number of members of business families interviewed as part of case studies	300
Number of managers of firms interviewed as part of case studies	300
Number of employees who were not managers interviewed as part of case studies	200

Source Author's survey of 150 business groups

in 61.3% of the groups surveyed. Thus the payouts to the HUF as well as to the individual who is part of an HUF is simultaneously maintained. At the same time, the HUF can hold other property e.g. houses, cash, gold, share certificates, fixed deposits which would not be considered in the asset accounting of the business group. The income and wealth holdings in HUF do not get counted in the business group's ownership and control of assets. This interlocking structure of firms and families serves multiple purposes of which we will illustrate two major uses: 1. Family control over the circuits of capital within the business group 2. Tax avoidance. In this section, we focus on the first purpose.

Apart from the HUF being a vehicle of tax avoidance (illustrated in the subsequent section), both 'old' and 'new' capitalist business houses of Hindu origin use the provision of HUF to consolidate family holdings and ensure the control of capital within the family through transactions between the HUF and individuals within the HUF who held key positions in the share-holding and managerial patterns of the companies within the fold of the business house through interlocking directorships and share-holding. To illustrate the modalities of family control over the circuits of capital within the business group, we present another case study from our survey.

Patriarch A from business family 1 is married to B from business family 2. They have three sons C, D and E and one daughter F. C, D and E have a son each named M, N and O. Daughter F is married to G into business family 3. Sons C, D and E are married to H, I and J and from business families 4, 5 and 6.

The HUFs created from these alliances in Family 1 are:

1. HUF1 (A—karta, C, D and E coparcenaries, B member):
2. HUF2 (C—karta, H member)
3. HUF3 (D—karta, I member)
4. HUF 4 (E—karta, J member)
5. HUF 5 (A—karta, C—coparcenary, B and H member)
6. HUF 6 (A—karta, D—coparcenary, B and I member)

7. HUF 7 (A—karta, E—coparcenary, B and J member)
8. HUF 8 (C—karta, M coparcenery (minor with C as guardian)
9. HUF 9 (D—karta, N coparcenary (minor with D as guardian)
10. HUF 10 (E—karta, O coparcenary (minor with E as guardian)

Thus 10 HUFs can be operated by a single family because the law entails the provision that any Hindu male can start a new 'Hindu Undivided Family' as long as he is married. Even as families went nuclear, the 'HUF' could be perpetuated as a legal entity as each nuclear family marked the beginning of a new 'HUF' without requiring the dissolution of earlier HUFs including the same family members. Similar HUFs exist in families 2, 3, 4, 5 and 6.

Family 1 has two flagship companies—MLX Ltd and MLY Ltd. Six percent of shares in MLX Ltd are held by A, B, C, D and E. Another five percent shares are owned between HUFs 1, 2 3 and 4. Similarly, seven percent shares in MLY Ltd are held by A, C D and E. Another four percent is held by HUFs 5, 6, 7 and 8. Eight other group companies together hold twelve percent shares of MLX Ltd. Nine different group companies hold twelve percent share of MLY Ltd. There are three other subsidiary/ holding companies in the group. These hold shares in twelve other group companies. HUFs 9 and 10 hold two percent shares in all twelve of these group companies. Two group companies along with A, B, C, D, E, F, G, H, I and J hold shares in two trusts named after A's grandfather, and father respectively. These trusts own shares of eight group companies. HUFs belonging to families 2, 3, 4 and 5 have shares in eight group companies. The daughter, son-in-law and the three daughters-in-law own shares as individuals in five corporate entities in which two are partnerships and three are companies.

Thus individuals, HUFS, firms/companies and trusts form multiple level of overlapping interlocks to control 34 firms/companies and two trusts, even though each of these entities are governed by different corporate governance laws as we have shown earlier.

A, the patriarch is a director in eight companies, The sons C, D and E and the son-in-law G in six each, the daughter F in three, four members each from families 2, 3, 4 and 5 in two each. All the women in the family are involved as sleeping directors in group companies as well as active management of the trusts in position of executive authority. Had there been no HUF provision, individual family members would need to own a much larger proportion of shares to exert family control over the constituent firms/companies in the business group. But with the HUFs, a much larger sphere of control can be exercised with minimal investment of family wealth.

This business group owned four large and five medium sized factories and three small scale enterprises spread over five states in India. Out of these, four were owned by public limited companies, five were owned by private limited companies, two by HUFs and one by a partnership. These factories were integrated into the global value chain of a range of manufacturing goods in consumables.

Eighteen other corporate entities in the group were shown to be invested in a non-banking finance company, hotels, trading, property dealing and leasing and entertainment. The trusts ran for-profit schools along with running temples, two hospitals and an orphanage.

The total investment by the families and individuals in the 34 corporate entities it exerts control over is 1.44% of the total investments. But the family effectively through combination of individual members, interlocked companies and HUFs control 70% of the share-holding and through inter-locking directorships, 90% of the board of management.

On an average, 26 out of the 34 corporate entities reported losses in the previous four years. With asset and income transfers within group companies and HUFs (through related party transactions), profit and loss accounting is spread across business groups to declare the minimum level of profits once again to avoid taxation. A similar case study of the largest business group in India by Naz (2016), shows that around 64 out of 88 group companies, reported loss in two consecutive years. It must be noted here that such related party transactions are by the law to be approved by the Board of the company. Given the interlock between family members on the board, such transactions are blessed by the legal sanction of the corporate governance structure interlocked with the family.

The HUF also exists legally in tax law independent of these interlocked entities. For example, land for eight of the factories is owned by four different HUFs of family 1 and are shown to have been leased to the company owning the factory or enterprise. The transfer of lease income is to the HUF for which taxation is at par with an individual. However, the HUF is a corporate entity as we shall see in the next section and hence this is yet another way in which corporate tax exemption on income is being perpetuated through the legal regime of corporate governance in India.

Our interviews with the family members of this family owned business group revealed certain remarkable aspects of the firm/family interlock. All the men and women had been married through alliances brokered by the family. Early marriages were the norm. There was significant resistance to the idea of marriages of choice. All marriage alliances were based on caste rules of endogamy and exogamy along with considerations of class status. In another case study, we had found that while marriages across ethnicities were considered ‘normal’, caste and class barriers were rigid. Thus families founded on the basis of caste rules and patriarchy are the defining features of the business family in India.

The materiality of capital forges the social entity of the family owned business group which is formally legally embedded in the seamless interlock of the firm and the family. This spans state codification of Hindu family law, corporate governance laws and taxation laws. This unique legal family/firm interlock is only available to Hindus. It is not available to Muslims, Christians, Parsis or Jews and hence constitutes a perverse legal privilege to the Hindu family. The caste Hindu patriarchal family bound by son preference is an imperative of social reproduction of institutional structures of accumulation in India. In the next section we shall see how this son preference is incentivized by institutions of taxation. It is capital in its material

social role in the circuit of financial and capital flows that drives the network of institutions that constitute the 'family owned business group' in India undergirded by caste, patriarchy and religion (Das Gupta and Gupta 2017).

2.3 HUF as a Vehicle of Tax Avoidance

We start with the distinction between statutory and effective taxation rates. There is difference between the statutory rates which are announced every year by modification of the Finance Act and what finally transcends into the actual payments as taxes by income tax payers. These actual payments as percentage of declared income are called the effective tax rates. Statutory rates are the ones prescribed by law, the effective tax rates are the realized average tax rates (Das Gupta and Gupta 2017).

Let us go back to our case study in the earlier section. Patriarch A from business family 1 is married to B from business family 2. They have three sons C, D and E and one daughter F. C, D and E have a son each named M, N and O. Daughter F is married to G into business family 3. Sons C, D and E are married to H, I and J and from business families 4, 5 and 6.

The HUFs created from these alliances in Family 1 are:

1. HUF1 (A—karta, C, D and E coparcenaries, B member):
2. HUF2 (C—karta, H member)
3. HUF3 (D—karta, I member)
4. HUF 4 (E—karta, J member)
5. HUF 5 (A—karta, C—coparcenary, B and H member)
6. HUF 6 (A—karta, D—coparcenary, B and I member)
7. HUF 7 (A—karta, E—coparcenary, B and J member)
8. HUF 8 (C—karta, M coparcenery (minor with C as guardian)
9. HUF 9 (D—karta, N coparcenary (minor with D as guardian)
10. HUF 10 (E—karta, O coparcenary (minor with E as guardian)

Let the annual taxable income stream from the companies MLX Ltd and MLY Ltd for A, C, D and E be Rs 20 lakhs each. In the absence of any HUF provisions, A, C, D and E would have to each pay Rs 412,500/—as income tax as per taxation rates for Financial Year 2018–19 by application of statutory rates (Table 2.2). The effective taxation rate is 20.625% in this scenario.

However, A, C, D and E can use the ten HUFs effectively among themselves and distribute the income across their four individual tax accounts and the ten HUFs (Table 2.3) using the provisions of existing income tax laws and the four acts codifying Hindu property laws. In such a scenario, the total tax liability would be only Rs 225,000/—each for A, C, D and E. The effective taxation rate has been almost halved to 11.25% in the second scenario by using the HUFs.

With separate application of other exemption possibilities under the Income Tax Act, the actual tax liability can be brought down to much further even for much larger sums of income from multiple sources. Similar use of the HUF can be made

Table 2.2 Effective tax liability in the absence of HUF—scenario 1

Tax entity	Income reported from MLX Ltd and MLY Ltd (Rs)	Tax to be paid at 2018–19 rates (Rs)
A	2,000,000	412,500
C	2,000,000	412,500
D	2,000,000	412,500
E	2,000,000	412,500
Total	8,000,000	1,650,000

Source Author's calculations based on case study

Table 2.3 Effective tax liability with the use of HUF—scenario 2

Tax entity	Income reported from MLX Ltd and MLY Ltd (Rs)	Tax to be paid at 2018–19 rates (Rs)
A	1,375,000	225,000
C	1,375,000	225,000
D	1,375,000	225,000
E	1,375,000	225,000
HUF1	250,000	0
HUF2	250,000	0
HUF3	250,000	0
HUF4	250,000	0
HUF5	250,000	0
HUF6	250,000	0
HUF7	250,000	0
HUF8	250,000	0
HUF9	250,000	0
HUF10	250,000	0
Total	8,000,000	900,000

Source Author's calculations based on case study

to circumvent wealth and property tax. Moreover, if any member were to draw an income from the coiffeur of 'family income' accumulated in the HUF, such income would be exempt from taxation by virtue of being the higher cost of maintenance of the 'undivided family'. Thus it must be noted that the use of HUF for tax avoidance is perfectly legal in India.

If A had four married sons with a male child each and no daughter, he would be able to form two additional HUFs which could be used to reduce tax liabilities of family members further. If any of the sons do not get married, then the possibility of forming the additional HUFs reduces. Thus son preference and hetero-normative marriages in every generation, bound by caste and religious rules as per the state's

Hindu code, have a very material incentive in the form of the HUF tax provisions in India.

Figure 2.1 shows annual average effective taxation rates (ETR) of individuals, HUFs and all other assessees (which consist of different forms of body incorporates or corporate entities—firm, companies, societies and trusts etc.). From 1954–55 to 1998–99, the ETR of individuals were the lowest, the ETRs of corporate entities were the highest while the ETR of HUF was between the two. Also, the ETR of all entities increased between 1973 and 1993. There were several reasons for this. First, there was abolition of higher exemptions and lower tax rates to HUF as compared to individuals. Second, there was the promulgation of the Monopolies and Restrictive Trades Practices (MRTP) Act in 1971 which recognized the business group as a whole as the unit of organization of capital and put in restrictions on interlocking shareholdings and directorships. Third, the ETRs of HUFs increased significantly in the same period with the abolition of HUF privileges in land and other property holdings (but not corporate holdings which come under the purview of the central government) in Tamil Nadu, Kerala, Andhra Pradesh and Maharashtra. The decline in ETRs of corporate after the mid-1980s is explained by the dilution of the MRTP Act and its subsequent repeal. The ETRs show a sharp decline in 1998–99 and 1999–2000 after which the CBDT stopped releasing data.

Compared to the pre-1991 levels, ETRs of all tax categories have declined. The recent data that has been released since 2012–13 to 2017–18 shows a significant decline in the ETR of individuals. But the steepest decline is recorded by the ETR of HUFs in this period. Figures 2.1 and 2.2 together show that HUFs have paid the lowest rates of ETR since 1956 in the period 2012–13 to 2017–18.

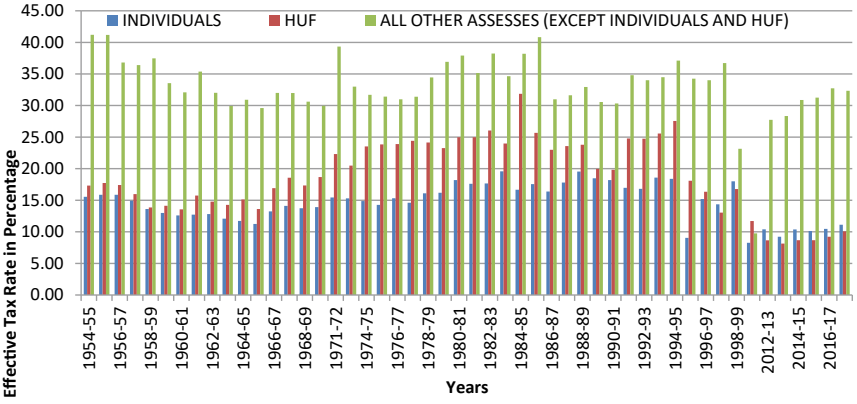

Fig. 2.1 Annual effective tax rate for HUF, individuals and all other assesses (1954–55 to 1999–2000; 2012–13 to 2017–18). *Source All India Income Tax Statistics Released by Central Board of Direct Taxes for Data up to 1999–2000 and Income Tax Data from website of Central Board of Direct Taxes for Data from 2012–2018. Note* Disaggregated Data for Various Assesses is not available for the period 2000–2011

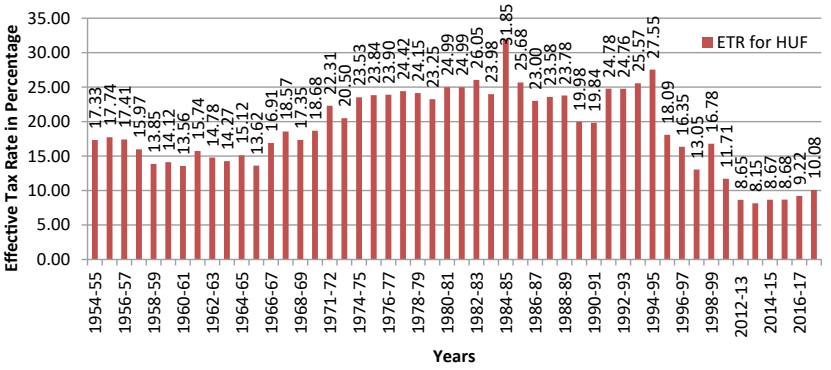

Fig. 2.2 Annual effective tax rates of HUFs (1954–55 to 1999–2000; 2012–13 to 2017–18). *Source All India Income Tax Statistics Released by Central Board of Direct Taxes for Data up to 1999–2000 and Income Tax Data from website of Central Board of Direct Taxes for Data from 2012–2018. Note* Disaggregated Data for Various Assesses is not available for the period 2000–2011

However, the ETRs across time do not tell us about the extent of regressiveness of the direct income tax in India. Figure 2.3 shows that the effective tax rates of firms and companies decrease as size of income increases. For individuals the trend of taxation is initially progressive but becomes regressive at the top range for incomes above Rs 50 lakhs. The same trend is evident for the HUF but with two significant features. First, at the bottom end, up to an income below Rs 5 lakhs, the effective rate of taxation of HUFs is consistently regressive. Second, the ETRs of HUFS is significantly less than individual tax assessees for every level of income. Third, for incomes above Rs 50 lakhs, ETRs of HUF again turn regressive.

An analysis of the sources of incomes for various categories of tax assessees for the period 2012–18 (the years for which this data is available) is presented in Tables 2.4 and 2.5. Individuals are the only category of income earners who earn an income for salary. HUF income accrues from business income, short and long term capital gains, house property income and interest income. There is no salary income reported by HUFs. In fact the composition of the HUF income is similar to income composition of firms, companies and other body incorporates and very different from the composition of individual incomes in which salary income constitutes around 54% of the income. Thus the HUF is similar to a corporate entity with the additional characteristic that around 9% of its income comes from house property while this share is less than 4% for firms and companies. But, it gets away with exemptions claiming to be a 'family' utilizing income for maintenance treated at par with an 'individual' tax payer and pays the lowest rates of income tax as demonstrated earlier. Thus the effective tax paid by the HUF is much lesser than corporate entities of business even though its income structure is similar to corporate entities as we have shown earlier.

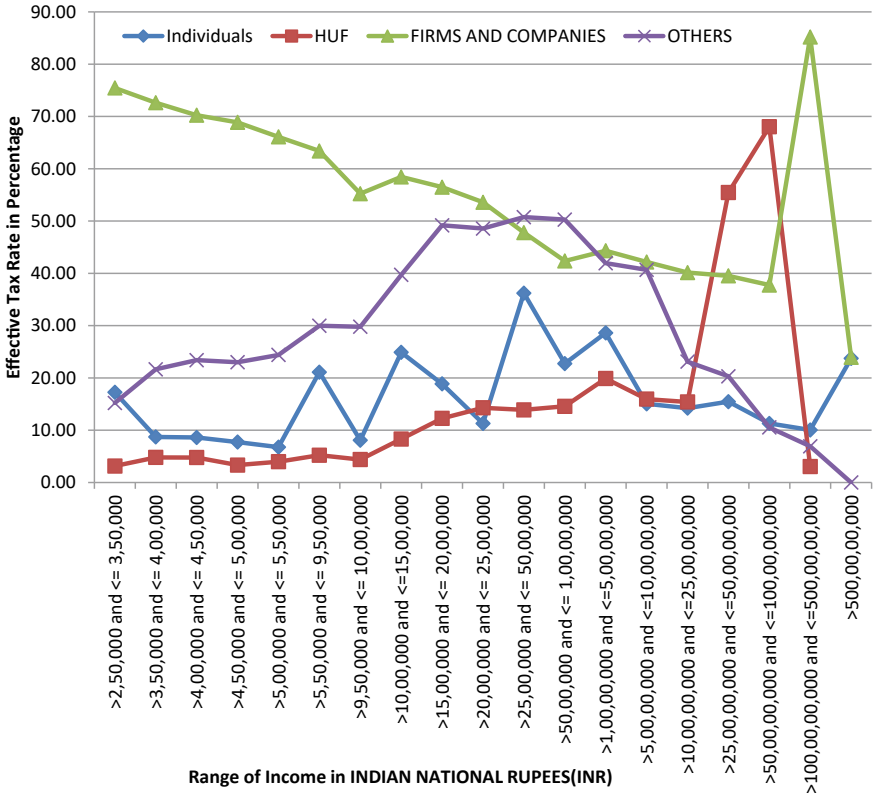

Fig. 2.3 Average effective tax rate by range of income (2012–2018). Source Income Tax Data Released by Central Board of Direct Taxes for various Years

Table 2.4 Composition of income (in percentage) from various sources for different assesses for the period 2012–2018

Type of assessee	Salary income	House property income	Business income	Long term capital gains	Short term capital gains	Other sources income	Total income of assessee
Individual	54.29	1.66	30.36	1.87	0.53	11.29	100.00
HUF	0.00	9.12	42.69	4.32	1.81	42.06	100.00
Firm	0.00	3.51	88.67	3.18	1.08	3.56	100.00
AOP/BOI	0.00	1.90	28.51	4.57	46.24	18.77	100.00
Companies	0.00	1.09	83.11	4.37	2.23	9.21	100.00
Others	0.00	3.43	67.73	3.54	7.99	17.31	100.00

Source Author's Calculation from Income Tax Data Released by Central Board of Direct Taxes for various Years

Table 2.5 Share of interest income (in percentage) in the category 'income from other sources' for various assesses for the period 2012–2018

Type of assessee	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
Individuals	29.63	36.43	36.66	31.80	30.07	27.72
HUF	43.65	51.18	54.25	55.40	56.20	56.10
Firms	51.74	54.92	67.14	52.20	55.45	49.36
AOP/BOI	31.00	67.79	47.37	13.13	30.82	31.93
Companies	69.97	77.39	55.13	38.57	34.98	34.12

Source Author's Calculation from Income Tax Data Released by Central Board of Direct Taxes for various Years

Thus the HUF is an inter-locked corporate governance structure whose activities based on income source are typically that of a business incorporate. It is interlocked into the institutional structure of asset, wealth and property holding in India in a maze of interlocked family and business entities spanning all five tax categories which comprise the Hindu family owned business group. There is no systemic compilation of data by the Indian state on interlocking tax entities and extent of direct and indirect ownership of economic assets and property by family owned business groups. But as we argued in Sect. 2.1, the tax structure continues to treat the HUF as a family/household consumption entity at par with individuals not recognizing its functions solely as a business entity.

2.4 Conclusion

To conclude, the interlock of the caste Hindu patriarchal family with corporate governance institutions is formally embedded in law in India. It is the materiality of capital that forges the social entity of the family owned business group. This materiality is formally legally embedded in the seamless interlock of the firm and the family where the firm becomes the family in the case of the HUF. This spans state codification of Hindu family law, corporate governance laws and taxation laws.

It is capital in its material social role in the circuit of financial and capital flows that drives the network of institutions that constitute the 'family owned business group' in India legally. This is formally undergirded by caste, patriarchy and religion. Moreover, this unique legal family/firm interlock is not available to Muslims, Christians, Parsis or Jews and hence constitutes a perverse legal privilege to the Hindu family.

The caste Hindu patriarchal family bound by son preference is an imperative of social reproduction of institutional structures of accumulation in India. Trust and informality of kinship and familial relationships are very much 'within the law' working on the logic of profit. As can be seen from the above discussion, this raises very fundamental questions not only on the implications on the institutional basis of the macro economy showing the endogeneity of the 'social' in the 'economic'

(a point we raised right at the outset), but also the very nature of the claims of the 'secular state' and constitutional provisions of equal opportunity.

References

Birla R (2008) Stages of capital: law, culture and market governance in late colonial India. Duke University Press

Das Gupta C (2010) Globalisation, corporate legal liability and big business houses in India. Camb J Eco 34(5):895–913

Das Gupta C (2013) The tenacity of the hindu undivided family: gender, religion and tax concessions. Econ and Pol Weekly 48(40):73–75

Das Gupta C (2016) State and capital in independent India: institutions and accumulation. Cambridge University Press, Cambridge and New Delhi

Das Gupta C, Gupta M (2017) The *Hindu Undivided Family* in Independent India's Corporate Governance and Tax Regime, *SAMAJ* 15. https://journals.openedition.org/samaj/4300. Accessed 03/02/2019

Naz R (2016) The conflict between corporate governance and corporate social responsibility in India. In: Paper presented at fourth LASSNET conference, December 12. New Delhi

Newbigin E (2013) The Hindu family and the emergence of modern India: law, citizenship and community. Cambridge University Press, Cambridge

Chapter 3
Corporate Response to Public Policy Changes: Some Intriguing Aspects

J. Dennis Rajakumar

Abstract This chapter analyzes corporate responses to public policy changes. Using data from National Accounts Statistics and Reserve Bank of India's Studies of Company Finances, it shows that the response of the private corporate sector to the public policy changes has been in line with the expected outcomes of increasing the sector's contribution to the growth process. Not only that the sector's share of capital formation and savings in country's NDP increased, but the sector aided their growth as well. However, the way corporate sector responded brought about a shift in the composition of corporate income with profit share rising considerably. This was largely attributable to the sector's increased reliance on shareholders' fund. With reductions in direct corporate tax rate, the incidence of corporation tax showed an upward trend. Although the sector's engagement with the rest of the world was facilitated by trade and foreign investment related policies, the sector continued to have lower earnings than their expenditure in foreign currencies. The chapter also reports that market valuation remained higher relative to the replacement cost (that is, Tobin's Q exceeding unity), implying that corporate investment decisions were driven by market sentiments. This changing character of the private corporate sector has implications for income distribution as well as for achieving stability in growth.

3.1 Introduction

The milieu in which private corporate sector operates in India had transformed over the years with changes in policies, covering real and financial sectors as well as the external sector, introduced at different points in time and in stages (Rajakumar 2011). In particular, the ushering in of liberal policy measures since the early 1990s had fundamentally altered the institutional framework and redefined the role of the private corporate sector in the economy. This paper examines how the corporate

J. D. Rajakumar (✉)
EPW Research Foundation, Mumbai, India
e-mail: dennisraja@epwrf.in

A. Chakraborty and I. Chakraborty (eds.), *Indian Business Groups and other Corporations*, India Studies in Business and Economics,
https://doi.org/10.1007/978-981-99-5041-6_3

sector had responded to those public policy changes over the last two and a half decades. More specifically, this paper examines the following:

1. Given the far-reaching policy measures aimed at enlarging the role of the private corporate sector in the economy, what has been the contribution of the sector to income, investment, and savings? And also, what has been the structure of the distribution of the sector's income?
2. How have corporates responded to financial sector reforms in terms of their financing practices?
3. In the area of taxation policies of the government, there has been a considerable reduction in the corporate direct tax rate; so what has been the trend in the incidence of corporate tax?
4. An implicit expectation from trade and foreign investment liberalization was that firms would modify their strategies with respect to trade and absorption of improved technology so as to become globally competitive. A vital question here is how have corporates performed in their foreign exchange earnings in relation to their spending?

3.2 Data Sources

For the purpose of analysis, we take recourse to two major sources of data, namely, National Accounts Statistics (NAS) and studies of company finances conducted by the Reserve Bank of India (RBI). The aggregate estimates for the corporate sector, available in the NAS, are used here to understand the growing significance of the sector in the economy in terms of its contribution to national income, savings and investment. However, in order to address several other issues, the relevant aggregate statistics are not available in NAS. And so, this paper additionally relies on RBI's studies of company finances.

Private corporate sector (PCS) in India, until NAS 2004–05 series, comprised of non-government (NG) public and private limited companies (corporate entities) and cooperative societies. However, in the latest NAS 2011–12 series, the canvas of PCS has been enlarged with inclusion of quasi-corporations (QCs), which are economic entities maintaining books of accounts and hitherto were part of household sector. That is, PCS now consists of NG companies, cooperatives and QCs.

The RBI's company studies basically cover the companies' segment of PCS. RBI has three separate studies covering non-government non-financial public limited companies (henceforth, NGNF PLC), NGNF private limited companies (NGNF PTC) and foreign direct investment (FDI) companies.[1] As the ownership structure of

[1] RBI classifies a company under FDI companies' category in which "10 percent or more equity holding by foreign investor/s". This is same as the definition followed in Balance of Payments. See *RBI Monthly Bulletin,* December 2012, p. 2389. This series has begun from the year 1992–93 which gives data for previous two years. As there was no separate study available for 1995–96, data for this year were taken from 1996–97 studies.

these companies, and their economic motives and incentive structure are fundamentally different from each other, it is intriguing to examine how they had individually responded to policy changes.

The RBI studies are based on a sample of companies (Table 3.1). Though the number of companies covered in their NGNF PLC series is a few thousand till 2013–14, their coverage in terms of paid-up capital (PUC) to total PUC of all NGNF PLC at work has been rather high. The coverage used to be nearly one-third in the early 1990s. Though the coverage had declined to nearly one-fifth in the early 2000s, it considerably rose thereafter. In sharp contrast, the coverage of NGNF PTC used to be less than 10% of the total PUC of the companies in this segment, but their coverage had substantially risen to over 30% in the last few years. The coverage of FDI companies,[2] available since 2011–12, has been substantial at 40.4% in 2015–16.

Periodisation

This paper covers about 25 years of reform period starting from 1991–92 to 2015–16. During this period, the NAS' base years had been changed four times to 1993–94, 1999–00, 2004–05 and 2011–12. As noted above, the definition of PCS remained the same till NAS 2004–05 series but changed to include QCs in NAS 2011–12 series. The results based on NAS have therefore been presented for a few time points within each base year for comparison.

In order to present the results based on RBI's studies, we have divided the entire period from 1991–92 to 2015–16 into three distinct phases based on economy's growth performance (Table 3.2). The average annual growth rate of the country's real gross domestic product (GDP) at factor cost was 5.9% during 1992–93 to 2002–03 with a coefficient of variation (CV) of 25%. This was followed by a period of higher growth between 2003–04 and 2010–11, when the average growth rate stood at 8.1% with CV of 13%. The average growth rate of the period 2011–12 to 2015–16 stood at 6.7% (CV: 13.1%), better than Period I. The results based on RBI's studies have been presented as average for these three distinct periods.

3.3 Rising Role of Private Corporate Sector

To gauge the role played by the corporate sector in the economy, we have considered the sector's share in three vital indicators, namely, net domestic product (NDP) at factor cost, gross fixed capital formation (GFCF) and gross savings (Table 3.3).

Share in Domestic Product/Income

In both NAS 1999–2000 and 2004–05 series, NDP is given for organized and unorganized sectors and for public sector separately. Corporate income (that is, corporate NDP) could be derived by subtracting NDP of public sector from that of organized

[2] That is, percentage of PUC of sample FDI companies to PUC of FDI companies as per the RBI's Census of Foreign Assets and Liabilities.

Table 3.1 Coverage of sample companies in RBI studies

Study years	NG NF PLC		NG NF PTC		NG NF FDI companies	
	No of companies	Coverage (in %)	No of companies	Coverage (in %)	No of companies	Coverage (in %)
1990–91	2131	59.8	1096	8.6		
1991–92	1836	41.4	905	6.5		
1992–93	1802	42.2	1005	6.6		
1993–94	1700	38.7	846	na	275	
1994–95	1720	32.6	839	4.8	241	
1995–96	1730	28.8	880	3.4		
1996–97	1930	30.7	853	2.3	268	
1997–98	1948	30.3	883	2	284	
1998–99	1848	29.7	890	2	321	
1999–00	1914	27.3	947	2	334	
2000–01	1927	23	1126	5.4	447	
2001–02	2024	23	1242	8.9	465	
2002–03	2031	20.3	1338	9.6	490	
2003–04	2201	21.48	1365	9.8	508	
2004–05	2214	20.3	1382	7.4	518	
2005–06	2730	na	1257	na	501	
2006–07	3016	na	1259	na	524	
2007–08	3114	na	1475	na	502	
2008–09	3192	35.8	1224	5.5	533	
2009–10	3352	42.9	1642	10.8	533	
2010–11	3,485	34.5	1,850	7.1	745	
2011–12	3,041	30.5	1,741	6.8	766	27.3
2012–13	3,014	26	1,628	6.3	917	18.5
2013–14	4388	32	2,55,426	30.1	957	18.5
2014–15	16,923	29.5	237,398	23.3	3320	21.4
2015–16	19,602	39.9	2,92,308	32.9	6,433	40.4

Note 1. NGNF PLC means non-government non-financial public limited companies, PTC means private limited companies and FDI means foreign direct investment (FDI) companies

2. Coverage refers to percentage of paid up capital (PUC) of sample companies to population puc of respective categories

Source Reserve Bank of India Bulletin, Various Issues

sector. This assumes that whole of unorganized sector is the household sector. In the latest NAS 2011–12 series, income is separately reported for private corporations, public sector and household sector; and income of private corporations is taken as corporate income.

Table 3.2 Rate of change in GDP at factor cost (period average, in %)

Particulars	Period I 1992–93 to 2002–03	Period II 2003–04 to 2010–11	Period III 2011–12 to 2015–16
Period average	5.9	8.5	6.7
CV	25.0	13.0	13.1

Source Based on data extracted from EPWRF India Time Series (www.epwrfits.in)

Overall, the share of PCS in the country's NDP had increased over the years. According to NAS 1999–2000 series, PCS used to contribute 13.1% of NDP in 1993–94, which gradually rose to 20.5% in 2004–05. This has been accompanied by a vast reduction in the share of household sector and of public sector. Further, corporate sector's share in NDP went up from 19.6 to 22.1% between 2004–05 and 2011–12 under NAS 2004–05 series with a simultaneous reduction in the share of public sector, but not so much of household sector.

A major change is noticed in the relative share of PCS in 2001–12 series, according to which the sector's share rose to 33% in 2011–12 compared to 22.1% as per NAS 2004–05 series. Such a rise in the share of PCS is attributable to the broadening of the definition of corporate sector in NAS 2011–12 series under which PCS additionally includes QCs, which were part of household sector till NAS 2004–05 series. This had reflected in the falling share of household sector from 58.5% in 2011–12 under 2004–05 series to 46.2% under NAS 2011–12 series. There is not much change in the share of public sector between the two series. Within NAS 2011–12 series, a rise in the relative share of PCS in the country's NDP is discernible from 33% in 2011–12 to 36.5% in 2015–16. Simultaneously, the share of both public sector and household sector declined. Overall, the relative contribution of PCS to the country's income has increased since the early 1990s, perhaps by nearly three times—partly compensating the declining share of public sector and partly that of the household sector.

Share in Capital Formation

A similar pattern is noticed in the corporate sector's share in the country's GFCF. Household sector used to account for the bulk of capital formation taking place in the economy and, of late, this is increasingly replaced by the PCS. The household sector's share used to be 29.8% of total GFCF in 1993–93 and this rose to 44% by 2004–05 and further to 48% in 2011–12. The share of PCS fluctuated and remained at about 30% of the total till about 2011–12. The sharp reduction in the share of public sector and oscillating share of PCS has been mostly compensated by the steady increase in the share of household sector until 2011–12 under both NAS 1999–2000 and 2004–05 series. The reallocation of QCs to PCS in the NAS 2011–12 series had reflected in the relative share of household dwindling and of PCS rising in 2011–12; for instance, PCS accounted for 29.7% of total GFCF in 2011–12 under NAS 2004–05 series and this jumped to 32.7% as per NAS 2011–2012 series with a commensurate decrease in the share of household sector in that year. As per the latest NAS series, the share

Table 3.3 Institutional category-wise distribution of NDP, GFCF and gross savings (in%)

Indicators	NAS 1999–2000 series						NAS 2004–05 series				NAS 2011–12 series			
	1993–94		1999–2000		2004–05		2004–05		2011–12		2011–12		2015–16	
As % of NDP														
Private corporate sector	13.1		16.7		20.5		19.6		22.1		33.0		36.5	
Public sector	23.7		23.9		22.0		21.6		19.5		20.8		19.2	
Household sector	63.2		59.5		57.5		58.9		58.5		46.2		44.3	
Total NDP	100		100		100		100		100		100		100	
As % of GFCF														
Private corporate sector	30.3	*(6.5)*	27.9	*(6.5)*	33.5	*(9.5)*	31.8	*(9.1)*	29.7	*(9.4)*	32.7	*(11.2)*	37.8	*(11.0)*
Public sector	39.9	*(8.5)*	28.3	*(6.6)*	22.5	*(6.4)*	24.1	*(6.9)*	22.3	*(7.1)*	21.4	*(7.3)*	25.2	*(7.3)*
Household sector	29.8	*(6.4)*	43.8	*(10.2)*	44.0	*(12.5)*	44.2	*(12.7)*	48.0	*(15.2)*	45.9	*(15.7)*	37.0	*(10.8)*
Total GFCF	100.0	*(21.4)*	100.0	*(23.4)*	100.0	*(28.4)*	100.0	*(28.7)*	100.0	*(31.8)*	100.0	*(34.3)*	100.0	*(29.1)*
As % of gross savings														
Private Corporate Sector	15.7	*(3.4)*	18.0	*(4.5)*	21.2	*(6.7)*	20.2	*(6.6)*	23.3	*(7.3)*	37.0	*(12.8)*	46.6	*(14.6)*
Public Sector	5.5	*(1.2)*	−3.2	*−(0.8)*	6.9	*(2.2)*	7.1	*(2.3)*	3.9	*(1.2)*	−5.2	*−(1.8)*	−3.5	*−(1.1)*
Household Sector	78.7	*(17.3)*	85.2	*(21.1)*	71.8	*(22.8)*	72.7	*(23.6)*	72.7	*(22.8)*	68.2	*(23.6)*	56.9	*(17.8)*
Total Gross Saving	100.0	*(21.9)*	100.0	*(24.8)*	100.0	*(31.7)*	100.0	*(32.4)*	100.0	*(31.3)*	100.0	*(34.6)*	100.0	*(31.3)*

Note 1. NDP is net domestic product; GFCF is gross fixed capital formation
2. Figures in brackets are percentages to gross domestic product at market price
Source Based on data extracted from EPWRF India Time Series (www.epwrfits.in)

of PCS in GFCF stood at 37.8% in 2015–16, the largest ever and also higher than that of household sector. Under the same NAS series, while the relative share of PCS and public sector showed a rise, that of household sector a decline. The rising trend in the relative share of household sector has thus been arrested, while the role of PCS showed an appreciable increase between 2011–12 and 2015–16. Remotely this suggests that the investment activities of QCs drive corporate investment in the new series, whereas the companies' segment remains sluggish.

The overall investment rate in the economy (that is, GFCF as percentage of GDP at market price) showed a steady increase in both NAS 1999–2000 and 2004–05 series, from 21.4% in 1993–94 to 31.8% in 2011–12 and this has largely been contributed by household sector. For instance, the GFCF of household sector rose from 6.4% of GDP in 1993–94 to 15.2% in 2011–12, against GFCF of PCS that rose from 6.5% of GDP in 1993–94 to 9.4% in 2011–12 and of public sector that fell from 8.5 to 7.1% during the same period. The vast reduction in GFCF rate from 34.3% in 2011–12 to 28.7% in 2015–16 under NAS 2011–12 series is also accounted by household sector. While investment rate of PCS and public sector remained nearly the same at about 11 and 7.3%, respectively, that of household sector declined from 15.7% in 2011–12 to 10.8% in 2015–16. It is likely that the QCs, which were earlier part of household sector until NAS 2004–05 series, have been the major driver of household sector's investment activities.

Share in Savings

The trend in gross savings of these major institutional sectors, in terms of both their relative share in total savings and their respective savings as percentage of GDP (savings rate), follows nearly the same pattern of the observed trend in the case of GFCF. The level of economy-wide savings rate has gone up over the years, although the rate of increase is higher in NAS 1999–2000 series when it went up from 21.9% of GDP in 1993–94 to 31.7% in 2004–05. In the succeeding NAS 2004–05 series, savings rate showed a moderate decline from 32.4% in 2004–05 to 31.3% in 2011–12 and the rate of decrease is larger in NAS 2011–12 series from 34.6% in 2011–12 to 31.3% in 2015–16. Due to methodological changes effected in NAS 2011–12 series, the savings rate went up in 2011–12. If not for this, the economy would have witnessed a continuous decline in the savings rate.

The corporate savings as percentage of GDP at market price (savings rate) showed an increase from 3.4% in 1993–94 to 7.3% in 2011–12. As per NAS 2011–12 series, corporate savings rate sharply jumped to 12.8% in 2011–12 and further to 14.6% in 2015–16. The same is the case with the sector's share in total savings which stood at 46.6% in 2015–16 compared to 37.0% in 2011–12. Inclusion of QCs in PCS has brought about a major change in the investment—saving balance of household sector as well as of corporate sector. Traditionally, the household sector remained a surplus sector, that is, its savings far exceeded its investment. The PCS remained a deficit sector with its rate of GFCF exceeding its savings rate until 2011–12. In NAS 2011–12 series, however, the sector's savings almost equalled its investment and, more importantly, the sector's savings rate exceeded its investment rate in 2015–16—a new emerging phenomenon. Overall, the dominance of household sector in

the country's savings persists in the latest NAS series, but this is fast getting replaced by PCS, possibly because this sector is now consisting of QCs.

The role of corporate sector in the economy shows an accelerated trend in the recent past, with a concurrent fall in the role of household sector. As noted earlier, the QCs, which were part of household sector till 2004–05 series, have now been included in PCS in the NAS 2011–12 series. This makes it difficult to compare the role of PCS over the years; however, considering both NAS 1999–2000 and 2004–05 series, wherein the definition of PCS remained consistent, the role of PCS has increased in the economy with their contribution to income, investment and savings going up over the years. And, one suggestion spawning from foregoing analysis is that QCs have a much larger role to play in the economy; they make differences to the performance of the institutional sector where it gets included or excluded.

Sectoral shares of corporate income

The distribution of corporate NDP across major economic activities shows how diversified the sector is. It is a pertinent analysis because several policy changes since the early 1990s, aimed at delicensing, de-reserving erstwhile activities reserved for public sector, privatization of public sector units and also easing of FDI policies, had facilitated entry of private players, including foreign companies, into almost all spectra of activities with the exception of public administration and defence. Ideally this should have resulted in diversification of corporate activities, which here is gauged by the analysis of the structure of corporate NDP (Table 3.4).

Manufacturing continues to dominate corporate NDP, though its share declined from about one half in 1993–94 to nearly one-third in 2015–16. A similar declining trend is also noticed in the share of construction from 14.2% of corporate NDP in 1993–94 to 3.2% in 2015–16, and of community, social and personal services from 14.3 to 6.9% during the same period. Concomitantly, the share of real estate and its associated activities showed a steep increase from 2.5% in 1993–94 to 21.0% in 2015–16. The sectoral share of trade, hotels and restaurants also showed a perceptible rise in corporate NDP from 7.0% in 1993–94 to 13.7% in 2015–16 and of transport, storage and communication from 2.4 to 6.8% during the same period.

Although contribution of manufacturing to corporate NDP had come down over the years, the corporate manufacturing contributions to country's manufacturing NDP are not only sizable but have risen over the years, from 45.4% in 1993–94 to 81.4% in 2015–16. Similarly, the sector's share in country's communication NDP, and finance and banking NDP has increased phenomenally; it stands at about three-fourths and nearly one half, respectively, in 2015–16. Thus, not only corporate sector has increased its contribution to NDP but its activities have increasingly become broad based with several tertiary activities having gained prominence. This, indeed, mirrors the expected outcomes of policy changes especially in the real sector.

Distribution of Corporate Income

The observed growing significance of PCS in the economy raises a vital question about distribution of corporate NDP among various factors. In the scheme of NAS,

Table 3.4 Sector-wise distribution of NDP of private corporate sector (in %)

Sector	NAS 1999–2000 Series						NAS 2004–05 Series				NAS 2011–12 Series			
	1993–94		1999–2000		2004–05		2004–05		2011–12		2011–12		2015–16	
Distribution of corporate income across sectors														
Agriculture, forestry and fishing	3.8	*(1.5)*	10.6	*(6.7)*	6.8	*(6.8)*	2.8	(2.8)	2.1	*(2.5)*	1.5	(2.5)	1.5	(2.9)
Mining and quarrying	0.3	*(2.1)*	1.6	*(12.9)*	1.9	*(13.7)*	1.4	(10.0)	0.2	*(2.1)*	1.0	(10.0)	1.3	(20.7)
Manufacturing	51.4	*(45.4)*	38.0	*(49.1)*	35.1	*(52.6)*	29.8	(44.6)	33.3	*(57.6)*	37.8	(79.1)	35.3	(81.4)
Electricity, gas and water supply	−3.4	*−(35.9)*	−2.5	*−(27.9)*	−0.8	*−(16.1)*	0.0	(0.0)	−0.3	*−(8.6)*	1.3	(24.6)	1.6	(27.1)
Construction	14.2	*(33.6)*	9.3	*(24.9)*	10.3	*(26.0)*	10.5	(24.9)	9.9	*(25.1)*	3.9	(12.6)	3.2	(14.1)
Trade, hotels and restaurants	7.0	*(6.6)*	12.1	*(13.0)*	15.7	*(18.2)*	18.5	(20.6)	15.5	*(18.3)*	14.4	(41.1)	13.7	(41.9)
Transport, storage and communication	2.4	*(5.8)*	1.8	*(4.6)*	2.2	*(5.9)*	4.7	(11.1)	4.9	*(15.1)*	6.8	(34.9)	6.8	(36.6)
Communication							1.3	*(16.8)*	1.4	*(35.2)*	3.1	(64.3)	3.6	(72.3)
Financing, insurance, real estate and business services	10.1	*(11.5)*	18.8	*(23.6)*	20.0	*(29.3)*	23.5	(30.6)	27.9	*(36.5)*	27.5	(48.9)	29.8	(53.4)
Banking and insurance	7.6	*(17.3)*	12.3	*(32.0)*	9.4	*(30.4)*	10.4	*(31.9)*	9.2	*(32.0)*	9.6	(47.9)	8.8	(50.4)

(continued)

Table 3.4 (continued)

Sector	NAS 1999–2000 Series						NAS 2004–05 Series				NAS 2011–12 Series			
	1993–94		1999–2000		2004–05		2004–05		2011–12		2011–12		2015–16	
Real estate, ownership of dwelling and professional services	2.5	*(5.8)*	6.5	*(15.7)*	10.6	*(28.3)*	13.1	*(29.7)*	18.8	*(39.3)*	17.9	(49.4)	21.0	(54.8)
Community, social and personal services	14.3	*(15.0)*	10.3	*(11.2)*	9.0	*(12.7)*	8.8	(12.3)	6.5	(10.3)	5.8	(28.5)	6.9	(32.8)
Total	100	*(13.1)*	100	*(16.7)*	100	*(20.5)*	100	(19.6)	100	(22.1)	100	(33.0)	100	(36.5)

Note Figures in brackets are percentage income shares of corporates in the NDP of the respective sectors
Source Based on data extracted from EPWRF India Time Series (www.epwrfits.in)

factor incomes are reported as the sum of compensation to employees (CEs), operating surplus (OS) of organized sector and mixed income (MI) of unorganized sector. In particular, the operating surplus itself is the "sum total of property incomes (rent and interest) and residuals (profit and loss)" (CSO 2007, p. 312). Following a similar scheme, we have worked out factor shares in NDP (Table 3.5).

Overall, the CE as percentage to total NDP has gone up in the economy in all the successive NAS series. While the share of operating surplus has also been observed to have increased, the increase is sharper in NAS 2011–12 series, with a commensurate decline in the share of mixed income. In total corporate NDP, the share of operating surplus has risen over the years; it stood at 56.2% of corporate NDP in 1993–94 which subsequently rose to 68.5% in 2004–05 under NAS 1999–2000 series. It remained at 67.5% of corporate NDP between 2004–05 and 2011–12 as per NAS 2004–05 series. However, it witnessed a fall from 66% of corporate NDP in 2011–12 to 63.3% in 2015–16 under NAS 2011–12 series. Conversely, the share of CE, which was 43.8% in 1993–94, remained at little over one-third of corporate NDP throughout with some increase in NAS 2011–12 series. In sharp contrast, public sector NDP is dominated by CE accounting for about three-fourth in the last two decades or so. The share of CE in household NDP gradually went up over the years; from 18.6% in 1993–94 to 23.3% in 2004–05 in NAS 1999–2000 series and from 20.9% in 2004–05 to 22.4% in 2011–12 under NAS 2004–05. However, in the latest NAS 2011–12 series, the same declined from 23.1% in 2011–12 to 20.7% in 2015–16. Thus, the rising share of CE in household sector NDP and decreasing share of CE in corporate NDP has been arrested in NAS 2011–12 series.

The relative share of corporate's CE in country's NDP showed a gradual and marginal increase; that is, from 5.8% in 1993–94 to 6.5% in 2004–05 as per NAS 1999–2000 series, and 6.3% in 2004–05 to 7.2% in 2011–12 as per NAS 2004–05 series. In the following NAS 2011–12 series, it jumps to 11.2% in 2011–12, which further increases to 13.4% in 2015–16. The rate of increase in the share of operating surplus of PCS in country's NDP also exhibited a similar trend, but the pace of increase is rapid between 1993–94 and 2004–05, when it nearly doubled from 7.4 to 14.1%. More interestingly, operating surplus of PCS stood at 14.9% of country's NDP in 2011–12 under NAS 2004–05 series and this jumped up by a huge margin to 21.8% under NAS 2011–12 series. No major changes in 2011–12, the overlapping year of the last two NAS series, have been noticed with respect to the individual relative shares of factor income of public sector in total NDP. However, the sharp rise in the relative share of these individual components of corporate NDP in 2011–12 under NAS 2011–12 series compared to that of NAS 2004–05 series has been accompanied by a concomitant decline in these respective components of household NDP. The vast reduction in the mixed income as percentage of NDP thus also suggests that the reallocation of QCs to PCS from household sector in NAS 2011–12 series has enhanced the role of PCS and reduced the importance of household sector. Furthermore, the rising tendency of CEs in corporate NDP and its declining tendency in household NDP is also an outcome of the inclusion of QCs in PCS reduction. More so, the surge in the growing importance of PCS as per NAS

Table 3.5 Institution-wise factor shares in NDP (in %)

Indicators	NAS 1999–2000 series						NAS 2004–05 series				NAS 2011–12 series			
	1993–94		1999–2000		2004–05		2004–05		2011–12		2011–12		2015–16	
Private corporate sector	100	*(13.1)*	100	*(16.7)*	100	*(20.5)*	100	*(19.6)*	100	*(22.1)*	100	*(33.0)*	100	*(36.5)*
Compensation to employees	43.8	*(5.8)*	34.3	*(5.7)*	31.5	*(6.5)*	32.5	*(6.3)*	32.5	*(7.2)*	34.0	*(11.2)*	36.7	*(13.4)*
Operating surplus	56.2	*(7.4)*	65.7	*(10.9)*	68.5	*(14.1)*	67.5	*(13.2)*	67.5	*(14.9)*	66.0	*(21.8)*	63.3	*(23.1)*
Public sector	100	*(23.7)*	100	*(23.9)*	100	*(22.0)*	100	*(21.6)*	100	*(19.5)*	100	*(20.8)*	100	*(19.2)*
Compensation to employees	68.9	*(16.3)*	77.4	*(18.5)*	72.9	*(16.0)*	73.1	*(15.8)*	76.8	*(15.0)*	72.5	*(15.1)*	76.2	*(14.6)*
Operating surplus	31.1	*(7.4)*	22.6	*(5.4)*	27.1	*(6.0)*	26.9	*(5.8)*	23.2	*(4.5)*	27.5	*(5.7)*	23.8	*(4.6)*
Household sector	100	*(63.2)*	100	*(59.5)*	100	*(57.5)*	100.0	*(58.9)*	100	*(58.4)*	100	*(46.2)*	100	*(44.3)*
Compensation to employees	18.6	*(11.7)*	22.2	*(13.2)*	23.3	*(13.4)*	20.9	*(12.3)*	22.4	*(13.1)*	23.1	*(10.6)*	20.7	*(9.2)*
Mixed Income	81.4	*(51.5)*	77.8	*(46.3)*	76.7	*(44.1)*	79.1	*(46.6)*	77.6	*(45)*	76.9	*(35.5)*	79.3	*(35.2)*
NDP–total	100		100		100		100		100		100		100	
Compensation to employees	33.8		37.4		35.9		34.4		35.2		36.9		37.2	
Operating surplus	14.7		16.3		20.0		19.0		19.4		27.5		27.7	
Mixed income	51.5		46.3		44.1		46.6		45.3		35.5		35.2	

Note Under 1999–2000 and 2004–05 series, the entire unorganised sector was treated as household sector; and private corporate was obtained by substracting public sector from organised sector. Figures in brackets are percentage to total NDP

Source Based on data extracted from EPWRF India Time Series (www.epwrfits.in)

2011–12 series compared to the previous NAS series is more statistical largely owing to the fact that the sector now additionally includes QCs.

More evidence on the distribution of corporate income

As noted above, the operating surplus of PCS showed a huge rise as percentage of corporate NDP as well as of country's NDP. As operating surplus in the NAS consists of property income and profit/loss, we need to have a further break up. An advantage of RBI's company studies is the possibility of deriving net value added (NVA equivalent to the concept of NDP) of its sample companies. RBI defines NVA as the sum total of (a) salaries, wages and bonus, (b) provident fund, (c) employee welfare expenses, (d) managerial remunerations, (e) rent paid net of rent received, (f) interest paid net of interest received, (g) tax provisions, (h) dividends paid net of dividends received and (i) retained profit net of non-operating surplus/deficit. Adding (a) to (d) gives total emoluments representing the CE. While rent and interest taken together represent property incomes, dividends and retained profit represent profit/loss. This detailed information helps to gain further insights into the distribution of corporate income across different types of companies (Table 3.6).

Table 3.6 Distribution of net value added, period averages

Types of companies	Period I	Period II	Period III	Period I	Period II	Period III
	Net value added (NVA) as % of sales			Total emoluments as % of NVA		
NGNF PLC	19.3	20.1	20.1	44.5	38.1	40.2
NGNF PTC	18.4	17.9	17.6	55.9	51.0	50.8
All companies	19.3	19.9	18.8	44.8	38.8	41.6
FDI companies	22.0	21.0	20.9	47.3	38.6	46.0
	Rent as % of NVA			Interest expenses as % of NVA		
NGNF PLC	3.4	3.1	3.2	25.7	10.0	12.2
NGNF PTC	3.8	4.5	5.9	16.2	7.1	8.1
All companies	3.4	3.2	3.8	25.4	9.9	11.2
FDI companies	3.1	3.7	4.9	13.3	5.5	8.7
	Tax provisions as % of NVA			Profit after tax as % of NVA		
NGNF PLC	9.1	13.9	11.9	17.2	34.9	32.4
NGNF PTC	10.0	13.8	10.8	14.1	23.6	24.4
All companies	9.2	13.9	11.7	17.2	34.3	31.8
FDI companies	14.9	17.8	12.7	21.4	34.4	27.6

Note 1. NGFC PLC refers to non-government non-financial public limited companies
2. NGFC PTC refers to non-government non-financial private limited companies
3. All companies includes NGFC PLC and NGFC PTC
4. FDI companies refers to foreign direct investment companies
Source Author's calculations based on RBI's studies of company finances

To begin with, we have worked out NVA as percentage to sales (representing corporate output). The NVA remained at about 19% to 20% of sales revenue in the case of NGNF PLC, whereas it is about 18% for NGNF PTC. Although NVA as percentage of sales revenue remained higher in FDI companies, it showed a declining trend from 22% in the 1990s to about 21% thereafter. This shows that input intensity is relatively low in FDI companies. Overall, there is not much change in the input intensity of corporates over the years. Perhaps, this points out to the large-scale presence of companies in services segment which use relatively lesser inputs.

The overall trend in the share of total emoluments in NVA shows a decline, mirroring the observed trend using NAS data. This has come down during 2003–04 to 2010–11 (Period II) but risen in 2011–12 to 2015–16 (Period III) in the case of NGNF PLC and FDI companies, whereas it shows continuous decline in the case of NGNF PTC, though nearly one half of NVA of PTC is accounted by emoluments to employees. It is interesting to note that when economy's growth rate accelerated in Period II, the share of emoluments in corporate income came down.

The share of tax provision (claims of government in corporate income) shows an upward trend in Period II but declined in Period III. The FDI companies had relatively higher tax share in their income. At 14.9% of NVA, the tax share of FDI companies used to be substantially higher in Period I, but tended to converge to that of other companies; of late, differences in tax share are not much across different sets of companies.

The share of interest in NVA (claim of lenders in corporate income) showed a sharp decline during Period II in all categories of companies, only to marginally rise in Period III. The FDI companies have relatively lower interest share. Rent share in NVA oscillated around 3% throughout in the case of NGNF PLC, whereas it steadily rose by about two percentage points each in other companies. Taken together, share of interest and rent (property incomes) in companies NVA fell in Period II due to the sizable reduction in interest share, though it showed a small increase in Period III over Period II. In sharp contrast, there is a considerable increase in profit share in NVA of all sample companies, which has nearly doubled from 17.2% in Period I to 34.3% in Period II, though marginally declined thereafter to 31.8% in Period III. The profit share of FDI companies was comparatively higher; 21.4% in Period I, 34.4% in Period II and 27.6% in Period III. While a similar trend is observed in case of NGNF PLC, the profit share of NGNF PTC showed a steady rise from 14.1% in Period I to 23.6% in Period II and further to 24.4% in Period III.

Like in NAS, property incomes (sum of interest and rent) and profit were added to arrive at an operating surplus. As percentage of NVA of these companies, operating surplus remained at 46% in Period I, 47.4% in Period II and 46.7% in Period III. Thus, the marginal increase noticed in the share of emoluments in Period III over Period II has been an outcome of the reduction in tax share of companies. More importantly, the rising share of profit in corporate NVA reflects the observed trend in operating surplus in corporate NDP according to the NAS data.

Though profit share in corporate income has increased, there is a vast reduction in interest with rent remaining nearly the same. To explain this phenomenon, it is important to analyze financing practices; a priori, if corporates reliance on own

resources is larger, their share is likely to increase in the corporate income. We have probed corporate profitability further to examine if the increased profit share (that is, of shareholders) in corporate income reflects an increase in market power.

3.4 Changing Corporate Financing Practices

In so far as capital market reform measures initiated in the early 1990s were concerned, the removal of control over capital issues was a landmark one. Prior to this, capital issues of companies had to adhere to various guidelines as formulated by Controller of Capital Issues (CCI) from time to time. Companies were required to seek prior approval of CCI for fixing the issue price as well as quantum of resources to be raised from the market. With the move toward financial liberalisation, it was found that the practice of Government control over capital issues as well as pricing of issues including premium fixation had lost its relevance (Union Budget 1992–93). As a result, CCI was abolished in 1992, which ended an era of government's control over the volume and pricing of capital issues. Companies were allowed to approach the market directly, provided Securities and Exchange Board of India (SEBI),[3] which was established in 1988, cleared their offer documents. Foreign institutional investors were allowed to transact in the stock exchanges with a view to infuse more foreign savings into Indian capital market. As for banking sector, reserve requirements of commercial banks were progressively reduced, entry of private sector into banking sector was allowed, issue of fresh capital by banks to public through capital market was encouraged and interest rates on bank advances was almost freed (Reddy 1999). Commercial banks were allowed to pursue lending activities under the dictates of market forces. The erstwhile term lending institutions became commercial banks and technically they ceased to exist (Nayyar 2015). In response to these changes affecting the financial sector, the composition of sources of companies' finances also changed.

Rising Reliance on Own Resources

Though there can be several sources of funds that companies could take recourse to, debt and equity are the prominent ones.[4] While debt is borrowed capital,[5] equity is

[3] Securities and Exchange Board of India (SEBI) was established on April 12, 1988 with the objective to promote an orderly and healthy development of the securities markets and to provide adequate investor protection.

[4] After examining structure of sources of funds of NGNF PLC, using RBI data, Rajakumar (2014b) noticed that depreciation provision and trade credit were other major sources of funds. While depreciation related to fiscal measures, trade credit to credit practices. Considering the present context, the analysis is confined to borrowings and equity, which directly reflect corporate's response to developments in the financial sector.

[5] The debt here includes both long term and short term borrowings from banks and other financial institutions and also by issue of securities such as debentures.

shareholders' fund or net worth comprising share capital and reserves and surplus, also broadly known as own resources (Table 3.7).

In order to understand the importance of debt vis-à-vis equity, we have expressed each of these as percentage to total liabilities. In NGNF PLC, net worth accounted for about 37.5% of total liabilities in Period I and this rose by 4.4 percentage points to 41.9% in Period II and by 1.8 percentage points to 43.7% in Period III. FDI companies have relatively higher net worth as percentage of total liabilities. For all companies together, the trend is in line with that of NGNF PLC. Simultaneously, borrowing to total liabilities has gone down from 39.7% in Period I to 32.7% in Period II and further down to 29.7% in Period III. Every category of companies witnessed a reduction in their reliance on borrowings in Period II, with the exception of NGNF PTC in Period III. Thus, the reliance of corporates on borrowing has come down whereas on own resources has gone up.

As mentioned above, own resources include share capital and reserves and surplus, which companies owe to shareholders. While analyzing the importance of various sources of funds in the 1990s, Rajakumar (2014b) noticed that share of "fresh issue of share capital" had contributed 19% of total funds. The "fresh issues of share capital" have two components, namely, "net issues" (face value) and "premium on shares." The premium component alone accounted for 14.2% of total funds in the 1990s. With the increased thrust on the equity market in the 1990s, Rajakumar (2014b) argued that the significance of "fresh issues of share capital," particularly of "premium," as a source of funds, has become a hallmark of corporate financing in India since the 1990s.

Table 3.7 Net worth and borrowings as % of total liabilities

Types of companies	Period I	Period II	Period III	Period I	Period II	Period III
	Net worth as % of total liabilities			Borrowings as % of total liabilities		
NGNF PLC	37.5	41.9	43.7	39.7	32.7	29.7
NGNF PTC	33.8	42.3	40.8	34.3	28.3	30.9
All companies	37.5	42.0	42.9	39.5	32.5	30.2
FDI companies	41.5	46.0	44.3	28.6	26.0	25.9
	Net worth + borrowings as % of total liabilities			Debt to equity ratio		
NGNF PLC	77.1	74.6	73.4	1.07	0.78	0.68
NGNF PTC	68.1	70.6	71.7	1.09	0.67	0.76
All companies	77.0	74.5	73.2	1.07	0.78	0.70
FDI companies	70.1	72.0	70.1	0.70	0.57	0.59

Note 1. NGFC PLC refers to non-government non-financial public limited companies
2. NGFC PTC refers to non-government non-financial private limited companies
3. All companies includes NGFC PLC and NGFC PTC
4. FDI companies refers to foreign direct investment companies

Source Author's calculations based on RBI's studies of company finances

The rise in net worth versus debt has been reflected in the falling debt equity ratio of companies, which stood below 1 in the recent decade. The reduction in companies' reliance on borrowings by companies had reflected in the reduced interest share in companies NVA, whereas the increased reliance on net worth had resulted in an increase in profit share. Thus, the changing financing practices of companies have contributed to the rise in the operating surplus of corporates and, more specifically, to the observed rise in profit share and not so much of property incomes such as interest and rent. A related question here is whether the increased recourse to own fund is aided by rising profitability per se.

Trends in Profitability of Corporate Sector

Profitability could be viewed either at the operational level without considering the effects of financing decisions (known as operating profit) or after allowing for these financial aspects of the business (known as net profit). Thus, there are four measures of profit, namely, earnings before interest, taxes and depreciation and amortization (EBITDA), earnings before interest and taxes (EBIT), profit before tax (PBT) and profit after tax (PAT). When they are related to sales, they basically measure profit margin representing the extent of market power.

The level of profit margin stood higher in Period II and III compared to Period I (Table 3.8). This has been characterized by all types of companies, though FDI companies witnessed a marginal fall in profit margin in Period III. In particular, PAT as percentage to sales showed an appreciable increase in the case of NGNF PLCs over the years. For these companies, PAT to sales used to be 4.6% in Period 1, which went up to 8% in Period II and it stood at 7.7% in Period III. Though NGNF PTC and FDI companies demonstrated a similar trend, the magnitude of increase in these companies was lower than that of NGNF PLCs. Results of all sample companies showed fluctuating trend, that is, from 4.6% in Period I to 7.8% in Period II to 6.8% in Period III. Profit margin, howsoever measured, is seen moving in tandem with the economic growth, which was higher during Period II. Profit margin in fact reflects market power and, thus, reforms have resulted in corporates gaining market power that too when the economy is more buoyant.[6] This is baffling because the reform measures were expected to fuel competition in the economy.

Trends in Tobin's Q

The dependence on own resources, including resources mobilized from stock market, was observed to have gone up. A related question here is if firms' valuation in stock market is influenced by long-term growth, which can be well captured by Tobin's Q, given as.

$$\text{Tobin's Q} = \text{Market Value} / \text{Replacement Cost}$$

[6] Rajakumar (2014d) noticed that profit margin tended to contract when manufacturing cost rose due to higher inflation and so argued that the inability of companies to pass on burden of rising cost to customers was an indication of weak market power of companies in general.

Table 3.8 Trends in profit margin (as % of sales)

Types of companies	Period I	Period II	Period III	Period I	Period II	Period III
	EBITDA			EBIT		
NGNF PLC	12.8	13.5	13.7	11.6	12.9	13.5
NGNF PTC	7.8	9.0	9.1	8.0	8.7	8.7
All companies	12.6	13.2	12.1	11.5	12.7	12.2
FDI companies	12.6	13.8	13.6	12.2	13.2	11.9
	Profit before tax			Profit after tax		
NGNF PLC	6.4	10.8	10.0	4.6	8.0	7.7
NGNF PTC	5.3	7.2	6.4	3.4	4.7	4.5
All companies	6.3	10.6	9.0	4.6	7.8	6.8
FDI companies	9.3	12.3	9.4	6.1	8.5	6.8

Note EBITDA refers to earnings before interest, taxes and depreciation & amortization
2. EBIT refers to earnings before interest and taxes
3. NGFC PLC refers to non-government non-financial public limited companies
4. NGFC PTC refers to non-government non-financial private limited companies
5. All companies includes NGFC PLC and NGFC PTC
6. FDI companies refers to foreign direct investment companies
Source Author's calculations based on RBI's studies of company finances

The above definition relates stock market valuation to investment behavior of firms which is dictated by long-term growth. If the ratio is greater than one, (Q > 1), there is an incentive to invest because expected earnings from invested assets are high. We, therefore, estimate Tobin's Q for RBI sample companies.

Construction of Market Value and Replacement Cost of RBI Sample Companies

Items reported in the balance sheets of companies, particularly those relating to long-term liabilities and fixed assets are reported as per their historical value. Net worth, as reported in the balance sheet of a company, need not reflect market value of equity of that company. While one may argue that a company would have invested the amount as shown in balance sheet, book value of equity should be taken as such. However, investors' expectation from the company is based on its current market value, which depends upon the expected stream of earnings they are likely to get from the invested assets. This determines the enterprise value and so we need to find out market value of any item under consideration. In line with this rationale, market value of long-term liabilities as well as replacement cost of RBI sample companies had been worked out as follows.

Market value of equity of a company is its market capitalisation (MK) defined as number of equity shares (N) times current market price of a share (P), that is, MK = N*P. Information on MK and N of samples companies is not available from RBI studies. To convert book value of equity capital into market value, we rely on price to earnings (P/E) ratio, where earnings represent earnings per share (EPS) defined as PAT divided by N.

Let P/E ratio be denoted by X and so X = P/EPS
Therefore, X = P/(PAT /N) or X = (P*N)/PAT
Rewriting it, we have

$$X * PAT = P * N$$

where P*N is the market capitalisation (MK).

To arrive at the MK of sample companies, we need their respective PAT and P/E ratio (or X). While PAT of RBI sample companies is available, P/E ratio is not, for which we consider P/E ratio of NSE 500 companies as a proxy. For its studies, RBI covers more than 3,000 companies and so it is believed that P/E ratio of NSE 500 companies[7] would better represent P/E ratio of a large number of companies.

Using this, we first estimate the MK of RBI sample companies, as:

$$MK_{\text{RBI Sample}} = PAT_{\text{RBI Sample}} * \text{P/E Ratio of NSE 500}$$

In order to arrive at the market value RBI sample companies, we add their preferred capital and debt. That is,

$$\text{Market Value}_{\text{RBI Sample}} = MK_{\text{RBI Sample}} + \text{Preferred Capital}_{\text{RBI Sample}} + \text{Debt}_{\text{RBI Sample}}$$

Since preferred capital and corporate debts are not actively traded, we have considered their book value.

Replacement cost of assets basically refers to current value of fixed assets and inventory. Fixed assets are acquired at different vintage points and, because companies follow the cost principle of accounting, these assets are reported in balance sheet in terms of their purchase or historic price. To arrive at their replacement value, historic price of assets needs to be converted into their respective current value—a process widely known as capital stock estimation. By following the perpetual inventory method (PIM), attempts have been made to build up capital stock at the firm level as well as at the aggregate level.[8] Since RBI studies do not provide firm wise information and they are sample based, it is not feasible to follow PIM. Thus, to arrive at the replacement cost of asset we follow an indirect approach.

In the NAS, net fixed capital stock (NFCS) and net fixed capital formation (NFCF) data are available for PCS as a whole. Given that capital formation is a counterpart of capital stock, we assume a relationship between NFCF and NFCS. Thus, the ratio of $NFCS_{PCS}$ to $NFCF_{PCS}$ is considered as the factor[9] for arriving at the replacement cost of assets of RBI sample companies. The changes in net fixed assets (NFA),

[7] They include financial and government companies as well. P/E ratio is as of financial year end, collected from the website of National Stock Exchange (NSE) (www.nseindia.com).

[8] For firm level, see Rajakumar (2005); and for aggregate level, see Central Statistical Organisation (2012).

[9] This is based on data extracted from EPWRF *India Time Series.*

Table 3.9 Trends in Tobin Q

Types of companies	Period I	Period II	Period III
NGNF PLC	1.0	2.0	1.6
NGNF PTC	1.0	2.0	1.4
All companies	1.0	2.0	1.5
FDI companies	2.3	2.5	1.6

Note 1. NGFC PLC refers to non-government non-financial public limited companies
2. NGFC PTC refers to non-government non-financial private limited companies
3. All companies includes NGFC PLC and NGFC PTC
4. FDI companies refers to foreign direct investment companies
Source Author's calculations based on RBI's studies of company finances

reported in the combined balance sheet of RBI studies, basically represent NFCF at the sample level.[10]

We have taken the book value (BV) of inventory as part of the replacement cost. We assume here that firms follow First-in First-out (FIFO) approach to managing inventories and so their book value may not significantly change between one year and the succeeding year.

Replacement cost of RBI sample companies has thus been worked out as

$$\text{Replacement Cost}_{\text{RBI Sample}} = \left[\text{Change in NFA}_{\text{RBI Sample}} * (\text{NFCS}_{\text{PCS}}/\text{NFCF}_{\text{PCS}})\right] + \text{BV of Inventory}_{\text{RBI Sample}}$$

Using the estimates of market value and replacement cost, Tobin's Q has been worked out for RBI sample companies (see Table 3.9). A few observations are in order. Firstly, the period averages of Tobin's Q remained more than one for all categories of companies in all periods. Secondly, the movements in Tobin's Q are in line with that of the economy's growth; that is, Period II reportedly has a higher Tobin's Q, followed by Period III and then Period I. Finally, Tobin's Q has remained higher in Period II and III compared to Period I.

As noted above, if Tobin's Q is higher than 1, it would mean that market value is better in relation to replacement cost and this would bolster investment activities. Tobin's Q remained greater than 1 throughout and this indicates that stock market valuation drives corporate investment activities.[11] It is rather not surprising given the

[10] For estimating capital formation, CSO considers only reproducible tangible assets such as buildings, machinery and equipment and it excludes non-reproducible tangibles assets such as land (CSO, 2012). In the balance sheets, companies report land as part of their fixed assets and we have retained it as part of NFA, as it is very much part of firms replacement cost.

[11] Following a similar approach and using RBI's studies of NGNF PLC for the period 2005–06 to 2012–13, Rajakumar (2014d) estimated Tobin's Q for these companies and found the correlation coefficient between Tobin's Q and growth rate of gross capital formation of PCS to be 0.890 and between Tobin's Q and growth rate of GFCF of PCS to be 0.879.

overwhelming reliance of companies on own resources, that is shareholders' fund, over the years. This also reflects an increased share of profit in corporate NVA as well; profit after tax accrues to shareholders/owners of companies.

3.5 Trends in Incidence of Corporate Tax

Reducing corporate direct tax structure and rationalization of tax incentives were integral parts of economic reforms. For a long time, companies in India faced relatively high level of direct tax structure; for instance, statutory tax rate (STR) faced by domestic companies was as high as 59.13% in 1980–81, though it was gradually reduced to 54.0% in 1989–90 (Rajakumar 2014c). Taking cognizance of the tax rate spread of 24 such countries, the Tax Reform Committee (Chariman: Raja J. Chelliah) considered corporate tax rate of 40% as reasonable, though it was of the opinion that 35% would be attractive to investors (Government of India 1992, p. 11). In line with the Committee's recommendation, corporate STR has been gradually reduced since then. Simultaneously, with reduction in corporate STR, several erstwhile tax concessions were discontinued, but a few items such as depreciation allowance and tax holidays continued.

Incidence of corporate tax can be measured by effective tax rate (ETR), which is tax provisions expressed as percentage of PBT. The ETR as percentage of STR reveals the extent of tax incidence compared to the government's stipulated tax rates. Higher the ratio, larger is the tax incidence.

The period averages of STR stood at 43.3, 34.9 and 33.3%, respectively, for all the three periods.[12] Thus, compared to Period I, the STR stood lesser by 8.4 percentage points in Period II. In line with this, the period averages of ETR of all sample set of companies have come down (Table 3.10). The reduction in the ETR in Period II is by 4.7 percentage points in FDI companies, by 2.8 percentage points in NGNF PLC and by 0.8 percentage points among NGNF PTC. The declining trend continued in Period III as well, although by a small margin of 0.8 percentage points in the case of NGNF PLC and by 1.8 percentage points among FDI companies and by 2.9 percentage points in case of NGNF PTC. However, the ETR as percentage of STR showed a sharp rise in Period II. Despite a marginal fall in the ETR as percentage of STR in Period III compared to Period II in NGNF PTC and FDI companies, the level remained higher in Period III compared to Period I. This suggests that incidence of corporate tax has gone up over the years. In other words, the reduction in STR has been positively responded by corporates and this also reflected in tax provisions as

[12] Under Income Tax Act, any company incorporated in India is a domestic company, whether it has a foreign holding or not. A unit set up by a foreign company in India can well be a subsidiary which is incorporated in India, in which case it would be considered a domestic company.

The STRs have been collected from Finance Bill, accompanying Union Budget of Government of India, of the relevant financial years. The STR refers to mandatory Corporate Tax Rate. Additionally, it includes Surcharge, Education Cess, and Secondary and Higher Education Cess, as they were stipulated from time to time.

Table 3.10 Trends in effective tax rate (in %)

Types of companies	Period I	Period II	Period III	Period I	Period II	Period III
	Effective tax rate			Effective tax rate as % of statutory tax rate		
NGNF PLC	28.8	26.0	25.2	69.0	74.5	76.1
NGNF PTC	35.1	34.3	31.4	82.0	98.6	95.2
All companies	28.9	26.3	25.2	69.2	75.4	76.0
FDI companies	35.4	30.7	28.9	82.5	87.9	87.1

Note 1. NGFC PLC refers to non-government non-financial public limited companies
2. NGFC PTC refers to non-government non-financial private limited companies
3. All companies includes NGFC PLC and NGFC PTC
4. FDI companies refers to foreign direct investment companies
Source Author's calculations based on RBI's studies of company finances

percentage of these companies' respective NVA remaining higher in Period II and III compared to Period I (Table 3.6).

Tax Avoidance Declines

A related question here with whether reduction in STR has been accompanied by a reduction in the tax avoidance practices by companies. Broadly, there are two ways of avoiding tax, one, by adjusting capital (financing) structure and, two, by benefiting from several tax relief measures in force from time to time in order to keep up the tempo of corporate investment.[13]

In studies of capital structure, it is widely argued that firms opt for debt financing because interest expenses were allowed to be deducted from current revenue and to the extent debt financing helps to shield their income (Fama and Miller 1972). The reasoning is that a large amount of interest outgo would erode the PBT, the basis for computing tax liabilities, and so heavy interest payments would reduce tax liabilities of companies. In the previous section, we had observed that debt as percentage of total liabilities had considerably come down over the years. Side by side, the interest payments as percentage of EBIT also showed a sharp decline in Period II, though showed a marginal rise (Table 3.11). For all companies together, interest payments to EBIT dropped from 52.3% in Period I to 21.9% in Period II, though it rose thereafter to 28.7% in Period III. Compared to Period I, interest burden remained considerably lower; which is largely an outcome of reduction in corporate reliance on borrowings.

The extent of interest outgo depends upon cost of borrowing and reliance on debt financing. Cost of borrowing can be measured by relating interest expenses to total borrowing. That is,

$$\text{Nominal cost of debt} = \text{Interest expense} / \text{Borrowings} * 100$$

[13] Although companies in India faced high direct tax rates, they were given several tax reliefs and concessions, mostly linked to investment, such as depreciation allowance, investment allowance, tax holidays, loss carry forward, etc., so as to facilitate generation of funds internally. For further details, see Rajakumar (2009).

Table 3.11 Trends in interest payments as % of earnings before interest and taxes

Types of companies	Period I	Period II	Period III
NGNF PLC	52.5	21.9	28.9
NGNF PTC	54.6	22.0	30.4
All companies	52.3	21.9	28.7
FDI companies	31.7	14.1	24.7

Note 1. NGFC PLC refers to non-government non-financial public limited companies
2. NGFC PTC refers to non-government non-financial private limited companies
3. All companies includes NGFC PLC and NGFC PTC
4. FDI companies refers to foreign direct investment companies

Source Author's calculations based on RBI's studies of company finances

Although it is common to consider nominal cost of debt, what matters is net-of-corporation-tax cost of debt (Patil 1979). That is, effective cost of debt which is arrived at after netting out tax benefits arising out of interest deductibility from interest payment. That is,

$$\text{Effective cost of debt} = (\text{Interest expense} - (\text{STR} * \text{Interest expense})) / \text{Borrowings} * 100$$

If cost of borrowing rises, debt becomes costlier, which is likely to reduce the importance of debt vis-à-vis own resources. As shown in Table 3.12, nominal cost of debt of companies across the board has substantially come down in Period II, when borrowings to total liabilities also have gone down. During the same period, effective cost of borrowing has also gone down. Both nominal and effective cost of borrowing registered some increase in Period III, although the level is considerably lower compared to Period I. More importantly, the spread between nominal and effective cost of borrowing has narrowed down substantially in Period II and III. Reduction in the cost of debt should have induced companies to rely more on borrowings. On the contrary, despite the reduction in effective cost of debt, the proportion of borrowings in total liabilities has gone down. This reveals that companies avoided tax by debt financing when STR ruled high, and simultaneously with reduction in the STR over the years, debt has become somewhat unattractive as an instrument to shelter corporate income. This has been facilitated by policies favoring equity financing by companies.

We now proceed to examine the extent of tax avoidance due to tax savings arising out of several tax reliefs and concessions, which can be estimated by first working out the difference between STR and ETR and then applying this on PBT. When the resultant values are expressed as percentage of PAT, they provide insights into extent of tax avoidance practices by resorting to several tax reliefs. That is,

$$\text{Tax savings from tax relief measures} = ((\text{STR} - \text{ETR}) * \text{PBT})) / \text{PAT}\ 100$$

Table 3.12 Trends in cost of borrowing (in %)

Types of companies	Period I	Period II	Period III	Period I	Period II	Period III
	Nominal cost of borrowing			Effective cost of borrowing		
NGNF PLC	11.4	6.6	8.7	6.4	4.3	5.8
NGNF PTC	12.1	7.3	7.2	6.8	4.8	4.8
All companies	11.4	6.6	8.2	6.4	4.3	5.4
FDI companies	13.3	6.2	9.0	7.4	4.0	6.0

Note 1. NGFC PLC refers to non-government non-financial public limited companies
2. NGFC PTC refers to non-government non-financial private limited companies
3. All companies includes NGFC PLC and NGFC PTC
4. FDI companies refers to foreign direct investment companies
Source Author's calculations based on RBI's studies of company finances

The tax savings from several tax relief measures stood very high as percentage of PAT in Period I and then declined substantially in Period II (Table 3.13). It may be recalled that corporate STR remained low in Period II compared to Period I. Although this has gone up in Period III, it is still far from what has been observed in Period I. This may be partly due to reduction in direct tax rates which would have increased the tax compliances of companies, tax rationalization pursued along with reduction in the STR, and also improved tax administration. These evidences basically indicate that corporates have reduced resorting to tax avoidance practices, particularly when STR has been considerably brought down.

Table 3.13 Trends in tax savings arising from tax relief measures (as % of profit after tax)

Types of companies	Period I	Period II	Period III
NGNF PLC	19.6	12.0	10.4
NGNF PTC	12.4	0.5	−0.2
All companies	19.5	11.6	10.5
FDI companies	12.3	6.0	5.5

Note 1. NGFC PLC refers to non-government non-financial public limited companies
2. NGFC PTC refers to non-government non-financial private limited companies
3. All companies includes NGFC PLC and NGFC PTC
4. FDI companies refers to foreign direct investment companies
Source Author's calculations based on RBI's studies of company finances

3.6 External Sector Orientation

A major shift in the external sector related policies in the early 1990s was centered on export-led growth strategy. In the milieu of trade liberalization, corporates in India would have become more dependent on imports of technology, inputs and related services in order to stay competitive in the domestic market, even while producing for world market. In the ultimate analysis, the gain to the country, when viewed from balance of payment (BoP), is the net earnings in foreign exchange. While several studies have examined the export and import performance by products, this section makes an attempt to examine earnings and spending in foreign currencies of companies using RBI data.

To begin with, we have examined earnings in foreign currencies, expressed as percentage to sales (Table 3.14). Consistent with the expected outcome of trade liberalization, earnings in foreign currencies by all categories of sample companies rose considerably from 13.1% of their sales in Period I to 23.6% in Period II. Though it declined to 21.5% in Period III, the level is far higher compared to Period I. Earnings in foreign currencies are more among NGNF PLC, compared to FDI companies. Most of these earnings have come by exports of goods and services. Export intensity, that is, exports as percentage of sales, stood at 10.4, 17.6 and 14.8% in Period I, II and III, respectively, in the case of entire set of sample companies. Compared to FDI companies NGNF PLC as a whole remained more export intensive in all the periods. It is possible that FDI companies tend to remain domestic market oriented, whereas non-FDI companies have increased their global market orientation (Rajakumar 2014a). The share of exports in total earnings in foreign currencies have, however, been dwindling; for instance, for all sample companies together, export as percentage of foreign earnings stood at 79.7% in Period I, which declined to 74.7% in Period II and further down to 68.8% in Period III. The same for FDI companies stood at 81.1, 69.6 and 51.7% in Period I, II and III, respectively, which suggests that exports contribution to earnings in foreign currencies in FDI companies have been shrinking over the years. Although the focus on export-led growth strategy has been given effect to by corporates with their increased earnings in foreign currencies, the reduction in the share of exports of merchandise goods is a pointer of increasing reliance on earnings through non-merchandise items.

Similar trend has also been noticed in respect of expenditure in foreign currencies as percentage to sales. For all sample companies, this stood at 15.4% of their sales revenue in Period I with a whopping rise to 27.3% in Period II, though dropped to 23.8% in the subsequent period. The spending in foreign currencies remained more in NGNF PLC, very closely followed by FDI companies. Expenditure in foreign currencies comprises expenditure on account of imports of raw materials and components, stores and spares, and capital goods, and non-imports expenditures such as technical fees, royalties, dividends, interest, traveling expenses, professional and consultation fees, and so on.[14] The import intensity, that is imports expenditure as percentage of

[14] Remittances of technical fees and royalties are mostly for technical collaborations. Technical fees are lump sum payments, whereas royalties are recurring payments made for using unpatented

Table 3.14 Earnings and expenditure in foreign currencies

Types of companies	Period I	Period II	Period III	Period I	Period II	Period III
	Earnings in foreign currencies as % of SALES			Exports as % of sales		
NGNF PLC	13.1	24.0	24.5	10.4	17.9	17.1
NGNF PTC	13.4	16.8	12.7	9.8	13.2	7.2
All companies	13.1	23.6	21.5	10.4	17.6	14.8
FDI companies	13.2	19.4	21.9	10.7	13.5	11.3
	Expenditure in Foreign currencies as % of sales			Imports as % of sales		
NGNF PLC	15.6	27.9	26.8	12.9	22.8	20.9
NGNF PTC	8.5	17.6	13.0	7.1	15.2	8.6
All companies	15.4	27.3	23.8	12.8	22.4	18.1
FDI companies	13.8	25.4	25.5	11.0	19.5	17.5
	Net earnings in foreign currencies as % of sales			Net earnings in foreign currencies as % of gross value added		
NGNF PLC	−2.5	−3.9	−2.4	−10.6	−16.2	−11.2
NGNF PTC	4.9	−0.8	−0.3	22.2	−3.2	−2.3
All companies	−2.3	−3.7	−2.4	−9.8	−15.6	−11.3
FDI companies	−0.6	−5.9	−3.6	−2.4	−24.0	−16.2

Note 1. NGFC PLC refers to non-government non-financial public limited companies
2. NGFC PTC refers to non-government non-financial private limited companies
3. All companies includes NGFC PLC and NGFC PTC
4. FDI companies refers to foreign direct investment companies
Source Author's calculations based on RBI's studies of company finances

sales, has been worked out to discern the dependence of corporates on the imported inputs as well as capital goods.[15] On the whole, corporates' reliance on imports, whether they are inputs or capital goods, has increased. Import used to be 12.8% of sales for the entire set of sample companies in Period I, which went up to 22.4% in Period II. It dropped to 18.1% in Period III. While all categories of companies

know-how and services. Dividends are remitted for foreign equity participation. RBI discontinued publishing these information from 1993–94 in the case of public and private limited companies, and 2008–09 for FDI companies. It however clubs all such non-imports spending under an item 'Other Expenditure in Foreign Currencies'. In RBI's studies, imports are valued at cost, insurance and freight (cif), whereas exports in terms of freight on board (fob), which are consistent with the valuation of imports and exports in the country's balance of payments.

[15] In the literature, the following measures of import intensity have been used: Raw materials and components imported as percentage of Total raw material and components consumed; Stores and spares imported as percentage of Total stores and spares consumed; Raw material, components, stores and spares imported as percentage of Sales; Capital goods imported as percentage of Spending on purchases of capital goods; and Non-import spending as percentage of Sales. Invariably, the import intensity shows a rising trend. For further details, see Mani (1991), Sathe (1997) and Rajakumar (2014).

displayed a similar pattern, the import dependence of NGNF PLC is very much on the higher side and also of FDI companies. Rajakumar (2014a) further observed a rising trend in the imported inputs as percentage of raw materials and stores and spares consumed as well as imports of capital goods as percentage of spending on capital goods.

These pieces of evidence suggested a weakened emphasis on sourcing inputs indigenously and increased reliance on imported capital goods. Both are related because technology developed abroad may have reference to use of inputs available abroad; the suggestion here is that the technological capability of companies is yet to be harnessed. In fact, import expenditures as percentage of total expenditures in foreign currencies gradually declined for all sample companies, that is, from 82.9% in Period I to 82% in Period II and further to 76% in Period III. While this trend remained the same for all categories of companies, the falling share of import expenditures among FDI companies stands out. As noted above, non-import expenditures mostly pertain to technical collaborations and transfer of technology and capital. Thus, the increasing outflow on account of non-import expenditure is perhaps an indicator of how poorly the corporates have responded to the emerging competition by relying more on import of technology rather than indigenously developing them.

Rising Dent Net Earnings in foreign currencies

It may be recalled that one of the underlying forces for ushering in economic reforms was the balance of payment crisis, which rocked the economy in the early 1990s. Thus, the external sector related reform policies had aimed to surmount balance of payment problems; it also perforce implied that by facilitating the corporate engagement with the rest of the world, balance of payments situation would improve. In order to understand the outcome of corporates' engagement with global economy, net earnings in foreign currencies have been analyzed. For this, total expenditures in foreign currencies including merchandise imports have been netted out from total earnings in foreign currencies including merchandise exports. Positive net earnings would mean inflow of foreign exchange is less than their outgo. As this covers trade and related services, it resembles current account balance of a country. We relate net earnings in foreign exchange to both sales and GVA, to represent them as percentage of the sector's output and income, respectively (Table 3.14).

First of all, there is deficit (−) in all categories of companies with their earnings in foreign currencies considerably falling short of their spending, except in NGNF PTC only in Period 1, that is, companies generally report deficit in their external sector related transactions. Secondly, the magnitude of deficit is higher in Period II when the country witnessed accelerated economic growth. To illustrate, net foreign exchange earnings of all sample companies was in the order of (−) 2.3% of sales and (−) 9.8% of GVA in Period I, (−) 3.7% of sales and (−) 15.6% of GVA in Period II, and (−) 2.4% of sales and (−) 11.13% of GVA in Period III. And, finally, FDI companies have higher order of deficit in Period II and III, than that of their counterparts. Since outgo imply transfer of resources, the large deficit experience of FDI companies when economic growth remained relatively higher in Period II and III imply transfer of benefits accruing from economic growth.

3.7 Understanding the Economy and Corporate Sector in Its New Incarnation

In the milieu of last two and a half decades, the role of private corporate sector in Indian economy has become enlarged. The PCS' share in country's NDP, capital formation and savings increased over the years. More importantly, PCS has become diversified and contributed to the broad basing of economic activities. As these trends mirror expected outcome of the policy changes, there has been appreciable response of PCS to policy reforms. In the latest NAS 2011–12 series, QCs have been included along with companies and cooperative societies under PCS. This has brought about major changes in the relative importance of the sector.

The distribution of factor income of PCS shows certain interesting trend. The operating surplus, comprising property incomes and profit/loss, showed a substantial rise as percentage of country's NDP as well as corporate NDP, with a simultaneous decrease in the share of compensation to employees. Operating surplus in the country's NDP has also gone up, and this has largely been on account of the sector's experience. Analysis based on data culled out from RBI's studies of company finances revealed that the share of property incomes, particularly interest share, in companies NVA declined considerably with a concomitant increase in profit share. Analysis of financing pattern of companies brought out the increasing reliance on own resources (net worth or shareholders fund) with simultaneous decline in their reliance on borrowings. Keeping in line with policy changes in financial sector, corporates have an overwhelming thrust on equity financing as opposed to debt financing. Thus, the benefits of corporate growth have been distributed to shareholders of companies mediated by stock market. It is not surprising, however, because, as brought out by the trend in Tobin's Q, market value of companies fuelled corporate investment activities.

Two major issues can be highlighted here. One, market valuation matters for corporate investment and hence for the pace of investment activities in the economy; this makes the economy instable because economic growth is now inevitably tied to speculative activities in the capital market. And, two, with skewed shareholding pattern, benefits of economic growth are likely to be unevenly distributed, thus, contributing to rising income inequality in the society. With reduction in the direct tax rates of companies, corporates' tax incidence has gone up with simultaneous reduction in tax avoidance. This would help to augment resources of the states, but if this could go a long way in helping to reduce income inequality remains a moot question. Furthermore, with net earnings in foreign currencies remaining deficit, the sector cannot be said to have helped strengthening balance of payments; rather they may likely to precipitate any pressure on local currencies. Thus, the focus on enlarging the role of corporates during the last two and a half decades has made the economy vulnerable to uneven distribution of income, unstable investment activities as market valuation drive corporate investment decisions, and deepening of balance of payment problems. Though corporate response has been in line with expected outcomes, the implication is that they have sown seeds for deepening income inequality and making

the economy more vulnerable to decisions under the dictates of market forces. Market incentives are fundamentally different, and once economy comes under their spell, the safeguards available for maintaining the tempo of effective demand in the system would wither away, which is likely to cause instability in the growth process.

References

Central Statistical Organisation (2007) National accounts statistics sources and methods 2007. Ministry of Statistics and Programme Implementation, New Delhi

Central Statistical Organisation (2012) National accounts statistics sources and methods 2012. New Delhi

Fama EF, Miller MH (1972) The theory of finance. Dryden Press

Government of India (1992) Tax reforms committee final part: part I (Chairman: Raja J Chelliah). Ministry of Finance, New Delhi

Mani S (1991) Export liberalisation and import dependence. Econ Pol Weekly 26(27–28):1693–1696

Mintz J (1996) Corporation tax: a survey. Fisc Stud 16(4):23–68

Nayyar D (2015) Birth, life and death of development finance institutions in India. Econ Pol Weekly 50(33):51–60

Patil RH (1979) Tax treatment of interest costs in the context of increasing reliance on debt financing. Econ Pol Weekly 14(38):1613–1621

Rajakumar JD (2005) Corporate financing and investment behaviour in India. Econ Pol Weekly 40(38):4159–4165

Rajakumar JD (2009) Corporate financing and tax environment in India. IUP J Public Fin 7(2&3):25–42

Rajakumar JD (2011) Size and growth of private of corporate sector in Indian manufacturing. Econ Pol Weekly 46(18):95–101

Rajakumar JD (2014a) Foreign exchange spending and earning of corporates in India. Econ Pol Weekly 49(45):75–78

Rajakumar JD (2014b) Corporate financing pattern in India: changing composition and its implications. IUP J Appl Financ 20(4):5–21

Rajakumar JD (2014c) Corporate response to direct tax reforms. Econ Pol Weekly 49(51):67–70

Rajakumar JD (2014d) Trends in corporate profitability. Econ Pol Weekly 49(36):75–78

Reddy YV (1999) Financial sector reform: Review and Prospects. Reserve Bank of India Bulletin 53(1):33–93

Sathe D (1997) Import intensity of India's exports some fresh evidence. Econ Pol Weekly 32(80):M31–M44

Chapter 4
Ownership Control and Board Governance of Indian Business Groups: Continuity or Change?

Jayati Sarkar

Abstract This chapter analyzes how the ownership, control, and board governance of Indian business groups have evolved over time against the backdrop of evolving laws and regulations in India. The analysis is based on a panel data of group affiliated and unaffiliated firms for the period 2005–2018 during which the governance reforms that were initiated in the earlier years took root, and several new ones were introduced through revisions of existing regulations and laws. The chapter seeks to answer mainly two questions. First, have the nature of the agency problems pertinent to business groups as manifested in their ownership and control structures fundamentally changed in response to dynamic changes in their institutional environment? Second, have reforms introduced to change the ways in which groups are governed by the board of directors made any impact on the way these groups are actually governed? Contrary to the expectations drawn from the institutionalist perspective that the relevance of business groups that fill institutional voids will wane as markets develop, the analysis in this chapter points to the continued predominance and persistence of Indian business groups within the corporate sector. Several of the groups, such as the Tatas and Birlas, which were established in the pre-independence era, have continued to remain in leadership positions with a handful of large business groups continuing to dominate the sector, irrespective of the changes in the institutional environment. Big groups have become even bigger in terms of their asset base, and changes in the relative positions of groups at the top end of the distribution have been sticky at best even after more than hundred years of their existence and continued entry of new groups from time to time. Within groups, ownership structures have become more concentrated over time, with promoters of almost all groups now having majority control in all the listed firms of the groups. The pervasiveness, persistence, and dominance of promoters in Indian business imply that there is little scope for monitoring internal management by other large block holders.

J. Sarkar (✉)
Indira Gandhi Institute of Development Research, Mumbai, India
e-mail: jayati@igidr.ac.in

A. Chakraborty and I. Chakraborty (eds.), *Indian Business Groups and other Corporations*, India Studies in Business and Economics,
https://doi.org/10.1007/978-981-99-5041-6_4

4.1 Introduction

Business groups in India have continued to remain a dominant organizational form despite structural shifts in the policy and institutional environment over different time periods. In the post-independence era, one of the most critical shifts in this respect has been the change in the corporate governance framework of firms introduced through far reaching governance regulations since the early nineties, and through the enactment of a revised legislative framework under the Companies Act, 2013. The objectives of corporate governance reforms in India, as in many emerging economies with business group dominance, have been to reduce agency costs manifested in minority shareholder expropriation by controlling shareholders, and to improve firm performance. Thus, reforms have focused on bringing about greater transparency in the ownership and control structure of firms, reducing insider control of the board of directors by increasing board independence, and improving disclosure requirements pertaining to related party transactions and financial statements. Much of such reforms have automatically brought under its purview firms affiliated to business groups by virtue of their complex ownership and control structure as manifested in equity pyramids, cross-holdings and opacity in equity linkages, family dominance of board of directors, prevalence of related party transactions, and presence of internal capital markets. As the existing body of empirical research has shown, such characteristics have had implications for incentives of controlling insiders of business groups to expropriate outside minority shareholders with consequent impact on the value of group affiliated firms.

In view of the above, the objective of this chapter is two-fold. First, it seeks to examine the evolution of the governance structure of firms affiliated to business groups with respect to two key characteristics of business groups, namely, ownership and control, and composition of the board of directors. Second, keeping the objectives of governance reforms in the background, and using a panel of group affiliated firms in India for the period 2005–2018 as well as of the top Indian business groups, the chapter offers a big picture of how the governance of group affiliated firms has evolved over time in relation to its intended objectives. In doing so, the paper evaluates whether *de jure* corporate governance reforms largely intended for business groups have translated to *de facto* changes in their governance structure or whether there has been overall persistence in these two key characteristics despite such reforms.

The empirical analysis in this chapter is based on two types of samples, each of which covers the financial years from 2005 (April 1, 2004 to March 31, 2005) to 2018 (April 1, 2017 to March 31, 2018). The first sample consists of all firms, listed and unlisted, those are reported in the Prowess database. We use this sample to put into perspective the relative dominance of business groups in the Indian corporate sector. Using data for the year 2018, we identify 569 business groups in this sample each of which satisfies two criteria namely that the group has at least two firms, listed or unlisted, and has non-missing values for total assets. The second sample consists of only listed firms belonging to these 569 business groups. We use this sample to trace the evolution of ownership structures and board composition since

the slew of corporate governance reforms in the last three decades, as well as the discussion in the literature, are directed mostly to listed firms. This sample consists of an unbalanced panel of 3,065 firm-year observations, with the number of firms varying from 388 in the year 2005 to 581 in the year 2018.

The rest of the chapter is organized as follows. With Sect. 4.1 being the introduction, Sect. 4.2 examines the origins and early development of business groups in India and discusses their fundamental organizational elements. The incidence, characteristics, and dynamics of the evolution of business groups against the backdrop of institutional changes are analyzed in Sect. 4.3. Section 4.4 examines in detail the ownership and control structures of business groups, how these have evolved over time, and the implications of such structures for corporate governance. Section 4.5 examines the role of the board of directors in mitigating governance problems in Indian business groups in light of the various changes in the regulatory and legislative framework during the period of the study. Concluding comments are made in Sect. 4.6.

4.2 Business Group as an Organizational Form

A business group, as defined in the Indian context, can be considered as an agglomeration of both privately held and publicly traded firms operating in different lines of businesses, each incorporated as a legal entity, but where all the firms are bound together usually under the common ownership and control of a family.[1] This definition largely draws from the characterization of Hazari (1966: 4) who defines a group as "consisting of units which are subject to the decision-making power of a common authority" and functions as a single organization although each of the corporate units under its control has a separate legal entity. The definition is also at par with how Indian groups were defined under the Monopolies and Restrictive Trade Practices (MRTP) Act of 1969 that dealt with the concentration of economic power among Indian business groups, whereby a group was considered to constitute of (i) "two or more individuals, association of individuals firms, trusts, trustees or bodies corporate (excluding financial institutions), or any combination thereof, which exercises or is established to be in a position to exercise, control, directly or indirectly, over any body corporate, firm or trust, and (ii) associated persons" (MRTP 1969: 6).[2] In all these definitions, the key element is the *control* exercised on firms by an apex body (i.e., the family) through equity channels (equity ownership) as well as non-equity channels (administrative control through board of directors, inter-locking directorships, related party transactions).

[1] This definition broadly conforms to the one used by Khanna and Palepu (2000) but brings into its ambit privately owned and controlled firms under a group's control.

[2] https://www.mca.gov.in/Ministry/actsbills/pdf/The_Monopolies_and_Restrictive_Trade_Practices_Act_1969.pdf.

On the basis of several well-cited historical accounts on Indian business,[3] one can trace the beginnings of family-owned business groups in industrial activity to the second half of the nineteenth century. Prior to this period, industrial activity was monopolized by European business houses, and the participation of Indians in business activities was confined essentially to trading and money lending enterprises delineated by family, caste, and ethnicity. The beginnings of the first business group in India in the pre-independence era, the Tata Group, can be traced back to the setting up of the Bombay Spinning and Weaving Company in July 1854 by Cowasji Nanabhai Davar that was followed by the entry of a large number of textile mills promoted by other entrepreneurs. Few years later, the foundations of other major business groups such as the Khataus, Birlas, and the Mafatlals were laid.

The motivation of Indian business leaders to float new ventures, to expand and diversify, coupled with the need for capital to fund such diversification owing to an underdeveloped stock market and banking system led to the evolution of the business group structure over time. Most industrial ventures during this time were floated and financed by families engaged in trade and commerce, with the first round of industrial projects setting off a chain reaction where surplus funds generated in these projects were re-invested to promote other industrial and finance activities. This led to the incorporation of many of the business ventures as joint stock companies, where family members and acquaintances were issued shares to retain family control. It also set off a process of vertical and horizontal integration that bypassed the hazards of market transactions, generated scale, and scope economies, and led to the formation of business group as an institution in India (Mehta 1955). Finally, a business group typically had a managing agency which enabled the group to cope with a deficient managerial market in the early years of industrialization, as also ensured family control over group affiliates. As Tripathi (2004) notes, during 1918–39, the share of Indian business groups in capital employed more than doubled from 13 to 34%. Further, three of the top four business groups were controlled by Indians (Hazari 1966).

Post-independence, two structural breaks in the institutional environment impacted the evolution of groups. First, the post-independence years up to 1991 of extensive regulation of business groups by the government, and second, the post-1991 period of liberalization and globalization of the Indian economy when structural reforms were initiated in 1991. Despite the curbs on the scale and scope of private sector activity placed by the industrial licensing policy till the mid-eighties, and the restrictions placed on the expansion of asset base of big businesses through the MRTP Act of 1969, business groups continued to find their footing well into the 1960s and 1970s. The structural reforms since the early nineties saw the abolition of licensing and the withdrawal of the MRTP Act, and as a consequence, large business houses

[3] For comprehensive historical accounts of Indian business groups, see among others, Tripathi (2004), Piramal and Herdeck (1986), Mehta (1955), Dutta (1997) cited in Sarkar (2010). The account on the evolution of Indian business groups in this section draws significantly from Sarkar (2010).

were free to invest, expand and diversify consistent with their capabilities. Concomitantly, financial sector reforms led to the deregulation of the equity markets as well as that of the banking sector to ease the bottlenecks in external finance and allow for a greater play of market forces in determining the availability and allocation of finance for corporate sector investment. Thus, while prior to the financial sector liberalization, on account of the dormant and underdeveloped capital market, internal financing was dominant as the source of finance for Indian corporates, post liberalization, the importance of external finance in the form of bank borrowings and raising capital from the equity markets have on an average been higher (Sarkar and Sarkar 2012; Rajakumar 2014). Finally, the corporate governance reforms that were initiated since the late nineties changed the institutional environment in which business groups, and corporates at large have functioned. While economic liberalization ensured that business decisions are market based rather than taken by government fiat, and relaxed the constraints on external finance for firms, corporate governance reforms were initiated in the late nineties to put mechanisms in place to enable effective monitoring of firms by the suppliers of finance. Comprehensive reforms in this area sought to strengthen effective protection of shareholders through promoting higher standards of information disclosure and enforcement, and company board structure and procedures were reformed to make the board of directors and management more accountable to the shareholders.

How have Indian business groups as an organizational form responded to the structural changes in their institutional environment? The dynamics of the evolution of business groups in India in the context of an evolving institutional environment can be understood from an institutionalist perspective which sees a business group as a diversified hybrid organizational structure that typically comes up in response to missing markets and weak institutions, combining the functions of both firms and markets (Khanna and Yafei 2007; Leff 1976). In developing economies like India, weak financial markets with imperfect information, imperfections in the managerial markets, weak investor protection, and inadequate rule of law have been cited as some of the shortcomings of the institutional environment, which may have given rise to business groups that can produce these public goods for the benefit of their affiliates (Khanna and Yafei 2007). As a corollary of this hypothesis, as markets emerge and institutions are strengthened, the comparative advantage of the group structure as quasi-market institutions can be expected to diminish vis-à-vis unaffiliated firms.

While the institutionalist perspective predicts the diminishing role of business groups as markets develop and institutions strengthen, alternative perspectives point to the continued dominance of the group structure notwithstanding institutional development. For instance, as Sarkar (2010) notes, the sociological perspective views business groups as social networks of firms bound by formal and informal ties, with the "axes of solidarity" among group affiliates identifiable along geographical, political, ethnic, kinship and religious lines (Granovetter 1995). Given that Indian business groups are deeply rooted in the joint family structure and are not merely economic structures but a source of "social identity" bound by relational contracts and interlocked directorships within the community with high degrees of trust and reciprocity (Dutta 1997; Encarnation 1990), it is unlikely that business groups, once

acquiring a predominance as an organizational form, will lose its comparative advantage as markets develop. There could be non-diversification related benefits too that stem independent of market imperfections. For example, Ramaswamy et al. (2012), using longitudinal data on group affiliated firms, find that affiliation to groups has brought in performance benefits to firms even when markets have developed, thereby concluding that a group structure can generate non-diversification related benefits contrary to what is hypothesized under the institutionalist perspective. On the other hand, Kali and Sarkar (2011), using a case study of Indian firms, find that group affiliate firms are often engaged in activities away from the business of the core firm of the group, which they think are suggestive of the fact that these firms act as destination points for tunneling resources from the top to the bottom of the ownership pyramid for benefitting the family at the expense of the minority shareholders.

4.3 Characteristics of Indian Business Groups

This section presents an evaluation of the importance of Indian business groups in corporate sector activity as of 2018, as well as examines some dynamics of the evolution of major business groups at different time points since 1980 and up to 2018. The data used for these exercises have been sourced partly from previously published accounts of Indian business groups and partly from the Prowess database, a computerized database containing detailed time series information (from 1990 onwards) published in annual reports, along with stock market data, ownership information, and corporate governance characteristics on many companies.

4.3.1 Incidence of Business Groups

Annexure 4.1 at the end of this chapter presents key aspects of the Prowess database from which the data on Indian business groups and firms affiliated to business groups have been culled. An understanding of this data as presented in Table A.1 is important to get an estimate of the importance of business groups in India, and the extent to which information is available in the public domain on these groups. Depending on the analysis at hand, different samples are drawn from the set of groups reported in the Prowess database as of November 2018. As can be seen from Table A.1, 734 distinct Indian business groups are identified and reported in the Prowess database. By distinct, one means that each group is identified by a unique name, and distinct firms are listed under each group reported. With regard to these 734 groups, as of 2018, the total number of firms, those that are listed on either the National Stock Exchange or the Bombay Stock Exchange or both, and also those that are unlisted is 11802. Several of the 734 groups have only one firm reported per group. Given that a group makes sense only if has at least 2 firms, using this filter brings down the number of groups reported to 702 comprising 11,771 listed and unlisted firms.

However, this filter also includes groups with no total assets on account of the fact that Prowess does not report any asset figures for any of the group affiliated firms. Thus, the final filter that is used to generate the groups with non-zero total assets yields 569 groups. A comparable estimate of the number of groups in 2006 was 560 (Sarkar 2010).

Similar to Panel A in Table A.1, Panels B, C, D, and E provide information on business groups with at least one listed firm, with at least one unlisted firm, groups with only listed firms, and groups with only unlisted firms, respectively. Judging from the estimates provided under all the panels, one can conclude that a large majority of Indian business groups have a combination of both listed and unlisted firms. Table 4.1 presents the summary statistics of some basic characteristics of the 569 Indian groups with non-zero assets, namely the average asset size of groups, the average asset size of groups after considering the assets of only listed firms in any group, percentage share of assets of listed firms to total assets of a group averaged across all groups and the percentage share of listed firms in total firms in a group, averaged across all groups. As is evident from the estimates presented in the Table, while, on an average, around 51% of group firms are listed, these firms account for around 72% of group assets, and in some cases around 100% of group assets (in case of groups in Panel D of Table A.1).

4.3.2 Dominance of Business Groups

A large number of business groups in India have persistently dominated private corporate sector activity despite structural changes in its institutional and governance environment from time to time. Figure 4.1 presents the share of group affiliated firms in total corporate sector assets held by privately owned Indian firms which comprise group affiliated firms and non-affiliated or standalone firms. The estimates are presented for the share of group affiliated firms among the top 50 firms, top 100 firms, top 500 firms, and for all firms taken together, at three points in time, 1991, 2001, and 2018. As can be seen from the figure, the presence of group affiliated firms among the top 50 private sector firms has been more than 80% at all the three time points, and 27 years apart, between 1991 and 2018.[4] Estimates published for years in-between (2001 and 2006) also corroborate this finding. What is striking is that the share of group affiliated firms in the top 50 firms in 2018 is the highest, at around 91%. The picture is very similar for the top 100 and top 500 firms wherein the share of group affiliates is not only consistently higher than 80%, but also registers an increase for 2018. However, the share of group affiliates in all firms is lower at around 73% in 2018 and has steadily gone down across the three years suggesting that the presence of standalones among the smaller sized firms has increased over time.

[4] Comparable estimates for 1996 and 2006 are presented in Sarkar (2010).

Table 4.1 Characteristics of group affiliated and standalone firms: 2018

	Group affiliates	Standalones	All firms
A. Listed + Unlisted			
Total assets (Rs. Million)	127,285,657.40	4,61,77,261.90	17,34,62,919.30
Total number of firms	5086	11,232	16,318
Share in total assets	73.38	26.62	100
Share in total number of firms	31.17	68.83	100
Mean asset size (Rs. Million)	25,026.67	4,111.22	10,630.16
Median asset size (Rs. Million)	1033.85	424.45	532.40
B. Listed firms			
Total assets (Rs. million)	9,15,61,979.50	2,22,28,604.70	112,690,584.20
Total number of firms	1268	3311	4579
Share in total assets	81.25	19.75	100
Share in total number of firms	27.69	72.31	100
Mean asset size (Rs. Million)	72,209.76	6381.34	24,610.30
Median asset size (Rs. Million)	4982.35	397.20	670.00
C. Unlisted firms			
Total assets (Rs. Million)	3,57,23,677.9	25,048,657.2	60,772,335.10
Total number of firms	3818	7921	11,739
Share in total assets	58.79	41.21	100
Share in total number of firms	32.52	67.48	100
Mean asset size (Rs. Million)	9356.65	3162.31	5176.96
Median asset size (Rs. Million)	528.05	441.70	472.60

Source Author's computation based on the Prowess database

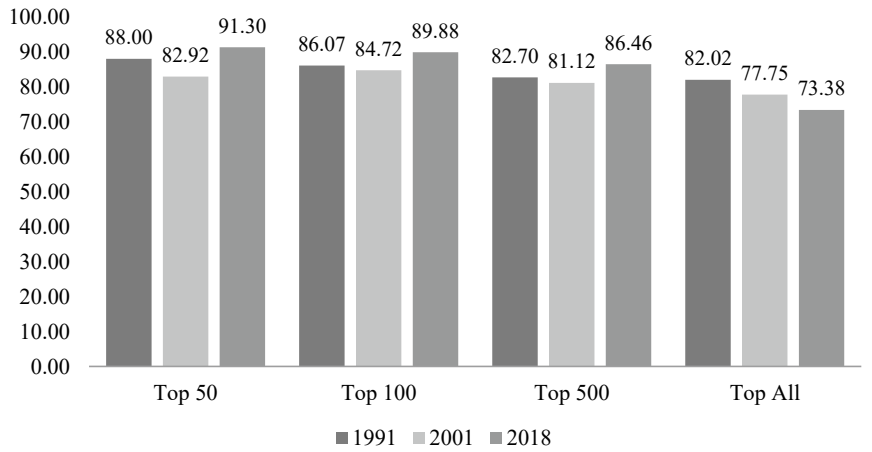

Fig. 4.1 Share of group affiliated firms in total assets: 1991–2018. *Source* Author's computation from the Prowess database

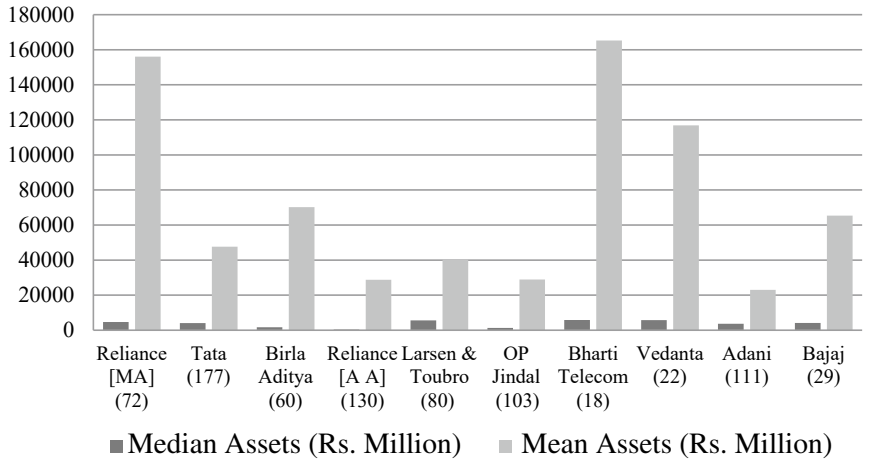

Fig. 4.2 Mean and median assets: Top 10 Business Groups
Notes 1. Figures in brackets are the number of firms in each group with positive assets. 2. Reliance [MA] is Reliance Mukesh Ambani 3. Reliance [AA] is Reliance Anil Ambani. *Source* Author's computation from Prowess database

The dominance in group affiliates in the private sector can be clearly understood from estimates of mean and median asset size of group affiliated and standalone firms. These estimates and related statistics are presented in Table 4.1. First, consistent with Fig. 4.1, the share of group affiliates in total assets across such affiliates and standalones is around 73%, and as can be seen from the Table, group affiliates account for only 31% of the total firms. In contrast, a disproportionate percentage of standalone firms, 68.8, account for about a quarter of total assets (26.6). This picture is even more skewed for listed firms (Panel B of Table 4.1). Second, estimates of average asset size of group affiliates and standalones, both for all firms and for listed firms show that the asset base of group affiliates is higher than that of standalones by several multiples; six times larger when all firms are taken together and 11 times larger when considering listed firms. The difference is relatively less in the case of unlisted firms, although in this category, affiliates are still three times larger than that of standalones. Third, it is important to see the stark difference between the mean and median estimates of size especially for group affiliate firms; in Panel A, estimates show that while the average asset size of group affiliates is about ₹25,026 million, the median asset size is ₹1033 million, which suggests that there are a few disproportionately large firms among the group affiliates which have driven up the average size (Fig. 4.2).

Table 4.2 lists the top ten business groups in India as of 2018, along with the year of foundation, total assets, and major lines of business.[5] As one can see from the Table, each group is well diversified. Further, except for the Adani Group, listed firms account for more than 50% of total group assets. Finally, except for one of the

[5] See Sarkar (2010) for a comparable list for the year 2006.

groups (Larsen and Toubro), all other groups among the top 10 are family-controlled business groups.

A key feature of business group presence in India is that since independence, while the number of distinct groups at any point of time has run into the hundreds, with 569 such groups identified as of 2018, only a few of these groups have accounted for a disproportionate proportion of total business group assets. In other words, much of the business group activity in India is driven by a few large groups, as is the case especially in many emerging economies where such groups dominate, be it Brazil, South Korea, Mexico, or Chile, but the uniqueness of India lies in the fact that there is a long string of much smaller business groups leading to striking level of inter-group inequality. Figure 4.3 presents the Lorenz curve for business group assets, capturing the relationship between the cumulative percentage of the number of groups with the cumulative percentage of the value of assets held by groups. What is striking from the Figure, is that in the year 2018, the top 10% of business groups collectively held almost 80% of the total assets of all business groups put together, while the bottom 10 groups accounted for mere 10% of the total. If we go by concentration ratios as the measure of dominance of business groups in India, estimates as of 2018 reveal that the 3-group concentration ratio among the top twenty business groups was about 41%. That group concentration has persisted over time and across institutional environments is evident from comparable estimates for earlier years (Sarkar 2010).

4.3.3 Persistence of Business Groups

Two observations can be made from the analyses in Sects. 4.3.1 and 4.3.2. First, is the persistent dominance of business groups in terms of the share of total private corporate sector assets, and second, the predominance of a few large business groups among all groups. An additional aspect of the persistence with respect to the evolution of groups can be found in terms of whether there has been churning in ranking among the business groups, especially at the top end. As Sarkar (2010) and Khanna and Palepu (2005) argue, a persistence of the ranking among the top groups over extended periods of time in an emerging economy will signify a kind of path dependence in the evolution of groups; groups that were at an advantage in the early years of their incorporation, and filled up institutional voids when markets and institutions were weak, continue to adapt and thrive even when markets come up to fill up these voids. On the other hand, if there is a churning in the ranks across the groups with institutional change, that would imply differences across business groups in terms of their entrepreneurial responses and abilities to exploit/adjust to emerging market opportunities. Analysis by Khanna and Palepu (2005), tracking changes in relative ranking of the top fifty business groups over two thirty-year periods, 1939–69 and 1969–99, find that while there has been significant persistence of concentrated family ownership, the identities of the top business groups over time exhibited noticeable changes. Using narrower windows of ten years to coincide with structural shifts in the policy environments, Sarkar (2010) finds that between 1969 and 2006, while

Table 4.2 Top ten business groups in India—2018

Rank	Group name	Founding year	Number of firms[1]	Total assets (Rs. Million)	Ownership	Number of distinct 2-digit level NIC codes; Major Business Lines
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Reliance Group [Mukesh Ambani]	1966	72 (6)	11,235,210.90 (55.90)	Mukesh Ambani Family	20; Exploration and production of oil and gas, petroleum refining and marketing, petrochemicals, textiles and retail
2	Tata Group	1875	177 (31)	8,436,188.50 (54.50)	Ratan Tata Family	33; Information systems and communications, engineering, materials, services, energy, consumer products and chemicals
3	Aditya Birla Group	1918	60 (8)	4,214,454.00 (76.50)	Kumaramangalam Birla Family	20; Aluminum and copper production, carbon black, cement, viscose staple fiber, insulators
4	Anil Dhirubhai Ambani (ADA) Group	1966	130 (9)	3,743,489.00 (54.80)	Anil Ambani Family	27; Communications, financial services, generation, transmission and distribution of power, infrastructure and entertainment
5	Larsen and Toubro Group	1946	80 (4)	3,228,669.90 (42.10)	Non-family	20; Engineering and construction projects, heavy engineering and electrical and electronics, information technology
6	Om Prakash Jindal Group	1952	103 (11)	2,982,927.30 (74.42)	Om Prakash Jindal Family	25; Hot rolled coils and other flat rolled products; power generation
7	Bharti Telecom Group	1986	18 (4)	2,975,089.70 (85.04)	Sunil B. Mittal Family	8; Telecom, agri business, insurance, and retail

(continued)

Table 4.2 (continued)

Rank	Group name	Founding year	Number of firms[1]	Total assets (Rs. Million)	Ownership	Number of distinct 2-digit level NIC codes; Major Business Lines
8	Vedanta Resources Group	1975	22 (5)	2,570,391.00 (82.50)	Anil Agarwal Family	11; Metals and mining
9	Adani Group	1993	111 (6)	2,550,869.20 (38.50)	Gautam Adani Family	18; Ports, Coal-based thermal electricity, Fund based financial services, Wholesale trade in coal,lignite and peat, Wholesale trade in vegetable oils
10	Bajaj Group	1934	29 (12)	1,895,540.50 (81.33)	Bajaj Family	13; Asset financing services, Motorcycles, Coal-based thermal electricity, Sugar, Securities investment services, Securities investment services, Finished Steel (Non-Alloy Steel)

Notes 1. [1]: Number of listed and unlisted firms under a given business group for which assets are reported in Prowess. 2. Figures in brackets in column 4 are number of listed firms in the group. 3. Figures in brackets in column 5 are the percentage of assets of listed firms in total assets of a business group
Source Author's computation based on the Prowess database

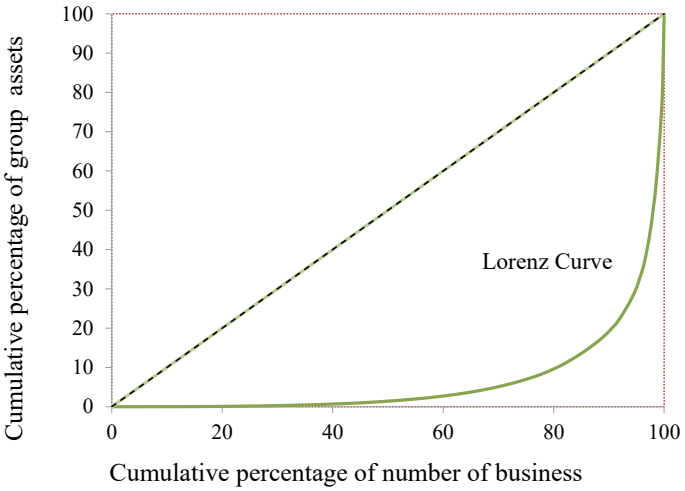

Fig. 4.3 Lorenz curve of business group assets: 2018. *Source* Author's computation from the Prowess database

there have been some changes in relative ranking, some groups going up the ranks, while some others going down, there have seldom been dramatic changes in relative positions, of moving more than five places up or down.

To find out the relative rankings of groups in a period when substantive governance reforms were brought about in the form of more regulatory oversight on business groups that could impact their growth prospects, a period which also includes the continuing strengthening of markets, the analysis of Sarkar (2010) is extended from its last time point, 2006 to twelve years later, to 2018. The results of the analysis are presented in Table 4.3. Focusing on the period between 2006 and 2018, during those twelve years, eight new groups entered the top 20 whereas 12 groups continued to be in the list. Of these 20 groups, 5 groups had no change in ranks, and of all the rank changes that happened, either up or down, except for one group (Essar Ruia), none of the changes were more than five places. Of those business groups which were in the top 20 list in 1980, five continued to be in the list almost thirty years later, and there has been little churning in the top four spots of the ranking since 1990.

The persistence of business groups in terms of their share in total corporate sector assets, the continued dominance of a few business groups over time both in terms of their share in total business group assets and the stickiness in terms of their relative ranking, along with the existence of 500 odd groups, implies that the group structure continues to be an optimal choice for organizing business in India. This could be a purely sociological phenomenon, given that groups have emerged historically as essentially family-based structures, or could also reflect expropriation motives, or, as Masulis et al. (2011) suggest, because of the extensive financing advantages of internal capital markets that provide a competitive edge to group firms vis-à-vis

Table 4.3 Evolution of top twenty business groups: 1980–2018

Rank	1980		1990		2000		2006		2018	
	Group	Assets (in Rs.Mn)	Group	Assets (in Rs Mn)	Group	Assets (in Rs Mn)	Group	Assets (in Rs Mn)	Group	Assets (in Rs Mn)
1	Tata	1538.97	Tata	7546	Reliance	65,914.12	Reliance (Mukesh)	108,510.95	Reliance [Mukesh]	11,235,210.90
2	Birla	1431.99	Birla	7235	Tata	58,987.05	Tata	97,969.39	Tata	8,436,188.50
3	Mafatlal	427.54	Reliance	3241	Essar Ruia	23,384.37	Reliance (Anil)	46,666.86	Birla Aditya	4,214,454.00
4	J K Singhania	412.00	J K Singhania	1829	Birla (Aditya)	19,409.55	Birla (Aditya)	45,513.94	Reliance [Anil]	3,743,489.00
5	Thapar	348.06	Thapar	1763	Larsen and Toubro$	19,395.65	Essar Ruia	35,538.01	Larsen and Toubro	3,228,669.90
6	ICI	343.01	Mafatlal	1297	Om Prakash Jindal	17,102.82	Om Prakash Jindal	26,040.34	Om Prakash Jindal	2,982,927.30
7	Sarabhai	317.94	Bajaj	1228	RPG Enterprises	12,906.22	Bharti Telecom	21,334.34	Bharti Telecom	2,975,089.70
8	ACC	274.51	Modi	1192	Bajaj	10,947.07	Sterlite Industries[4]	19,239.43	Vedanta Resources	2,570,391.00
9	Bangur	264.33	M A Chidambaram	1032	Thapar	7635.50	Larsen and Toubro$	17,891.05	Adani	2,550,869.20
10	Shriram	241.00	TVS	909	Mahindra and Mahindra	7222.19	Mahindra and Mahindra	14,998.47	Bajaj	1,895,540.50
11	Kirloskar	220.37	Shriram	800	Sterlite Industries	7055.17	Bajaj	14,805.32	IndiaBulls	1,819,991.50
12	Hindustan Lever$	219.30	UB	716	Jaiprakash	6649.65	TVS	13,737.13	Mahindra and Mahindra	1,794,006.10
13	Larsen and Toubro$	216.03	Bangur	674	Birla K. K	6606.15	Krishna	12,849.59	Essar (Ruia)	1,781,507.00

(continued)

Table 4.3 (continued)

Rank	1980		1990		2000		2006		2018	
	Group	Assets (in Rs.Mn)	Group	Assets (in Rs Mn)	Group	Assets (in Rs Mn)	Group	Assets (in Rs Mn)	Group	Assets (in Rs Mn)
14	Modi	198.82	Kirloskar	633	TVS	6588.20	Jaiprakash	12,067.57	Shriram Transport	1,521,350.10
15	TVS	188.64	Walchand	626	M. A. Chidambaram	6409.52	RPG Enterprises	10,707.58	IDFC	1,483,575.20
16	Mahindra and Mahindra	186.03	Mahindra and Mahindra	620	Krishna	6173.44	Videocon	10,293.36	I L and F S	1,473,085.90
17	Bajaj	179.26	Goenka	570	Birla B. K	5281.42	Wipro	9120.87	G M R	1,176,292.50
18	Reliance	166.33	Nanda (Escorts)	537	Lalbhai	4804.35	I L and F S Group	9040.50	Wadhawan (Rajesh K)	1,166,944.10
19	ITC$	156.29	Lalbhai	479	Zee Telefilms	4256.86	Birla K. K	8934.86	DLF Group	1,134,319.90
	Walchand	150.36	Essar Ruia	437	Murgappa Chettiar	4220.50	Thapar	7901.48	Jaypee Group	1,091,126.40
			Number of New		Number of New		Number of New		Number of New	
			Entrants[1]	6	Entrants[1]	11	Entrants[1]	4	Entrants[1]	8
			Number Continuing in		Number Continuing in		Number Continuing in		Number Continuing in	
			Top 20 (1980–1990)	14	Top 20 (1990–2000)	9	Top 20 (2000–2006)	16	Top 20 (2006–2018)	12
			No Rank change	5	No Rank change	0	No Rank change	5	No Rank change	5

(continued)

Table 4.3 (continued)

Rank	1980		1990		2000		2006		2018	
	Group	Assets (in Rs.Mn)	Group	Assets (in Rs Mn)	Group	Assets (in Rs Mn)	Group	Assets (in Rs Mn)	Group	Assets (in Rs Mn)
			Number: Rank Up	5	Number: Rank Up	4	Number: Rank Up	4	Number: Rank Up	4
			Number: Rank Down	4	Number: Rank Down	5	Number: Rank Down	6	Number: Rank Down	3
			No. Rank Up[2]: 5–10	2	No. Rank Up[2]: 5–10	1	No. Rank Up[2]: 5–10	1	No. Rank Up[2]: 5–10	0
			No. Rank Up[3]: > 10	1	No. Rank Up[3]: > 10	1	No. Rank Up[3]: > 10	0	No. Rank Up[3]: > 10	0
			No. Rank Down 5–10	1	No. Rank Down 5–10	1	No. Rank Down 5–10	1	No. Rank Down 5–10	1
			No. Rank Down: > 10	0	No. Rank Down: > 10	0	No. Rank Down: > 10	1	No. Rank Down: > 10	0

Notes [1] refers to the number of groups that entered the Top 20 list in a given time/window and have not appeared in the previous windows. [2]refers to the number of groups whose respective ranks have moved up by five to ten places. [3] refers to the number of groups whose respective ranks have increased by more than ten places. Rank down is analogously defined. [4] Sterlite Industries was renamed Vedanta Resources in 2015

Sources Data for 1980 and 1990 sourced from Piramal (2003); data for 2000, 2006 and 2018 sourced from the Prowess database

other firms that must rely predominantly on external sources of capital for their investments.

4.4 The Nature of the Governance Problem of Indian Business Groups

A survey of the academic and policy literature on corporate governance reveals multiple definitions of the concept of governance of corporates. These range from the agency perspective of minimizing the cost in aligning managers and shareholder's incentives to mitigate self-interested managerial behavior (Jensen and Meckling 1976), to the corporate finance perspective of designing economic and legal mechanisms that ensure that suppliers of finance get a return on their investment (Shleifer and Vishny 1997), to the all-encompassing definition of corporate governance dealing with conducting the affairs of a company that is fair to all stakeholders, and to ensure ethical conduct, openness, integrity and accountability of business (SEBI 2003).

4.4.1 Agency Problems in Business Groups

Notwithstanding a plethora of definitions and theoretical perspective on corporate governance, the dominant theoretical paradigm in economics and finance is the agency and corporate finance perspective that focuses on agency costs between outside shareholders and inside management whereby on account of asymmetric information between shareholders and managers, or unobservable efforts of the managers (moral hazard), managers are able to take self-serving actions that are against the interests of the shareholders. As has been widely discussed in the governance literature, the type of agency costs can vary depending on the ownership and control structure of a corporation, whether ownership and control are dispersed or concentrated.

For corporations with diffuse share ownership, where the day-to-day functioning of a corporation is entrusted by the shareholders (the principal) to managers (the agent), so that there is separation of ownership and control, the agency problem is dubbed Type I or vertical agency problems. Such corporations, termed as widely held, are typically present in the United States and the United Kingdom. In contrast, for corporations characterized by concentrated share ownership and control, agency problems arise between two categories of shareholders or principals, namely the inside shareholders with substantial equity stakes and management control, and dispersed minority shareholders, the agency problem is dubbed as Type II or horizontal agency problems (Roe 2004).

Under Type II problems, as Morck and Yeung (2004) argue, controlling shareholders have incentives to opportunistically extract and optimize private benefits for

themselves at the expense of the outside minority shareholders. Although minority shareholders are entitled to the cash flow rights corresponding to their share of equity ownership, they face the uncertainty that an entrenched controlling owner may opportunistically deprive them of their rights through various means (Claessens and Fan 2002). Corporations with Type II agency problems are the rule rather than an exception in Asian economies including India, Latin America, and Continental Europe. Further, by virtue of the inherent structural characteristics of family-based business groups, Type II agency problems are particularly endemic in groups as opposed to independent firms with concentrated ownership and control. For the latter, concentrated ownership can bring about greater goal congruence between the controlling insider shareholders and the minority outside shareholders, but as have been discussed extensively in the literature, a business group with a network of independently incorporated firms, and interconnected through a web of shareholdings, can enable the manifestation of Type II agency problems (Morck and Yeung 2004; Masulis et al. 2011; Gilson 2006).

In business groups, Type II agency costs through opportunistic behavior of controlling shareholders can manifest in several forms depending on the type of controlling owners (Cronqvist and Nilsson 2003), and the type of controlling devices, namely, either through substantial equity investments or through structural devices like dual class shares and stock pyramids (Gilson 2006). In family-owned business groups, as Bautista (2002) observes, owing to the dominance of family members in management and non-transparency in functioning, minority shareholders are "often kept in the dark" regarding the actual performance of the corporation. Expropriation of minority shareholders in family-owned business groups can also happen through structural mechanisms like stock pyramids where a family firm A, having a majority ownership in a publicly traded firm B, can control a publicly traded firm C in which A has no direct ownership but in which B has a majority ownership. A linking of equity ownership between firms through pyramids can therefore drive a wedge between control rights and cash flow rights and gives the shareholder of A, a vehicle for the expropriation of minority shareholders of D to transfer assets and profits from firms with lower cash flow rights (i.e., from D) to firms with higher cash flow rights (i.e., to A) (La Porta et al. 1999). Such a phenomenon, referred to the literature as tunneling, essentially involves self-dealing transactions that remain undetected by minority shareholders and regulators alike, such as outright theft or fraud, under- or over-invoicing of asset, goods, or services sales, obtaining loans on preferential terms, transfer assets from listed companies to unlisted companies and through preferential pricing of fresh equity (Johnson et al. 2000).

There is ample evidence in the extant literature that business groups are typically organized as pyramids and that there are divergences between control rights and cash flow rights of controlling shareholders (Claessens and Fan 2002; Faccio and Lang 2002; Masulis et al. 2011)). For instance, Masulis et al. 2011), in analyzing the control and financing structure of family business groups in 45 countries around the world, find that two thirds of these groups are set up as pyramids with listed firms used to a different extent to separate group members from the ultimate owner. Evidence on tunneling in pyramidal structures are however relatively limited. Given

that tunneling by design is clandestine, researchers have tried to empirically ferret out such activities through various proxies (see for example, Bertrand et al. 2002 for India; Claessens and Fan 2002 for East Asia; Cheung et al. 2006 for Hong Kong).

Finally, while pyramidal structures contribute to ownership complexity in business groups and manifest in Type II agency problems, an additional and related source of such complexity that can potentially facilitate the expropriation of minority shareholders is the *opacity* of insider control (Sarkar and Sarkar 2012). The term opacity seeks to capture incomplete information on the ownership control webs that link firms either through pyramids or through cross-holdings (firms mutually having equity stakes in each other), to the extent that outside investors of listed firms or regulators are unable to decipher from publicly disclosed information on shareholding patterns, the complete chain of control among group affiliates and the benefits that flow to the ultimate owner(s) of a group and its constituent firms. Lack of information on such control webs can be an important source of agency costs as it can help conceal the diversion and flow of expropriated funds.

Several types of ownership opacity can be relevant for business groups depending on the regulatory disclosure requirements on equity holdings. One could be the incomplete disclosure of the identity of insider owner(s) (Type I opacity), two, the fragmentation of insider ownership across a large number of owners (Type II opacity), and three, the extent to which inside ownership and control are in the hands of private unlisted entities for which disclosure requirements are limited (Type III opacity). With regard to Type I, if disclosure rules require the reporting of only those stock holdings that cross a particular threshold, ownership structure can be strategically engineered by controlling shareholders through the fragmentation of shareholding whereby individual ownership by insiders could be deliberately kept at less than one percent to avoid mandatory disclosures. The larger the percentage of shareholding in the less than one percent cut-off and outside the public domain, the more opaque could one consider the ownership structure to be from the point of view of an outsider. Type II stems from the extent to which insider shareholding could be "fragmented" among its constituents; distributing a given shareholding among a large number of insiders again could potentially be an obstacle to efficient monitoring and raise transaction costs. Finally, related to Type II opacity, Type III opacity accounts for the class of promoter shareholding, namely individuals, listed companies, and unlisted companies and trusts. The more the weight of such shareholding is toward unlisted companies and trusts, the more unlikely would it be for an outside minority shareholder, to decipher chains of control as well as any related party transactions. The ownership network can become all the more complex if cross-holdings by such private companies in group affiliates.

Given the discussion on the nature of the governance problem in business groups, Sects. 4.4.2 and 4.4.3 presents some key analyzes on ownership and control structures in Indian business groups. The analysis is based on the panel data on Indian group affiliates and standalones for the period 2005 to 2018, as referred to in the introduction.

4.4.2 *Concentrated Ownership and Control in Indian Business Groups*

Historical accounts testify that from the very early years of business group formation in India, such groups, along with their affiliates were characterized by concentrated ownership and family control together with pyramidal ownership structures as well as cross-holdings (See for example, Hazari 1966). Further, governance issues in these groups could be clearly understood from an agency-theoretic/corporate finance perspective as outlined in the previous section.

The ownership and control structure in the formative years of Indian business groups was a natural consequence of how companies under Indian ownership were financed at a time when stock markets were thin, and the banking system was weak. The growth of companies during that period was largely financed from retained earnings and from non-institutional sources, i.e., funds borrowed from family members, close business associates, social contacts, and money lenders (Tripathi 2004). With a major source of finance originating within the family, formal ownership and control of the companies were often accomplished through the setting up of joint stock companies legally, where family members and acquaintances were issued shares to retain family control. A family member could therefore control a group of companies, either through direct equity control (the "inner circle") or through indirect control through companies that were under its direct control (the "outer circle") (Hazari 1966). This was the beginning of concentrated ownership and control of family-owned business groups in India.

Individuals who were instrumental in floating and developing the various ventures, which were eventually incorporated as joint stock companies, came to be known as "promoters." As Lokanathan (1934) observes, Indian promoters were not typically the professional promoters who focused mainly on starting a business but not necessarily developing it further. Instead, promoters in Indiahad substantial financial interests in the concerns that they floated, and organized themselves as managing agents, taking it upon themselves the entire gamut of functions ranging from pioneering, to promoting, to financing to managing the concerns while retaining control over them (Lokanathan 1934).

The presence of minority outside shareholders too can be traced back to the early years of group formation. When external finance was raised by companies by managing agencies through initial public offerings, these were invariably oversubscribed (Lokanathan 1934; Hazari 1966; Goswami 2000) so that the shares at the time of allotment were split into small lots to the extent that no single shareholder, other than the managing agency, would have enough stakes to exercise control over the company in terms of their presence on the board of directors. *De facto* control of the company by managing agents with stock ownership could be achieved with as little as 10% (Goswami 1989).

With ownership by outside shareholders fragmented and dispersed, investments by promoters were made, not based on efficiency considerations, but to serve the purposes of controlling interests. This was reportedly undertaken via the setting up

of companies that could facilitate in the purchase of their own shares indirectly as also enable them to transfer profits and losses among group companies (Hazari 1966). Apart from direct equity control, indirect control of firms was acquired through interconnected equity holdings among affiliates through a combination of pyramiding and cross-shareholdings/circular chains of investments (Hazari 1966; Mehta 1955). Equity control in turn ensured management control, allowing managing agents to sit on company boards. Such integration of control and ownership structures was characteristic of both European corporate groups as well as Indian business groups (Mehta 1955). For Indian concerns, the practice of appointing family members at higher levels of the management hierarchy irrespective of their capabilities adversely affected efficiency and led to "glaring abuses" of minority investors (Hazari 1966).[6] Explicit concern for minority investors is also found in several narratives documented in a review in the late fifties of the working of the managing agency system (NCAER 1959).[7]

The preceding account clearly affirms that business groups in India in their early years were characterized by Type II agency problems, between the controlling insiders and minority shareholders. As with the persistence of business group dominance in private corporate sector activity (Sect. 4.4.3), the ownership and control structure of business groups and their affiliates have also been path-dependent even to the extent that the nomenclature of promoters to refer to inside owners have persisted till the present, in regulatory and legal parlance such as in securities market regulations and company law. With regard to the company law, for instance, both the terms "promoter" and "control," have been defined under the Companies Act 2013. Under Section 2(69), a promoter shall be any of the following persons (a) whose name appears as a promoter in the prospectus or annual return or (b) who, directly or indirectly has the control over affairs of the company either as a shareholder, director or otherwise or (c) A person in accordance with whose advice, directions, or instruction the board of directors of the company is accustomed to act. However, any person who is acting merely in a professional capacity cannot be considered as a promoter under (c).[8] Section 2(69) must be read with Section 2(27) which defines "control" under the

[6] For instance, Mehta (1955) estimates that as of the early fifties, nine leading families of India held 600 directorships or partnerships in Indian industries, about 100 persons held as many as 1700 directorships, and finally, the top 10 industrialists held together around 400 directorships. Such high estimates have been argued to be a fallout of the dearth of managerial talent in India in the early years of industrialization and also a result of the high level of concentration of ownership and control exercised through the managing agency system.

[7] For example, as part of parliamentary debates in 1951–52, a parliamentarian, Shri Tyagi remarked that "…the primary object in acquiring control over management has not been the progressive expansion or development of those undertakings but the furtherance of the personal advantage of certain people, to the detriment of investors and the interests of the companies themselves" (NCAER 1959; pp. 8–9).

[8] It may be noted that while the earlier company law, Companies Act 1956 included the term promoter, it did not formally define it, the term was explained under clause (a) of sub-section (6) of the section 62 Companies Act, 1956 stated that "the expression "promoter" means a promoter who was a party to the preparation of the prospectus or of the portion thereof containing the untrue statement, but does not include any person by reason of his acting in a professional capacity for

Act. Under the latter provision, "control shall include the right to appoint majority of the directors or to control the management or policy decisions exercisable by a person or persons acting individually or in concert, directly or indirectly, including by virtue of their shareholding or management rights or shareholders agreements or voting agreements or in any other manner."

As with the Companies Act 2013, the terms promoters and control have also been defined by the SEBI for listed companies as under Regulation 2 (1) (za) of SEBI (Issue of Capital and Disclosure Requirements) Regulations, 2009. Likewise, AS-21 of the Accounting Standards has also defined "control" for the purpose of consolidation of financial statements. A careful reading of the various definitions of the terms promoter and control will reveal that while some of the wordings may differ, the basic essence of the definitions is the same. Finally, it is important to note that neither of the terms have been defined in the specific context of a business group or group affiliates and are applicable to all companies irrespective of their ownership status.

Turning to an analysis of the structure of ownership and control in business groups and group affiliated firms, Table 4.4 presents the ownership structure of Indian private sector listed firms, those that are affiliated to business groups and those that are standalones for the year 2018, as disclosed under Regulation 31 of the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 under which listed entities are required to disclose their shareholding pattern under a prescribed format. As is evident from the Table, promoters in group affiliates on an average held majority stakes, 54.63% of total shareholding, whereas those for standalones was a little short of majority of 49%. Thus, irrespective of whether a firm is affiliated to a group or not, ownership is concentrated in the hands of promoters or insiders. However, if one compares the composition of promoter ownership in terms of the types of promoters, we find a noticeable difference between group affiliates and standalone; for the former, the share of promoters as corporate bodies is on an average nearly 40% as compared to around 24% for standalones. Further analysis can reveal whether the greater presence of corporates within the promoter group for group affiliates is on account of other affiliates within the group holding equity positions in an affiliate.

Considering outside shareholders as listed under non-Promoters, one finds that there is not much difference in the composition between group affiliates and standalones. It is to be noted that, going by the standard cut-off of 20% ownership that is applied to define control in the literature, barring non-institutional individuals, who are essentially dispersed outside shareholders, and cannot be considered as a controlling block, none of the other constituents under the non-promoters, be these mutual funds, banks, or financial institutions, have controlling stakes on an average.

To examine whether the structure of ownership is substantially different for the affiliates of the top ten groups (Table 4.2) as compared to the average ownership structure across all group affiliates, comparative estimates are presented in Column (5) of Table 4.4. As is evident from the Table, while average promoter share in the top

persons engaged in procuring the formation of the company." https://www.icsi.edu/media/portals/86/Geeta Saar 38 Promoter and Control Part-1.pdf.

Table 4.4 Composition of share ownership of Indian companies: 2018

	Group affiliates	Stand alone	All	Group affiliates (Top 10 groups)
(1)	(2)	(3)	(4)	(5)
A. Promoter and Promoter Group	54.63	49.33	52.07	54.47
Individuals/HUF	12.31	29.35	20.79	2.37
Bodies corporate	39.66	24.12	33.44	45.04
Government	0.26	0.06	0.17	1.35
4. Financial Institutions and Banks	0.08	0.11	0.09	0
5. Indian Promoters Others	2.28	2.29	2.28	2.49
6. Foreign Promoters	4.33	3.43	3.90	4.71
B. Non-Promoters	45.64	51.01	48.24	46.37
Mutual Funds	3.97	3.01	3.58	4.45
Banks and Financial Institutions	1.59	2	1.78	1.43
Government	0.21	0.05	0.13	0.54
Non-Institutional Corporate Bodies	7.76	9.68	8.67	5.08
Non-Institutional Individuals	21.29	28.25	24.65	15.68
Non-Institutional Others	3.17	4.28	3.71	3.37

Source Author's computation based on the Prowess database

10 affiliates is comparable to the overall mean for group affiliates, the composition of promoter share is noticeably different; the share of individuals/Hindu Undivided Family (HUF) is strikingly less, at 2.37 as compared to 12.31% for all affiliates, whereas corporate bodies have higher holdings in the former as compared to the latter. Thus, much of the promoters in affiliates of large groups are corporate entities rather than individuals.

While understanding the structure of ownership of group affiliates and standalones in terms of average equity holdings of the key shareholding group provides some overall picture of the incidence of insider control, it is important to delve further into the distributional characteristics of promoter ownership in both group affiliates and standalones. Given that the level of ownership of any shareholder or a block of shareholder is associated with voting rights and control, and with promoters being the single largest block in group affiliates, it is important to find out the distribution of group affiliates by different blocks of promoter ownership. Drawing on the relevant literature on ownership and governance on how voting rights can change

with ownership, we break-up the promoter ownership of Indian affiliates into the following blocks, namely holdings of greater than zero and less than 5% (Block 1), between 5 and 10% (Block 2), between 10 and 20% (Block 3), between 20 and 26% (Block 4), between 26 and 51% (Block 5), between 51 and 75% (Block 6) and greater than 75% (Block 7). In the Indian context, shareholders with a minimum of 10% paid-up voting capital can call an extraordinary general meeting. A cut-off of 20% is typically the minimum level of equity ownership that is necessary to control a corporation (La Porta et al. 1999) and if corporations are relatively large in size, it is likely to have a larger base of dispersed shareholders and hence insiders can gain effective control with even lower levels equity. A stake of 26% or more under the Indian company law entitles a shareholder to block special resolutions and have a say in the management of a company. A 51% shareholding gives a majority stake and allows wide control over the management of the firm but is subject to a blocking minority, and a stake of more than 75% is not subject to a blocking minority and important corporate decisions, such as proposed mergers, altering memorandum and articles of association requires 75% in favor.

The distribution of firms across the different blocks of promoter share is presented in Fig. 4.4. The estimates in the Figure are striking in terms of the overwhelmingly large number of companies, both standalones and group affiliates with majority control by promoters; almost 62% of group affiliates and 55% of standalones have promoters with equity ownership in Block 5, i.e., between 51 and 75%. This is followed by Block 4, where close to 30% of group affiliates and standalones have equity ownership between 26 and 51%. If 20% is taken as equity ownership with effective control, then as of 2018, strikingly in almost 96% of group affiliates and 90% of standalone promoters or insiders have effective control. This is much higher than comparable estimates for insider control in other countries using the 20% cut-off—50% documented in La Porta et al. (1998) and Claessens and Fan (2002).

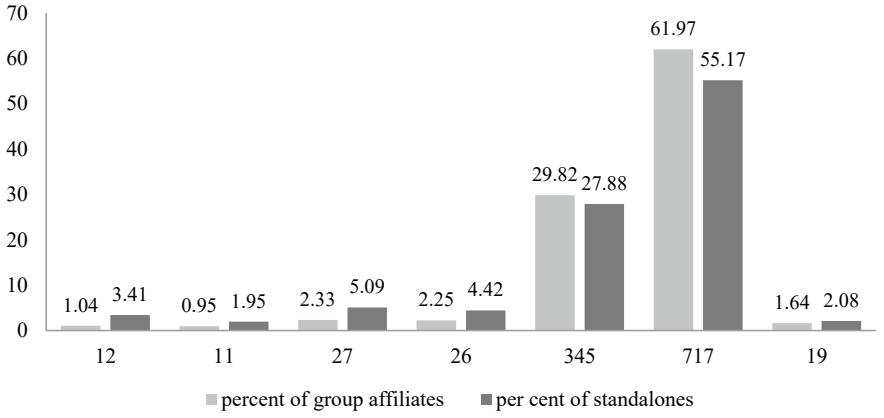

Fig. 4.4 Distribution of firms by promoter share: 2018. *Source* Author's computation from the Prowess database

4.4.3 The Persistence of Concentrated Ownership and Control

With a dynamic institutional and economic environment since the late nineties well into the 2000s, one needs to examine whether there have been any major changes in the shareholding structure of group affiliates over time, or whether there is persistence too in this regard. During the period under study, 2005–18, several major legislative and regulatory changes have been instituted including a new company law, Companies Act 2013 repealing Companies Act, 1956, the Substantial Acquisition of Shares and Takeovers Regulations, 2011, repealing the earlier 1997 regulations, continuous strengthening of disclosure standards for listed companies by the SEBI, as well as changes in the entry of foreign institutional investors, could have led to re-optimization of equity portfolios of the different types of shareholders. To this end, the analysis in this section will, one, examine the trends in the components of the aggregate ownership for listed group affiliates for the period 2006–2018, and two, examine trends during the same period in promoter shares for different groups as measured by their size.

Figure 4.5 presents trends in the ownership structure of group affiliates between 2006 and 2018. As can be seen from the Table, promoter ownership since 2006 up until 2013, increasing steadily from 49% and crossing the majority mark in 2009. Thereafter, promoter holdings have stabilized around 54% all the way up to 2018. No clear trend is discernible for the other owners except for banks and financial institutions steadily decreasing their already limited holdings from around 4% in 2006 to being consistently below 3% after 2015. The overall impression that one gets from Fig. 4.5 is that the predominance of promoter control in group firms has persisted over a span of 12 years irrespective of structural changes from time to time in the institutional environment. If one takes an even longer time frame, back to 2001, this pattern seems to have been the same of a steady consolidation of promoter ownership while other blockholders showing marginal changes at best (Sarkar and Sarkar 2012).

While Fig. 4.5 provides a broad-brush picture of the trends in equity ownership over more than a decade, by major types of owners, Fig. 4.6 takes a close look at whether the consolidation that one finds in insider control on an average across all group affiliates has also happened across groups of different sizes. The analysis of group characteristics in Sect. 4.2 reveals that there is substantial heterogeneity among groups in terms of their asset size and that is there are few large groups at one end of the spectrum and a large tail of small groups at the other end. Has there been consolidation of promoter ownership in the larger groups with a larger network of affiliates where the scope of Type II agency costs can be expected to be higher, or is it the smaller groups with a fewer number of firms and activities where such consolidation has taken place? From an agency perspective, greater consolidation of insider ownership on an average in a group is not necessarily harmful for outside investors; it brings about greater convergence of interests between the insiders and outsiders, and hence would mitigate Type I agency costs. However, at the same time,

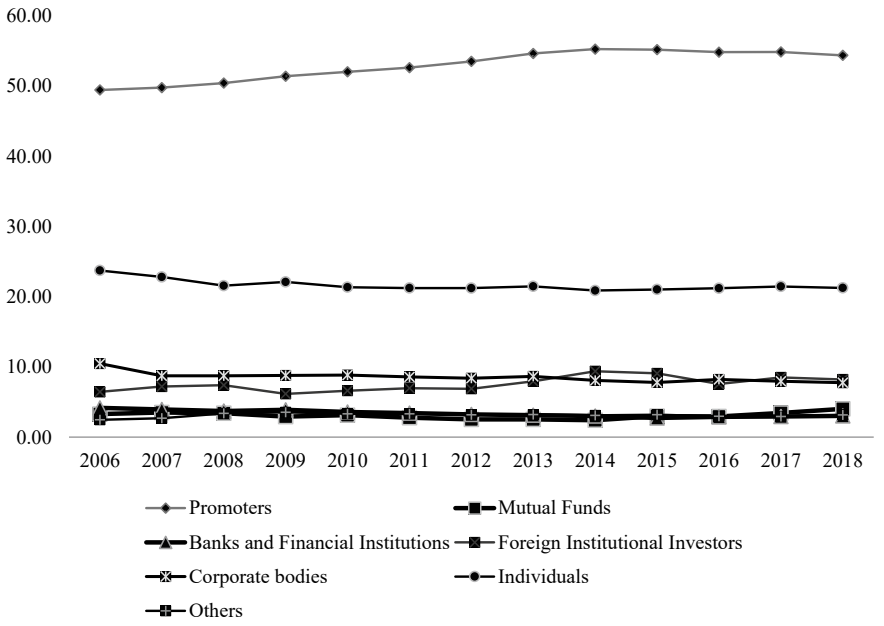

Fig. 4.5 Trends in shareholdings in group affiliates by major types of owners: 2006–2018. *Source* Author's computation from the Prowess database

higher insider holdings can aggravate Type II agency costs through the entrenchment of insiders who by virtue of higher control, can successfully insulate themselves from outside disciplining forces such as that from the takeover market or managerial labor market (Demsetz 1983; Fama and Jensen 1983) and can exercise greater control through pyramids and other mechanisms to expropriate minority investors. It is not therefore a priori clear whether greater consolidation aggravates or mitigates agency costs.

Turning to the analysis in Fig. 4.6, based on the distribution of group size, seven size classes of business groups are considered by percentile values (denoted by P) as shown in the graph, with P < 25 are groups lower than the first quartile of the distribution, P25-P50 being groups falling between the first quartile and median, and so on. Several observations can be made from the figure. First, as with the case of all affiliates, average promoter shares across all groups irrespective of size have risen by 4 to 6%age points during 2006–2018, with much of the percentage increase happening by 2012, post which promoter holdings of all groups on the average have exceeded the majority mark of 51%. Second, if one compares the average promoter holdings by size classes, by and large there is an inverse relationship between group size and average promoter holdings of a group. The promoter's share of smaller groups is greater than that of the larger groups: this is along the expected lines as larger groups with larger firms on the average typically have a higher proportion of outside shareholders. But from the perspective of control, such differences in

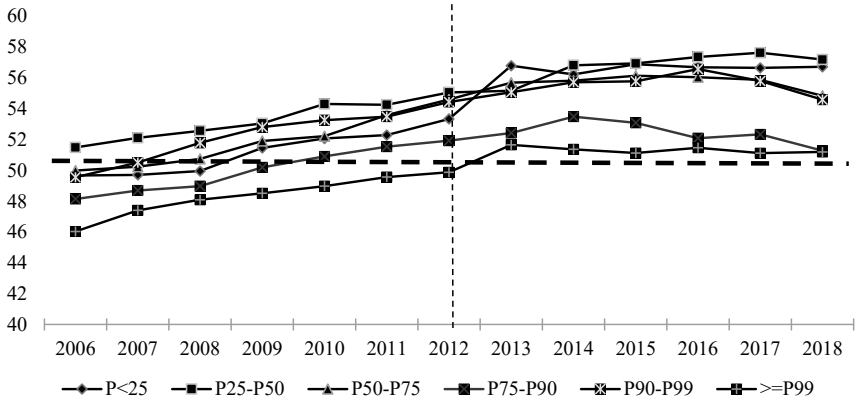

Fig. 4.6 Trends in promoter ownership by group size: 2006–2018. *Source* Author's computation based on the Prowess database

the case of Indian business groups do not seem to matter as groups, across all size classes, post 2012 have majority insider ownership. Third, trend estimates across groups show that between two end points of the period of analysis, 2006 and 2018, promoter consolidation has been the highest for the smallest two groups.

4.4.4 Ownership Complexity

As discussed in Sect. 4.1, agency costs in business groups are manifested not only in terms of concentrated ownership and control by insiders, but on account of complexities in group structure arising from stock pyramids, cross-holdings, and opacity of ownership. This section presents some measures of ownership complexity in Indian business groups and how these can vary across groups in terms of examining for the year 2018, the intra-group distribution of promoter ownership for the top ten groups, mapping out the group structures of the top two groups, the Tata Group, the Reliance Group (Mukesh Ambani), and the Adani Group to identify the existence of pyramidal structures and cross-holdings if any, and to present some measures of ownership opacity based on firm level data of major promoters reported in the Prowess database.

Table 4.5 presents the distribution of promoter ownership for the top ten groups as of 2018. The estimates are presented at different percentiles (denoted by P), starting with the minimum, followed by the 5th, 10th, 25th, 50th, 75th, 90th, and 95th percentile and the maximum shareholding in a group. As can be seen from the estimates, promoter share differs considerably across firms within a group, the range between the lowest and the highest being substantially different for several of the groups. For 80% of these groups, the median shareholding is more than 51%.

Further, the variations in promoter ownership within each group imply that theoretically tunneling incentives exist if the firms are structured as pyramids, with firms where promoters have the highest cash flows located at the top of the pyramid. All that is necessary for pyramidal structure to generate tunneling incentives is that the firm at the top of the pyramid has controlling rights on the firm below it, and the second firm has controlling rights on the firm below it and so on. With a typical cut-off 20% for a controlling stake, one can see from the estimates in Table 4.5 that promoters have controlling stakes even where their shareholder is at the minimum across all group firms. While one cannot for certain conclude from the dispersion in promoter share that groups are necessarily organized as pyramids, Masulis et al. (2010) have estimated that the percentage of Indian group affiliates that are controlled through pyramids is around 10%, the average pyramidal layer being 0.36 and the percentage of market of capitalization held by pyramid-controlled firms is 4.10.

The complexity of ownership and control structures and its variation across business groups can be illustrated from an analysis of the Tata Group, the oldest of all business groups, the Reliance Group (Mukesh Ambani) which emerged in the eighties, and the Adani Group, which emerged in the nineties, and which entered the ranks of the top ten business groups in recent years. These are presented in Fig. 4.7a–c. All the structures mapped are based on only the listed companies in a group for which shareholding information is present in the public domain; including the holdings of all unlisted companies in each group would increase the complexity of shareholding manifold.

Focusing on the Tata Group, it is evident from Fig. 4.7a that Tata Sons is the main holding company of the Tata Group which is privately held and has controlling direct stakes in all major group listed companies including that in the group's flagship

Table 4.5 Distribution of promoter ownership of top ten groups: 2018

	Promoter Share								
	Min	P5	P10	P25	P50	P75	P90	P95	Max
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Reliance (M A)	36.45	45.43	45.43	45.43	46.44	47.45	47.45	47.45	75
Tata	30.3	30.80	32.61	34.12	50.09	71.92	74.96	74.99	75
Aditya Birla	34.68	34.68	34.68	40.10	47.07	61.98	74.03	74.03	74.03
Reliance (A A)	49.54	49.54	49.54	50.89	52.66	64.05	75.00	75.00	85.76
Larsen and Toubro	64.01	64.01	64.01	64.01	64.01	64.01	64.01	64.01	88.81
O. P. Jindal	41.75	41.75	41.75	53.59	58.66	62.32	74.99	74.99	74.99
Bharti	53.51	53.51	53.51	53.51	60.33	67.14	67.14	67.14	67.14
Vedanta	50.13	50.13	50.13	50.13	54.03	64.92	64.92	64.92	64.92
Adani	66.27	66.27	66.27	66.27	73.07	74.92	74.92	74.92	74.92
Bajaj	15.43	15.43	44.32	49.30	55.14	66.86	69.61	73.12	73.12

Notes P denotes percentile
Source Author's computation based on the Prowess database

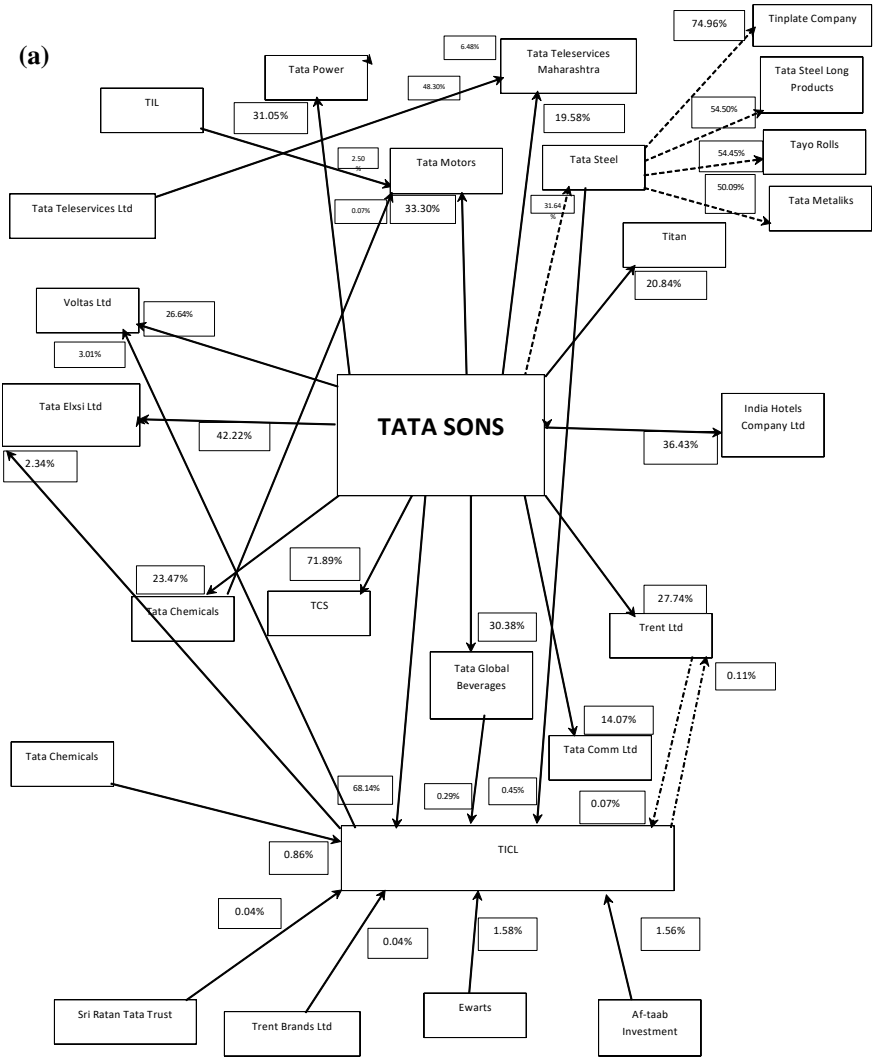

Fig. 4.7 **a** Ownership Structure of the Tata Group: 2018. **b** Ownership Structure of the Reliance Group (Mukesh Ambani): March 2018. **c** Ownership Structure of the Adani Group: March 2018. *Source* Author's compilation based on shareholding pattern for quarter ending March 2018, as reported in the Prowess database

company Tata Steel. The Figure also illustrates a single layered pyramid flowing from Tata Sons to Tata Steel to four other listed companies. Cross holdings can also be identified in the group structure between TICL and Trent Limited. Moving on to the structure of the Reliance Group (Mukesh Ambani), (Fig. 4.7b), the structure is fundamentally different from the Tata Group. By virtue of having much lesser number of listed companies, the structure looks less complex than that of the Tata

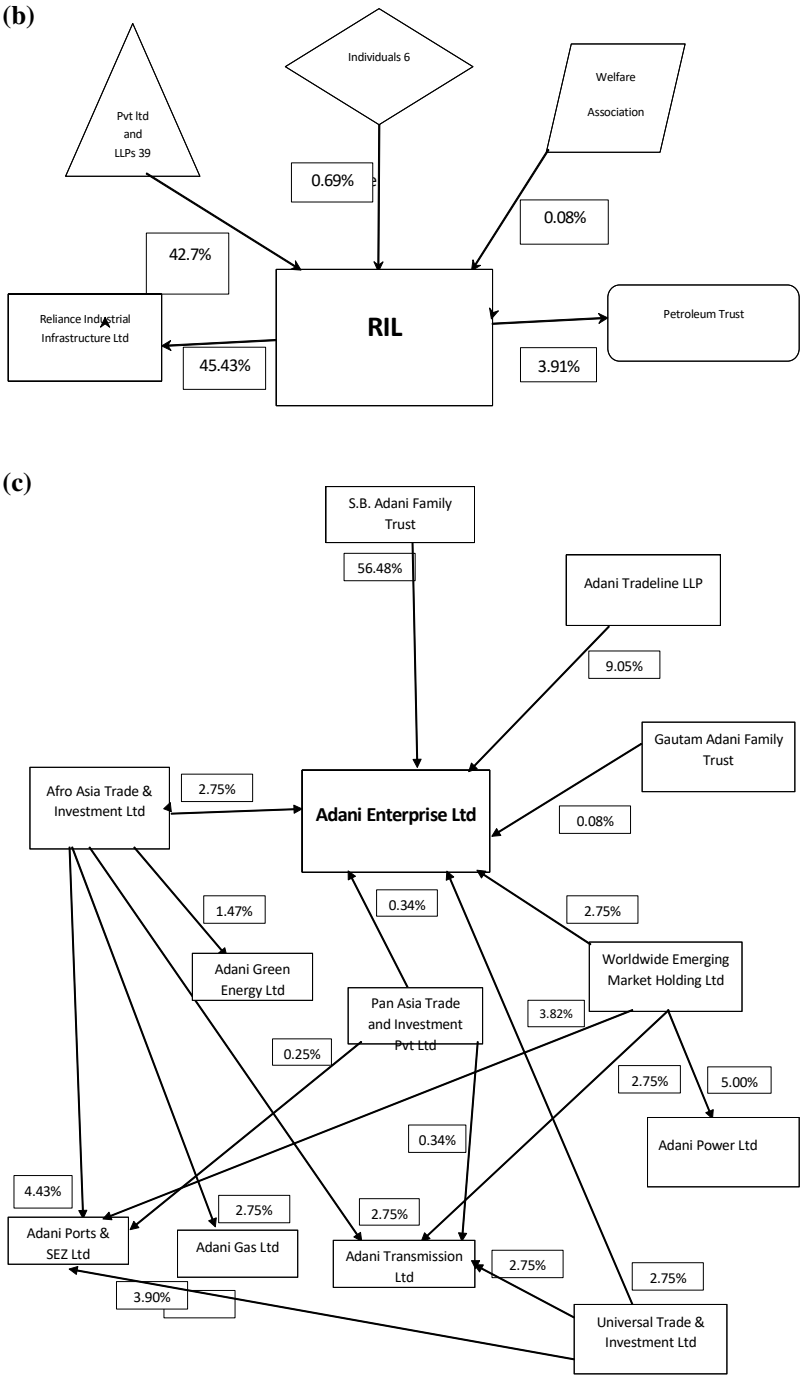

Fig. 4.7 (continued)

Group. However, unlike that of the Tata Group, there is a preponderance of private limited companies on which information is scarce in the public domain, and a greater fragmentation in promoter holdings, contributing to ownership opacity. Finally, the ownership structure of the Adani Group (Fig. 4.7c) is dominated by a large number of private limited companies as is the case with the Reliance Group. What is different however from the Reliance group is the controlling holdings of family trusts in the flagship listed company Adani Enterprises. Both in the case of the Reliance Group and Adani Group, unlike the Tata Group, the ownership of the major listed companies is all in the private domain, as also the fact that there is no information on how these private companies and the trusts are interconnected.

Examining the different types of opacity for Indian listed companies, Type I opacity has almost been eliminated due to a change in disclosure regulations since April 2006, which required the identity of all constituents of promoters and promoter group along with their respective shareholdings to be disclosed to the stock exchanges under SEBI regulations. Prior to this period, the presence of such opacity was documented by Sarkar and Sarkar (2009).

With regard to Type II and Type III opacity, Table 4.6 presents a detailed picture of such opacity for the flagship companies of the top three business groups as of 2018, namely Reliance Industries Limited of the Reliance Group, Tata Steel of the Tata Group, and Hindalco Industries of the Aditya Birla Group. As can be clearly seen from the Table, the different manifestations of Type II and Type III opacity are in-built in the ownership structure of these companies, but to different extents. In case of Type II opacity, Reliance Industries had as many as 47 entities listed under promoters and promoter group with a total equity share of 47.45%, which came to be an average share of only 1.01% per promoter. The corresponding estimates for Tata Steel and Hindalco Industries were around 2.76 and 2.03%, respectively, all three lower than the average of 4% obtained for the total sample of group affiliates for the year 2018. Further, what is of interest to note is that except for Tata Steel, more than 50% of promoters belong to unlisted companies, trusts, and individuals, the highest being for Reliance Industries, at around 85%. With regard to percentage of equity holdings by the three types of promoters, as Panel B shows, unlisted companies and trusts overwhelmingly account for promoter equity in the case of Reliance Industries (98%), and Hindalco Industries (85%) and Tata Steel (95%).

4.5 Insider Control and Board Governance

The pervasiveness and persistence of promoter ownership and control in Indian business groups evident from the detailed analysis in the previous section underscores the important role that board of directors can play in the mitigation of Type II agency costs in such groups. One of the governance mechanisms that is proposed in the literature as a prescription for reducing agency costs focuses on the positive role that outside blockholders with relatively large equity positions can play in disciplining inside management. Dubbed as the "efficient monitoring hypothesis," (Berle and

Table 4.6 Promoter ownership characteristics in selected companies: March 2018

	Reliance Industries	Tata steel	Hindalco industries
A. Number of promoters by type			
All	47	12	17
– Individuals	6	0	5
– Listed Companies	1	10	3
– Unlisted Companies and Trusts	40	1	9
% B. of holdings by promoter type			
All	47.45	33.21	34.67
– Individuals	0.69	0.00	0.11
– Listed Companies	0.01	1.57	5.25
– Unlisted Companies and Trusts	46.75	31.64	29.31
C. Average Promoter Holdings by			
Promoter Type (B/A)			
All	1.01	2.76	2.03
– Individuals	0.11	–	0.02
– Listed Companies	0.01	0.16	1.75
– Unlisted Companies and Trusts	1.17	31.64	3.26

Notes "A" lists the number of promoters constituting Promoters and Promoter Group as well as the number of each type of promoter (individuals, listed companies and unlisted companies and trusts). "B" lists the total percentage shareholding by promoter type, i.e., the percentage equity holding by promoters who are individuals etc. "C" is the average holding by type of promoter
Source Authors' computation based on the Prowess database and www.corpfiling.co.in

Means 1932; Pound 1988), the basic premise of the hypothesis is that large outside shareholders, unlike small, dispersed shareholders, are likely to exercise optimal oversight on the insiders as they have substantial investments at stake as well as the voting power to ensure that the investments are not lost (Fama and Jensen 1983; Shleifer and Vishny 1997).

In this regard, the literature highlights specifically the role of institutional investors in bringing about collective action against the management should it stand in the way of shareholder value maximization (Dodd and Warner 1983). However, as the estimates of shareholding by outside shareholders in Indian companies, as under non-promoters, reveal, the holdings by outside institutional blockholders, namely, mutual funds, banks, and financial institutions, fall far short of the controlling shareholding even if all institutional holders act as a block together. On the other hand, promoters, the inside blockholders, have majority holding in more than 90% of groups/group affiliates. Empirical evidence on the effect of outside blockholders on firm performance in the case of Indian firms, including group affiliates have yielded mixed results, with some studies find no evidence of efficient monitoring of promoters (Khanna and Palepu 2000; Douma 2006), whereas Sarkar and Sarkar (2000) and Kumar (2008) find a positive effect of banks and financial institutions once their

equity positions cross a particular threshold. The likelihood of outside blockholders not being efficient monitors of insiders, owing to non-controlling stakes, coupled with the fact that other external governance channels like the market for corporate control is likely to be weak in the face of consolidated promoter equity positions, puts the burden of monitoring on another disciplinary mechanism, that of the board of directors.

4.5.1 Monitoring by the Board

As laid down in the Cadbury Report on corporate governance (Cadbury 1992), directors on a company board are fiduciaries of shareholders and other stakeholders and should therefore act in their interest. Directors on boards have both a strategic role and a monitoring role; under the former, the responsibility is to define a company's purpose and to draw up plans to achieve that purpose, and under the latter, to monitor and assess the performance of the management and execute, if necessary, the power to replace the chief executive and/or internal management team.

The monitoring and disciplining responsibilities of the board of directors depend on the nature of the agency problem, Type I or Type II, which is slated to mediate (Roe 2014). While the board acts as an intermediary in both cases, the nature of the agency problem it mediates and associated problems of monitoring and disciplining that it addresses are different. Under Type I agency problems, with complete separation of management and control and given the inability of diffused shareholders to monitor, the board's responsibilities are that of "vertical governance" that entails working on behalf of the shareholders to minimize managerial opportunism and maximize shareholder wealth. On the other hand, a board is engaged in of "horizontal governance", of mediating between the dominant shareholders who in all likelihood also have management control, and the outside minority shareholders and shield the latter from being expropriated by the former. Thus, in this case, the focus of board functions would be more on preventing self-dealing transactions by the management than on shirking by managers as is the case under Type I problems (Roe 2004).

The governance by the board of directors of firms with concentrated ownership and control is further compounded by the presence of promoters in management positions, including occupying the positions of a CEO or Chairperson or both. CEOs from the founding family are found to be more influential in decision-making (Finkelstein 1992). Such CEOs can have a say in the composition of the board on the one hand and are more likely to be in management control on the other, so that much greater potential exists for "board capture," "CEO hegemony" or the creation of an "inner circle." Non-executive directors on boards of such firm may therefore require different strategies and skill sets as well as incentives to impart their fiduciary duties

of monitoring and advising management (Anderson and Reeb 2004; DeMott 2007).[9] For them, the problem of governance in family firms is to balance the conflicting interests of the two major blocks of shareholders, controlling insiders and minority outsiders rather than aligning the interests of the manager and shareholders to maximize shareholder value as is the case with non-family firms. Thus in family firms, in order to protect firm value, independent directors would have to be extra vigilant to guard against the expropriation of assets by a controlling shareholder (DeMott 2007; Claessens and Fan 2002; Maury 2006).

A critical aspect of the quality of board governance of any firm, irrespective of its ownership status is the "busyness" of its directors, both inside directors and outside directors. A director is construed as being busy if she/he holds directorial appointments in other firms to the extent that such multiple directorships can make directors over-committed and thereby compromise on their ability to monitor company management effectively on behalf of the shareholders (Ferris et al. 2003). On the other hand, busy directors can be potentially beneficial as the number of multiple directorships can proxy for high director quality (Fama 1980; Fama and Jensen 1983). Further, from a resource dependency perspective, directors with multiple appointments, by virtue of being more networked, can generate benefits by helping to bring in needed resources, suppliers, and customers to a company (Pfeffer 1972; Booth and Deli 1996).

Being firms affiliated to a business group can have implications for the costs and benefits associated with busyness. As Sarkar and Sarkar (2009) contending the context of group affiliated firms in India, multiple directorships could be on account of multiple positions in companies belonging to a single group. In particular, inside directors belonging to founding families, i.e., promoter directors are likely to sit on the boards of other group affiliates with the purpose of collective coordination, overall supervision, and control. Likewise, independent directors may have their directorships concentrated within a particular group and form an "inner circle" of the group's management team. Thus, boards of group affiliates could end up with a set of closely related core leaders with duplicating positions in affiliates and vested with major responsibilities. While group-centric multiple directorships can be associated with benefits too, stemming from goal congruence and group synergy (Ouchi 1980), it can also create additional scope for promoters to engage in nepotism or kinship and to fill up member firms with friendly faces, thereby leading to promoter hegemony. Evidence of group centric multiple directorships is found for a sample of 1704 listed Indian firms for the year 2018[10]; directors on an average have around 72% of their directorships in group affiliates with 42% of directors having all their directorships in only group companies. With regard to inside directors including promoters on

[9] A case in point is that independent directors in family firms are required to be one of the "primary lines of defense" for minority shareholders to **g**uard against expropriation by controlling shareholders (Anderson and Reeb 2004).

[10] Author's estimates based on the Prowess database. Earlier estimates of group centric directorships pertaining to the year 2003 are found in Sarkar and Sarkar (2009).

board, an overwhelming majority of around 80% of their directorial positions are in group affiliates. Of these positions held by inside directors in group affiliates, 81% are found to be within the same group where the director acts as an insider director of one of its affiliates. In contrast, relatively few inside directors of non-affiliates or standalones occupy a directorial position as an outside director in group affiliates. What is further telling is that a similar picture of group-centric positions holds for independent directors.

4.5.2 Board of Directors: The Evolving Corporate Governance Framework in India

In India, the rules and regulations that determine the composition and functioning of corporate boards to enable directors to exercise their fiduciary duties to the shareholders have historically been laid down in company law. Prior to the initiation of corporate governance reforms in India in the late nineties, other than the relevant provisions in company law, there was little by the way of a comprehensive and consistent set of laws and regulations that would come under the ambit of corporate governance. However, historical accounts of the evolution of the corporate form and that of business groups (see Khanna 2005; Tripathi, Mehta 1955; Goswami 2007) do mention the existence of a governance framework in terms of the institution of the managing agency system, the existence the centralization of management with delegation of powers, the appointments of professional managers, and powers and fiduciary responsibilities of the board of directors. As Goswami (2007) states, as the corporate sector grew in the colonial era, corporate law was put in place early on through the Companies Act 1913, which formed the foundation of the later Companies Act 1956 and Companies Act 2013.

Issues of corporate governance and the need for reforms came to the forefront in the second half of the nineties following the adoption of structural adjustment and globalization program, which in turn coincided with the East Asian crisis and a series of corporate failures even in countries which were blamed on failures in governance systems. The impetus to reforming extant governance systems both in developed and developing countries came from the Cadbury Committee Report of 1992 which brought into focus the rule that corporate boards played in corporate governance.

Governance initiatives in India since their formal initiation have come from the government via government legislations involving several amendments of the then Companies Act, 1956, which subsequently was replaced by the Companies Act, 2013, from the SEBI in the form of statutory regulations, and through other institutions such as the Institute of Chartered Accountants of India. The first round of reforms was initiated through the setting up of the Kumar Mangalam Birla Committee in 1999 by the SEBI, following the recommendations of which the SEBI introduced a separate section in the Listing Agreement of Stock Exchanges, namely, Clause

49. The objectives of the Committee and the underlying purpose of the issuance of Clause 49 was the agency-theoretic view of corporate governance being deemed necessary for investor protection and raised standards of governance would enable the development of the domestic capital market, and through adopting globally accepted practices of governance, will ensure that investors in India are informed and protected as any investor in the best-developed capital markets of the world.

Subsequent to the introduction and implementation of Clause 49, several more committees were set up to tighten up its different provisions in light of the experience on the ground, and also to clear up any ambiguity that crept into the provisions. The major committees that dealt with governance rules for listed companies were the Naresh Chandra Committee Report on Corporate Audit and Governance set up in 2002 by the Department of Company Affairs, Government of India, the Narayana Murthy Committee in 2003 constituted by the SEBI, the Companies Act 2013, replacing the Companies Act 1956, and the Uday Kotak Committee on Corporate Governance, 2017. Based on the recommendations of these various committees, corporate governance rules including those pertaining to the board of directors have been periodically revised in an attempt to be in step with market dynamics and other changes in the institutional environment.

The bedrock of the Kumar Mangalam Committee recommendations and their implementation via Clause 49 was the regulations pertaining to the board of directors and were applicable to all listed private and public sector companies and had to be complied with in a phase-wise manner. While matters such as minimum board size, appointment and rotation of directors, limits on directorships, board procedures and responsibilities of board members have been laid down under the Companies Act 1956, regulations regarding board independence, board procedures, and financial disclosures, along with disclosures related to the composition and functioning of the directors were introduced for listed companies under the purview of the SEBI. In September 2015, SEBI issued the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 (LODR) with the aim to consolidate and streamline the provisions of existing listing agreements, and the provisions of Clause 49 were incorporated within the ambit of LODR 2015. Finally, in May 2018, SEBI issued the LODR (Amendment) Regulations which have sought to implement the key recommendations of the Uday Kotak Committee. Box 4.1 presents the timeline of corporate governance reforms in India since 1999.

Box 4.1: Key Developments in Corporate Governance Reforms in India: 2000–2018

Date	Motivation/Rationale
1. **Kumar Mangalam Birla Committee Report on Corporate Governance [2000] set up by** to design a mandatory cum-recommendatory code for listed companies	– Corporate governance is considered an important instrument of investor protection particularly in light of the financial crisis in the Asian markets.
	– "Raising standards of corporate governance is "extremely relevant" to attract global capital. …would ensure that the Indian investors are in no way less informed and protected as compared to their counterparts in the best-developed capital markets and economies of the world."
	– Provided a set of mandatory and non-mandatory requirements on board of directors, disclosure, investor protection and other aspects of company governance. Compliance by listed companies in three tranches (based on listing status and company size) spread over three consecutive years.
2. **Institution of Clause 49 of the Listing Agreement [February 2000]** by SEBI following the Birla Committee Report	– "With the opening up of the economy and to be in tune with the WTO requirements, if Indian companies have to survive and succeed amidst increasing competition from transnationals and foreign companies and it can only be through achieving 'Excellence' in their working."
3. **Department of Company Affairs (DCA)[2001–02]: Task Force on Corporate Excellence through Governance.** Modified Companies Act, 1956 to incorporate provisions regarding Independent Directors and Audit Committees	– Triggered possibly by the Enron debacle and the Sarbanes Oxley Act of 2002 in the US, the Naresh Chandra Committee was entrusted *to analyse and recommend changes*, to the issues related to the statutory auditor-company relationship, certification of accounts and financial statements by the management and directors; and role of independent directors.
4. **Naresh Chandra Committee Report on Corporate Audit and Governance [2002] appointed by DCA**	– "Belief "of SEBI that "efforts to improve corporate governance standards in India must continue. This is because these standards themselves were evolving in keeping with market dynamics. Committee set up to evaluate the adequacy of existing corporate governance practices (Clause 49) and further improve these practices."

(continued)

(continued)

Date	Motivation/Rationale
5. **Narayana Murthy Committee Report [2003]: Committee on Corporate Governance constituted by SEBI**	– Important changes in Clause 49 related to the definition of independent directors, detailed outline of the role, responsibilities, and the powers of the audit committee, enhanced disclosure on accounting treatments, related party transactions and risk management as well as requirement of CEO/CFO certification of the accounts.
6. **Revision of Clause 49 [October 2004] in light of the recommendations of the Narayana Murthy Committee Report**	– More stringent requirements for board independence for companies with promoters (or persons related to promoters) as non-executive chairman.
7. **Revision of Clause 49 [April 2008] as clarification and revision of Clause 49 (2004)**	– Explanation of the expression "related to any promoter."
8. **Companies Act, 2013—Came into effect from August 30, 2013**	– significant additions include the requirement of having at least one-woman director on board, expansion in the duties and responsibilities of directors, restrictions on number of multiple directorships, tenure and cooling period for independent directors, formation of audit committee for all registered companies, rotation, maximum tenure and cooling period of auditors, and mandated CSR spending for listed companies above a certain size.
9. **Listing Obligations and Disclosure Requirements (LODR) Regulations—SEBI, September 2, 2015**	– The LODR regulations put into effect all the provisions of the Companies Act, 2013 with respect to corporate governance. The Clause 49 requirements were subsumed into the much more expansive LODR regulations as listed above.
10. **Uday Committee Report on Corporate Governance, October 5, 2017**	– Recommendation to further tighten corporate governance standards related to size and board composition, CEO duality, women independent directors and host of other recommendations.

(continued)

(continued)

Date	Motivation/Rationale
11. **Listing Obligations and Disclosure Requirements (LODR) (Amendments) Regulations—SEBI, May 9, 2018**	– Implementation by SEBI of many of the Uday Kotak Committee recommendations including the requirement to have at least one-woman independent director, separation of the position of CEO and Chairman, minimum board size of six, reduction in total number of directorships from eight to seven, higher quorum for board meetings. Implementation came into effect from April 1, 2019, for the top (500/1000) listed companies and scheduled to effective from April 1, 2020, for the top (1000/2000) listed companies.

Source Author's compilation from various publicly available official documents

The corporate governance regulations issued from time to time by the SEBI starting from the Clause 49 regulations in 2000, have sought to cover the entire gamut of issues that one comes across in the literature regarding the board of directors. In particular, the regulations have contained provisions relating to (a) Composition of the Board, (b) Non-Executive Directors' Compensation and Disclosures, (c) Other Provisions as to Board and Committees, which specify the frequency of meeting of the BOD and the number of multiple directorships that board members can hold in other companies, and (d) Code of Conduct for the Board members.

A reading of the different committee reports and the provisions of the various corporate governance laws and regulations reveal that the provisions apply uniformly to all listed Indian companies, irrespective of whether these are group affiliates or not. The issue of minority shareholder expropriation in promoter-controlled firms was flagged for the first time in the Naresh Chandra Committee Report in 2002 whereby the committee stated that the controlling promoter of an Indian company can through several actions such as fixing the election of board members, packing boards with crony directors, to deprive minority shareholders of their *de jure* ownership rights without negatively affecting pre- or post-tax profits. The Uday Kotak Committee Report was even more scathing in its reference to promoter-controlled companies, whereby the report alludes to the "Raja" (Monarch) model of running an Indian company where promoter self-interest rules over the interests of the minority shareholders and other stakeholders.

4.5.3 Promoter Presence and Board Governance

In view of the discussion in the preceding sub-section on regulations pertaining to the board of directors, this Section presents some key statistics on board characteristics of group affiliates. These board statistics relate to the composition of company boards

in terms of the presence of independent directors, the presence of promoters in leadership positions signifying their control on the board, and finally the presence of women directors.

For the purpose of analysis, since board variables are likely to be slow moving and change only marginally from year to year, for the sake of brevity of discussion, three time points are chosen. In particular, we select the year 2005 when the revised Clause 49 strengthening the definition of independent directors came into effect (Box 4.2), the year 2013 marking the enactment of the new Companies Act, 2013, and the year 2018, the end date of the study period and five years post the new Act. The time points chosen can provide some insight into how keyboard characteristics that are relevant for evaluating the governance by company boards have evolved in response to the various changes in board regulations. For these three time points, the results of the analysis of board characteristics are presented in Table 4.7 which is organized in terms of four panels, Panel A to Panel D.

Box 4.2: Changes in Board Composition and Independence: 2000–2014

Board composition	Board Composition	Board Composition	Board Composition
February 2000 "Optimum combination of executive and non-executive directors with not less than fifty percent of the board of directors comprising of non-executive directors. The number of independent directors would depend on whether the Chairmanisexecutiveornon-executive. In case of a non-executive chairman, at least one-third of board shouldcompriseofindependent directors and in case of an executive chairman, at least half of board should comprise of independent directors	*October 2004* *Similar as February, 2000*	*April 2008* *Additional qualification for boards with non-executive chairman* If the non-executive Chairman is a promoter or is related to promoters or persons occupying management positions at the board level or at one level below the board, at least one-half of the board of the company should consist of independent directors	*October 2014* *Additional qualification*: (a) The Board of Directors of the company shal lhave an optimum combination of executive and non-executive directors with at least one-woman director (b) Companies Act, 013 Section 149(1) requires at least one women director for not only for listed companies but also, for such non listed companies as prescribed

(continued)

(continued)

Board composition	Board Composition	Board Composition	Board Composition
Determination of Independence "Independent directors" means directors who apart from receiving director's remuneration, do not have any other material pecuniary relationship or transactions with the company, its promoters,itsmanagementorits subsidiaries, which in judgment of the boardmay affect independence of judgment of the director	**Determination of Independence** *Revised* "Independent directors" shall mean a non- executive director of the company who a. apart from receiving director's remuneration, does not have any material pecuniary relationships or transactions with the company, its promoters, its directors, its senior management, or its holding company,its subsidiaries and associates which may affect independence of the director; b. is not related to promoters or persons occupying management positions at the board level or at one level below the board; c. has not been an executive of the company in the immediately preceding three financial years; d. is not a partner or an executive or was not partner or an executive during the preceding three years, of any of the following: (i) the statutory audit firm or the internal audit firm that is (ii) associated with the company, and (iii) the legal firm(s) and consulting firm(s) that have a material association with the company e. is not a material supplier, service provider or customer or a lessor or lessee of the company, which may affect independence of the director; and f. is not a substantial shareholder of the company, i.e., owning two percent or more of the block of voting shares	**Determination of Independence** *Similar as October 2004*	**Determination of Independence** *Similar as October 2004*

Source Author's compilation from various publicly available official documents

Table 4.7 Board Characteristics of Indian Group Affiliates: 2005–2018

	2005	2013	2018
A. Board Size	10.02	9.54	8.42
B. Promoter Control of Board (proportion of affiliates)			
1.Promoter present on board	0.66	0.84	0.50
2. No control (promoter not CEO or Chairperson)	0.38	0.22	0.54
3.Operational Control (promoter CEO but not Chairperson)	0.06	0.07	0.04
4.Strategic Control (promoter not CEO but Chairperson)	0.14	0.24	0.15
5.Full control (CEO duality—promoter both CEO and Chairperson)	0.42	0.46	0.26
C. Board Independence			
Percentage of independent directors	46.51	52.53	53.46
Percentage of independent directors with executive chairperson	52.49	53.69	53.81
Percentage of independent directors with non-executive chairperson	42.68	51.77	52.53
Percentage of independent directors with non-executive chairperson who is promoter	41.68	51.76	52.39
Percentage of Independent Directors under no control	43.60	51.31	53.65
Percentage of Independent Directors under operational control	41.26	49.83	52.59
Percentage of Independent Directors under strategic control	45.20	53.16	52.72
Percentage of Independent Directors under full control	50.38	53.22	53.66
D. Female director presence on Board (proportion of companies in which at least one female director is present)			
Female director present on board	34.54	35.92	61.96
Female executive director present on board	8.75	10.96	6.37
Female independent director present on board	10.57	16.19	39.07
Female grey director present on board	15.22	9.77	16.52
Total number of companies in sample	388	593	581

Source Author's computation based on Prowess Database

As can be seen from Panel A which presents estimates of average board size across group affiliates, average board size of group affiliates has declined from around 10.02 directors per board in 2005 to 8.42 directors per board in 2018. Estimates from an earlier period, between 2003 and 2008, point to a declining trend in board size. The estimates for the later period presented in Table 4.7 seem to be consistent with the trend found for the earlier years since Clause 49 came into effect. The decline in board size could reflect the efforts on the part of companies to meet the gradually tightening up of the board independence requirement through reducing the board size rather than by increasing the number of independent directors.

Panel B of Table 4.7 presents estimates of promoter control of board as captured by the proportion of group affiliates in each of the three years under different types of promoter control. As different estimates of promoter ownership in Sect. 4.4 show,

promoters of group affiliated firms have persistently held controlling voting blocks in group affiliates, having on an average a majority share in group affiliates. From these estimates, although it is presumed that voting control would give promoters management control, the incidence of this cannot be deduced from the equity shareholding. Using board level data, such estimates have been derived in Table 4.7. To capture the range of promoter control in management, following Luo and Chung (2013), the sample of group affiliates is classified by patterns of family control as follows (1) no promoter control, where neither the chairperson nor the CEO is a promoter, so the firm is under professional management (2) operational control, where the chairperson is a non-promoter but the CEO is a promoter (3) strategic control, where the chairperson is a promoter but the CEO is a non-promoter, and finally (4) full control or CEO duality where the promoter is both the chairperson and CEO.

As is evident from the Table, notwithstanding the pervasiveness of controlling stakes of promoter ownership in group affiliates (Sect. 4.4), not all such firms have promoters on their boards; in 2005, the proportion of firms with at least one promoter present on board was 66%. However, what is interesting is to see that while promoter consolidation in terms of voting share has taken place over time, professionalization of group affiliated companies seems to have happened; the proportion of companies with no promoters on board in leadership positions has seen an increase with more than half of the sample firms having promoters as either a CEO or as a chairperson. This is also consistent with the decline seen between the two time points 2005 and 2018 in the proportion of companies in which a promoter was present. The other interesting point to note from the estimates in Panel B is that of firms where promoters were present on board, instances of a promoter being a CEO but not a chairperson are relatively rare; only 6% of companies in 2005, 7% in 2013 and 4% in 2018 of firms had operational control by the promoter. Affiliates with promoters as chairperson but not as a CEO implies that promoters in such companies are entrusted more with providing a strategic vision for the company, whereas the day-to-day management is professionalized. As of 2018, 15% of companies are in this category, a category that has been mandated to have at least 50% independent directors as per the rules introduced in 2008. Finally, it is evident from the estimates of CEO duality that the incidence of promoters in dual positions in group affiliates, although substantial has shown a noticeable decline in 2018 over earlier levels and this decline is consistent with the overall trend toward professionalization of boards apparent in group companies.

4.5.4 Board Independence

A typical board of modern corporations consists of inside or executive directors who are full time employees of the company and are involved in its day-to-day operations and non-executive or outside directors who do not have any executive responsibilities and play mostly an advisory role. The outside directors can be further classified

as "affiliated directors" (or grey directors) and "non-affiliated directors." Affiliated directors are former company officers, relatives of the company officers, or those who have existing business relationships with the company such as investment bankers and lawyers. Non-affiliated directors are outside directors with no such affiliation. It is the non-affiliated outside directors, commonly referred to as "non-executive independent directors" or simply as "independent directors" who are envisaged to perform the monitoring role and are widely regarded as the fiduciaries of shareholder interests.

From an agency-theoretic premise, one of the important focuses of corporate governance regulations across countries is to institute an optimal presence of independent directors on the board in order to increase the efficacy of board monitoring. It is argued that if boards exist to monitor shirking or self-dealing by inside management, then outside directors in general, and independent directors, in particular, should be more effective monitors than insiders whose interests may not be aligned with that of outside shareholders (Weisbach 1988). Independent directors, keen to protect their reputational capital and to avoid being sued by shareholders, have incentives to promote the interests of shareholders and be effective monitors (Bhagat et al. 1987; Fama 1980). Further, from a resource dependency perspective, outside busy directors, through their interlocks with other companies, can generate benefits by helping to bring in needed resources, suppliers, and customers to a company (Pfeffer 1972).

Board independence worldwide has typically been defined objectively based on objective criteria requiring either the presence of a minimum number or a minimum proportion of independent directors. However, this is only part of the exercise of constituting an independent board as it is necessary to first identify directors who are "independent" of inside management so that there is no conflict of interest in monitoring the management. The usual way of defining "independent" directors in most regulations is to first state that an independent director is one for whom any material relation with the company is absent, and then identify conditions that prima facie suggest that material relations could be present. Any person who does not fall under these conditions is then deemed to be independent. The law in various countries differs according to (i) the list of the presumptive conditions that lead to a material relation and hence lack of independence and (ii) the authority which makes this determination.

In India, both the composition of the board as well as the definition of independence have been revised from time to time based both on committee recommendations and experience on the ground. Changes have been made with the singular objective of strengthening board independence in line with existing best practices. Further, attempts have been made to bring about greater congruence between the legislations/regulations issued by different administrative authorities, in terms of what constitutes an independent board, and who constitutes and independent director. Box 4.2 presents the evolution of policies with respect to board composition and independence since 2000.

As is evident from the different regulations on board composition and the definition of director independence, there has been a concerted attempt at strengthening board independence. At the same time, there is a clear recognition that board dynamics depend on whether the chairman of the board is a non-executive director, in which case, the board independence requirement is lower than when the chairman is an executive director. Further, over time, there has been an increasing recognition that given the pervasiveness of promoter control and the potential agency costs associated with it, the "concession" that was built in the initial regulation of the requirement of independence of a board where the chairman is a non-executive is likely to be disturbed when the non-executive is a promoter of the company. By requiring that at least half of the board should comprise independent directors when the chairman is an executive or when the chairman is a promoter, the regulation is recognizing that a promoter in a leadership position without being an executive, can exert excessive control in the operation of the company.

As with the strengthening of regulations with regard to board independence, Box 4.2 also reveals the move toward achieving greater objectivity in the definition of director independence. The original definition of what construes as independence of a director was kept broad perhaps for the sake of pragmatism and flexibility, but as the Naresh Chandra Committee recognized, such a definition is circular and tautological. Further, with promoter control of companies so pervasive, the application of such a definition by any promoter in a leadership position to select independent directors, could lead to the constitution of friendly boards rendering monitoring by independent directors weak. The revised definition of independence since October 2004 seeks to incorporate a set of bright line tests for independent directors that are in line with international best practices.

Turning toward an evaluation of board independence in group affiliated firms, items 1–4 of Panel C of Table 4.7 present estimates of board independence according to the regulations presented in Box 4.2, and items 5–8 of Panel C present comparative estimates for different types of promoter control as specified under items 2–5 of Panel B. Several observations can be made from these estimates, especially with regard to compliance of affiliates to changes in regulations pertaining to board independence. As can be seen from the timeline of changes in the regulations pertaining to board composition and independence, requirement of a minimum percentage of independent directors to be appointed to the board of a listed company has been conditional on whether the chairperson is an executive or a non-executive director. The regulation that existed between 2004–2008, did not consider the possibility that a chairperson who is designated as an non-executive can *de facto* act as an executive director if the person is a promoter of the firm, in which case the management should require the same extent of independent oversight had the chairperson been an executive director. This lacuna was removed in the revised provisions in 2008 which specified that the presence of independent directors for companies with a promoter chairperson should be the same as for companies with an executive chairperson. Panel C of Table 4.7 presents estimates pertaining to board independence of firms with different extents of promoter control when promoters are in leadership positions. Here too, there is little

variation in board composition in 2013 and 2018, the level remaining almost the same since 2011 (not reported). This seems to coincide with the time when average equity holdings of promoters crossed the majority mark and could be indicative of the fact that there is no discriminating power left in using the extent of board independence as a marker for inferring about firm governance.

As is evident item 1 of Panel C, the percentage of independent directors in group affiliates in 2005 was 46.51%. This estimate is arrived at by pooling all affiliates, those for which the mandatory requirement is one-third (chairperson is a non-executive) and those with executive chairperson for which the requirement of independence is at least 50%. By 2013 (earlier estimates not reported), the percentage of independent directors irrespective of whether the director is executive/non-executive or promoter, has crossed 50% on an average, and was 53.46% in 2018, suggesting that at least some firms, including perhaps those with a non-executive, non-promoter chairperson, over complying. Item 2 of Panel C captures the percentage of independent directors for affiliates with executive chairperson, for which the minimum requirement of such directors on board is 50%. It is clear from the estimates that on average such companies are complying with the regulation. Turning to item 3 of Panel C, the estimates pertain to that class of group affiliates with non-executive chairperson, the minimum requirement for which was one-third of the board. This category is relevant for the period 2005–08, and 2005 estimates again suggest over compliance with the regulatory requirement on an average. While it appears from the estimate of year 2005 that the extent of over compliance remained below 50%—the level that is required for companies with executive chairperson -, estimates for later years, 2013 and 2018, indicate that even for these group of companies, the percentage of independent directors crossed the 50% cut-off. Thus, tying independence requirements to the specific position of the chairperson has not made a difference on the ground. Finally, the estimates of board independence under item 3 of Panel C capture compliance with the revised regulation in 2008 of requiring boards with non-executive chairperson who is a promoter, to constitute boards with at least 50% directors. The percentage of group affiliates that fall under this category in the sample as of 2005 was 25.1% for which the independence requirement would be 50%. Estimates for 2013 and 2018 suggest that these set of firms have complied with the higher independence requirement.

4.5.5 Women Directors on Board

As in most countries, women are under-represented on the board of directors of companies.[11] India has been no exception in this regard, with women, on an average, accounting for less than 5% of board seats in listed Indian non-financial companies between 2005 and 2014 (Sarkar and Selarka 2021). Since 2003, beginning with the

[11] A survey of 8,600 companies in 49 countries found that women held only 16.9% of all global board seats as of 2018. Catalyst, *Quick Take: Women on Corporate Boards* (March 13, 2020).https://www.catalyst.org/research/women-on-corporate-boards/ accessed on July 17, 2020.

institution of gender quotas in Norway, there has been a push toward greater gender diversity on corporate boards over the years has been primarily driven by the business case for having more women on company boards.[12] In India, in order to increase the presence of woman directors on company boards, legislation was enacted in 2013 with to institute gender quotas on company boards under section 149(1) of the Companies Act, 2013 (MCA, 2013), which required every company or classes of companies, as may be prescribed, to appoint at least one-woman director.[13] Initially, similar to other countries, the law in India did not specify the type of woman director, namely, grey or independent, to be appointed under the quota requirement. However, a more stringent gender quota was introduced by the SEBI under the Listing Obligations and Disclosure Requirements (LODR) (Amendment) Regulations 2018 which required the top 1000 listed companies in India to have at least one independent woman director by April 1, 2020.[14]

Panel D of Table 4.7 presents estimates of the proportion of group affiliates with at least one-woman director, and corresponding estimates for women executive, independent, and grey directors for three time points 2005, 2013, and 2018. Additionally, Fig. 4.8 plots trends in the presence of women director on company boards in terms of the percentage of affiliates with at least, one-woman director (*dfdir*), one independent director (*dfind*), one grey director (*dfgrey*) and one executive director (*dfed*). Till the year 2018, both the Indian law and correspondingly the SEBI regulations did not specify the type of woman director, namely, grey, or independent, to be appointed to meet the quota requirement. However, one of the channels through which family control is exerted on the board of family firms, a large majority of which are group affiliates is through the presence of grey directors, directors who are non-executive, but who, unlike the independent directors, are often founding family members or are their relatives. Thus, compliance of the gender quota for group firms could be a channel through which family control of the board can simultaneously be increased.

As is evident from the estimates provided in Fig. 4.8 and Table 4.7, there is a clear structural break in the percentage of companies with at least one-woman director, and a steep increase in the percentage of *dfdir* shows increasing compliance with the relevant law. Significantly, there does not seem to have been any jump

[12] More inclusive and diverse boards, it is argued, are likely to be better at decision making and monitoring as directors drawn from different demographics are in a better position to understand customers and stakeholders, bring in fresh perspectives, new ideas, different problem solving, advisory and monitoring attributes, and have a wide range of experiences that helps them deal with issues in a more holistic way, all of which are likely to have a positive effect on a company's bottom line (Davies Report; Ferreira, 2011; Anderson et al., 2011).

[13] The rules with respect to the implementation of this Sub-section 149(1) were notified on March 31, 2014 and required that all listed companies, as well as all unlisted registered companies with a paid-up share capital of Rs. 100 crore or more, or turnover of Rs. 300 crore or more, have to appoint at least one woman on their board within six months of the notification.

[14] The timeline for the implementation of the new regulation would be as follows: the top 500 listed entities shall have at least one independent woman director by April 1, 2019, and the Board of directors of the top 1000 listed entities shall have at least one independent woman director by April 1, 2020.

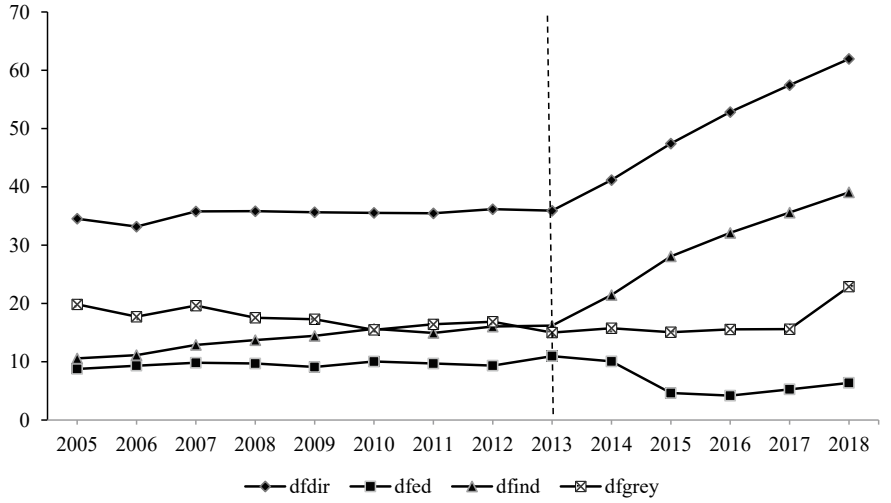

Fig. 4.8 Group affiliates with at least one woman director (%): 2005–18. *Source* Author's computation from Prowess database

as of 2018 in the appointment of grey women directors in group affiliates since the enactment of the quota, and instead the compliance is being driven by the appointment of women independent directors. This trend could be further strengthened given the revised provision for independent boards for listed companies under the LODR (Amendments) Regulations of SEBI, as mentioned above.

4.6 Concluding Comments

This chapter analyzes the ownership and governance of Indian business groups in the backdrop of evolving laws and regulations in India. The analysis is conducted using a panel data of group affiliated and unaffiliated firms for the period 2005–2018 during which the governance reforms that were initiated in the earlier years took root, and several new ones were introduced through revisions of existing regulations and laws. The twin objectives of the analysis have been to examine (i) whether the nature of the agency problems pertinent to business groups as manifested in their ownership and control structures have fundamentally changed in response to dynamic changes in their institutional environment, and (ii) whether reforms introduced to change the ways in which groups are governed by the board of directors have made any impact on the way these groups are actually governed. The analytical approach has been to understand the changes, if any, through the lens of history, to find out whether there is path dependence in the present functioning of the groups, and whether *de jure*

changes in governance mechanisms that have been introduced progressively through board reforms has *de facto* altered the governance structure of business groups in line with the intended objectives.

Contrary to expectations drawn from the institutionalist perspective that the relevance of business groups that fill institutional voids will wane as markets develop, the analysis in this chapter points to the continued predominance and persistence of Indian business groups in corporate sector activity. Several of the groups, like Tata and Birla, which were established in the pre-independence era, have continued to remain in leadership position with only a handful of large business groups continuing to dominate corporate sector activity irrespective of the changes in the institutional environment. Big groups have become even bigger in terms of their asset base, and changes in the relative positions of groups at the top end of the distribution have been sticky at best even after more than a hundred years of their existence and the entry of new groups from time to time. Within groups, ownership structures have become more concentrated over time, with promoters of almost of all groups now having majority control in all the listed firms of the groups.

The pervasiveness, persistence, and dominance of promoters in Indian business imply that there is little scope of monitoring internal management by other large blockholders. Hence a disproportionate burden of governance has to fall on the board of directors of group companies. This is perhaps why the major governance reforms in India since their initiation in early 2000s have focused on good board governance. Thus, regulations have emphasized board independence of listed companies as reflected in the requirement of the percentage of independent directors and the definition of independence. Presumably, while agency problems of business groups have stayed the same or even aggravated, board regulations have exhibited the dynamism to address the potential agency costs. Data on observed board characteristics do suggest that these regulations are influencing board structure of affiliated firms in directions intended by the regulations. In some cases, the data suggests that there has been over compliance. Thus, with regard to the main question of whether *de jure* reforms with regard to board governance have translated to intended *de facto* changes in observable "good" governance parameters, the answer is in the affirmative. However, whether this is on account of simply tick box compliance or whether there are fundamental ways in which governance of groups is changing and resulting in lower agency costs, remains to be seen.

Annexure

See Table A.1.

Table A.1 Data on Indian business groups: an analysis of the prowess database 2018

A. *Business Groups with both listed and unlisted firms*		Number of firms
Total Number of Distinct Business Groups Reported in the Database	734	11,802
Total Number of Distinct Business Groups Reported in the Database with number of firms per group reported > = 2	703	11,771
Total Number of Distinct Business Groups Identified in the Database with number of firms per group reported > = 2 AND with firm level data on total assets	569	5086
B. *Groups with at least one listed firm*		
Total Number of Distinct Business Groups Reported in the Database with at least one listed firm	659	2094
Total Number of Distinct Business Groups Reported in the Database with at least one listed firm AND firm level data on total assets	534	1277
C. *Groups with at least one unlisted firm*		
Total Number of Distinct Business Groups Reported in the Database with at least one unlisted firm	663	9708
Total Number of Distinct Business Groups Reported in the Database with at least one unlisted firm AND firm level data on total assets	417	3823
D. *Groups with only listed firms*		
Total Number of Distinct Business Groups Reported in the Database with only listed firms AND firm level data on total assets	157	245
E. *Groups with only unlisted firms*		
Total Number of Distinct Business Groups Reported in the Database with only listed firms AND firm level data on total assets	44	191

Source Author's computation based on Prowess Database

References

Anderson RC, Reeb DM (2004) Board composition: Balancing family influence in S&P 500 firms. Adm Sci Q 49(2):209–237

Bautista, L R (2002) Ensuring Good Corporate Governance in Asia, In Richter, F-J and Mar, PCM (Eds), *Recreating Asia: Visions for a New Century*, Singapore: Wiley.

Bertrand M, Mehta P, Mullainathan S (2002) Ferreting out tunneling: an application to Indian business groups. Quart J Econ 117(1):121–148

Bhagat S, Brickley J, Coles J (1987) Managerial indemnification and liability insurance: the effect of shareholder wealth. J Risk Insurance 55:721–736

Booth JR, Deli DN (1996) Factors affecting the number of outside directorships held by CEOs. J Financ Econ 40(1):81–104

Cadbury A (1992) Report of the committee on the financial aspects of corporate governance. Gee & Co., Ltd., London, United Kingdom

Cheung YL, Rau PR, Stouraitis A (2006) Tunneling, propping, and expropriation: evidence from connected party transactions in Hong Kong. J Financ Econ 82(2):343–386

Claessens S, Fan JP (2002) Corporate governance in Asia: a survey. Int Rev Financ 3(2):71–103

Cronqvist H, Nilsson M (2003) Agency costs of controlling minority shareholders. J Financ Quant Anal 38(4):695–719

DeMott DA (2007) Guests at the table: Independent directors in family-influenced public companies. J Corp L 33:819

Demsetz H (1983) The structure of ownership and the theory of the firm. J Law Econ 26(2):375–390
Dodd P, Warner JB (1983) On corporate governance: a study of proxy contests. J Financ Econ 11(1–4):401–438
Douma S, George R, Kabir R (2006) Foreign and domestic ownership, business groups, and firm performance: evidence from a large emerging market. Strateg Manag J 27(7):637–657
Dutta S (1997) Family business in India. Response Books, New Delhi
Encarnation DJ, Mason M (1990) Neither MITI nor America: the political economy of capital liberalization in Japan. Int Organ 44(1):25–54
Faccio M, Lang LH (2002) The ultimate ownership of Western European corporations. J Financ Econ 65(3):365–395
Fama EF (1980) Agency problems and the theory of the firm. J Polit Econ 88(2):288–307
Fama EF, Jensen MC (1983) Separation of ownership and control. J Law Econ 26(2):301–325
Ferris SP, Jagannathan M, Pritchard AC (2003) Too busy to mind the business? Monitoring by directors with multiple board appointments. The J of Finance 58(3):1087–1111
Finkelstein S (1992) Power in top management teams: dimensions, measurement, and validation. Acad Manag J 35(3):505–538
Gilson RJ (2006) Controlling shareholders and corporate governance: complicating the comparative taxonomy. Harvard Law Rev, 1641–1679
Goswami O (1989) Sahibs, babus, and banias: changes in industrial control in eastern India, 1918–50. J Asian Stud 48(2):289–309
Goswami O (2000) The tide rises gradually corporate governance in India, Draft for Presentation at the Informal Workshop, OECD. http://www.OECD.org/dataOECD/6/47/1931364.pdf
Granovetter M (1995) Coase revisited: business groups in the modern economy. Ind Corp Chang 4(1):93–130
Hazari RK (1966) The corporate private sector: concentration ownership and control. Asia Publishing House
Jensen MC, Meckling WH (1976) Theory of the firm: managerial behavior, agency costs and ownership structure. J Financ Econ 3(4):305–360
Johnson S, La Porta R, Lopez-de-Silanes F, Shleifer A (2000) Tunneling. Amer Econ Rev 90(2):22–27
Kali R, Sarkar J (2011) Diversification and tunneling: evidence from Indian business groups. J Comp Econ 39(3):349–367
Khanna T, Palepu K (2000) Is group affiliation profitable in emerging markets? an analysis of diversified indian business groups. J Financ 55(2):867–891
Khanna T, Palepu K (2005) The evolution of concentrated ownership in India: broad patterns and a history of the Indian software industry. In: A history of corporate governance around the world: Family business groups to professional managers, pp 283–324. University of Chicago Press
Khanna T, Yafeh Y (2007) Business groups in emerging markets: Paragons or parasites? J Econliterature 45(2):331–372
Khanna VS (2005) The economic history of organizational entities in ancient India. Michigan Law Econ Res Paper, 5–14
Kumar J (2008) Econometric analysis of corporate governance in India: firm performance and dividend policy in India, VDM Verlag
Porta RL, Lopez-de-Silanes F, Shleifer A, Vishny RW (1998) Law and finance. J Polit Econ 106(6):1113–1155
La Porta R, Lopez-de-Silanes F, Shleifer A (1999) Corporate ownership around the world. J Financ 54(2):471–517
Leff N (1976) Capital markets in the less developed countries: the group principle. Money Financ Econ Growth Dev 3(1):97–126
Luo XR, Chung CN (2013) Filling or abusing the institutional void? Ownership and management control of public family businesses in an emerging market. Organ Sci 24(2):591–613
Masulis RW, Pham PK, Zein J (2011) Family business groups around the world: financing advantages, control motivations, and organizational choices. Rev Financ Studies 24(11):3556–3600

Maury B (2006) Family ownership and firm performance: empirical evidence from Western European corporations. J Corp Finan 12(2):321–341
Mehta MM (1955) Structure of Indian Industries: A Statistical Study in the Size, Location, and Integration of Industrial Units in the Seven Selected Industries of India, Viz., Cotton, Jute, Sugar, Iron and Steel, Coal, Paper, and Cement. Popular book depot
Morck R, Yeung B (2004) Family control and the rent–seeking society. Entrep Theory Pract 28(4):391–409
NCAER (1959) The managing agency system, national council of applied economic research, New Delhi, Publishers
Ouchi WG (1980) Markets, Bureaucracies, and Clans. Adm Sci Q 25(1):129–141
Pfeffer J (1972) Interorganizational influence and managerial attitudes. Acad Manag J 15(3):317–330
Pound J (1988) Proxy contests and the efficiency of shareholder oversight. J Financ Econ 20:237–265
Ramaswamy K, Li M, Petitt BS (2012) Why do business groups continue to matter? A study of market failure and performance among Indian manufacturers. Asia Pacific J Manag 29(3):643–658
Roe M (2004) The institutions of corporate governance. Discussion Paper No. 488, Harvard Law School
Sarkar, J, Selarka E (2021) Women on board and performance of family firms: Evidence from India (with Ekta Selarka), Emerging Markets Review, Elsevier, Volume 46, March 2021, 100770.https://doi.org/10.1016/j.ememar.2020.100770
Sarkar J, Sarkar S (2000) Large shareholder activism in corporate governance in developing countries: evidence from India. Int Rev Financ 1(3):161–194
Sarkar J, Sarkar S (2009) Multiple board appointments and firm performance in emerging economies: evidence from India. Pacific-Basin Finance J 17(2):271–293
Sarkar J (2010) Business groups in India. In: Colpan, Asli M, Hikino, Takashi L, James R (Eds) The Oxford handbook of business groups. Oxford University Press: New York.
Sarkar J, Sarkar S (2012) Corporate governance in India. SAGE Publishing India
SEBI (2003) Recommendations of the narayana murthy committee on the revised clause 49 http://www.sebi.gov.in/Index.jsp?contentDisp=Section&secid=5
Shleifer A, Vishny RW (1997) A survey of corporate governance. J Financ 52(2):737–783
Tripathi D (2004) The Oxford history of Indian business. Oxford University Press, New Delhi
Weisbach MS (1988) Outside directors and CEO turnover. J Financ Econ 20:431–460

Chapter 5
The Multi-entity Structure and Control in Business Groups

Surajit Mazumdar

Abstract The literature on business groups in "emerging" markets emphasizes several dimensions along which the group form may differ from its presumed opposite—the stand-alone firm. However, what does not usually capture too much attention is that the business group structure in India can and does incorporate several companies/firms which are neither publicly listed nor even individually large. So much so that several apparently stand-alone companies can also be parts of networks connecting them to other such companies/firms. The inter-connections which link these several entities are, however, crucial *inter alia* to the exercise of control by business families over capital and wealth far in excess of what is legally owned by them. Concentrated control over assets and concentrated "ownership" of companies are the related outcomes of these and this provides an important reason for the resilience of the multi-entity group structure. The specific structure of the network of individual business groups and their participating entities, however, change over time in response to changing institutional contexts as well as due to its endogenous dynamics. This paper seeks to develop these propositions using the specific case of the Reliance group as an illustration and further argue that liberalization, instead of developing a "market for corporate control," has only served to reinforce this method of "entrenchment."

5.1 Introduction

The Indian business group is a sub-species of the larger category of entities which share the common characteristic of being different from the classic stand-alone firm. Such groups, which are said to be common in "emerging market" contexts, however, have been distinguished from their supposed opposites along several dimensions rather than one. And these do not even necessarily imply each other. A multi-company structure, conglomerate diversification patterns, and the role played within them by

S. Mazumdar (✉)
Centre for Economic Studies and Planning, Jawaharlal Nehru University, New Delhi, India
e-mail: surajit.mazumdar@gmail.com; surajitmazumdar@mail.jnu.ac.in

A. Chakraborty and I. Chakraborty (eds.), *Indian Business Groups and other Corporations*, India Studies in Business and Economics,
https://doi.org/10.1007/978-981-99-5041-6_5

large family networks are some of the typical distinctive characteristics of groups referred to in the literature (Leff 1978, Amsden and Hikino 1994, Granovetter 1995, Ghemawat and Khanna 1998, Guillen 2000, Khanna and Palepu 2007, Khanna and Yafeh 2007). Even after this there are questions about whether the group is a specific form of the firm or is it a structure of coordination between firms. Contrast for instance "The group is a multi-company firm which transacts in different markets but which does so under common entrepreneurial and financial control" (Leff 1978, p 663) with the notion of the group as a "hybrid organizational form between the firm and the market" (Khanna and Yafeh 2007, p. 333). When looked at from the standard corporate governance perspective, it is not merely their multi-company structure but the inter-connectedness of legally independent publicly listed companies and their concentrated ownership that has been emphasized. Thus, except in a purely negative sense, there is no one clear definition of what constitutes an emerging market business group.

The recognition and study of business groups as a feature of the structure of the Indian private corporate sector, however, first emerged from a very different concern, namely, the "concentration of economic power" or the "monopoly problem" (Government of India 1964, 1965; Hazari 1966; Namjoshi 1966). The central focus here was on the control over a large proportion of assets, particularly in the industrial sector, by a relatively small number of business families. Relevant to assessing the degree of such concentration was the significance of what several early studies had noted and amassed considerable evidence on, namely, inter-connections between legally independent companies or the phenomenon of what was termed "industrial combination" (Mehta 1952, Basu 1958, Nigam 1959, Nigam and Chaudhuri 1960, Mohnot 1962, Nigam and Joshi 1963, Joshi 1965, Kothari 1967). Ultimately this led to a specific conceptualization of the group as a single and cohesive decision-making entity that incorporated within itself several legally separate units.

> "A corporate group may be defined as consisting of units which are subject to the decision-making power of a common authority… The group functions as a single organisation, nevertheless, though each of the corporate units under its control is a separate legal entity" (Hazari 1966, p. 5).

The Monopolies Inquiry Commission (Government of India 1965) and the Industrial Licensing Policy Inquiry Committee (Government of India 1969) worked with the same understanding of the group. The latter described big groups as "Large Industrial Houses," and in addition drew attention to the presence of "Large Independent Companies"—big firms that had not assumed the group form. Two important aspects of the Indian business group so defined were the emphasis on concentrated ***control*** over assets rather than in their legal ownership and that the group could include several units of diverse sizes as well as forms—and these included not merely publicly listed companies but also partnership and proprietorship firms, trusts and private companies. The first of these meant that no presumption was made to the effect that separation of ownership and control of capital was necessarily absent or limited in the Indian business group. Correspondingly, the pooling of capital owned by associated individuals linked to each other through large family networks was also not deemed

to be an essential feature of the business group. On the contrary, the mechanisms by which centralized control was exercised, over assets not only dispersed across different corporate units but also not necessarily owned by the controlling family, was itself an object of investigation. This, in fact, was one reason among others why it was important to acknowledge and examine the significance of the second feature, that the group structure included entities other than listed public companies.

5.2 The Business Group as a Dynamic Structure

Corporate units and groups are of course creations of human agents. Implicit in the conception of a centralized control over several legally separate units is the likelihood that their creation and their integration into a whole are also the deliberate creation of that controlling authority. Just as there can be a variety among single companies in terms of size, levels, and kinds of diversification and internal organization, and each one can change over time in terms of all these dimensions by a process in which its management is an active agent, so too in the case of business groups. This can include variations in the number and types of different units and the structure integrating them as a whole—in short, the architecture of the group.[1] Not only is the guiding hand of the central controlling authority behind the group structure, even the recourse to the group form is deliberate. Indeed, single units can also evolve into groups—several groups recognized as such later, like Godrej, can in fact be traced back to the "Large Independent Companies" of the 1960s. When controlling authorities are families, centralized control can also facilitate "restructuring" of groups to manage generational transitions or to give effect to family divisions. This mobility in the group structure means that they are not amenable to be defined in extremely narrow and rigid terms.

The history of the Reliance "group" from its beginnings in 1958 provides an illustration of the dynamic character of business groups (Mazumdar 2006). Almost instinctively, in any study Reliance would generally be considered a representative of the category of business groups. Reliance Industries thus would typically be always treated as a group affiliated company rather than a stand-alone one. Yet, as its history briefly recounted below will indicate, Reliance in several phases of its history would not fit one or the other of several standard conceptions of the "emerging market" business group and almost never all of them.

The Reliance group began its history in trading conducted initially through a partnership firm, Reliance Commercial Corporation. It was only in 1966 that it also entered manufacturing along with the incorporation of the first joint-stock company of the group, Reliance Textiles and Engineers Ltd. In the next decade, five more

[1] For instance, among the 75 groups with assets more than Rs. 5 crores (50 million) in 1964 identified by the MIC, the total number of group companies ranged from a mere 4 or 5 in some cases to as many as 151 in the case of the Birla group. In the case of the Birla group, less than 8% of its total assets were accounted for by the largest company in the group, but there were also many groups where a single company accounted for over 90% of the total group assets.

companies were created —Reliance Exports in 1969; Vimal Fabrics in 1973; and in 1975 Anil Fabrics, Dipti Textile Industries, and Nina Textile Industries were incorporated to take over the businesses of existing partnership firms. However, till 1977 none of the 6 companies was listed on any stock exchange—instead, they were all narrowly held private limited companies. Nevertheless, through a debt-financed growth, the group had assumed some size and Reliance Textiles had to register itself under the then-prevailing Monopolies and Restrictive Trade Practices Act in 1978. The manufacturing activity of the group during this initial phase, spread across four companies, was concentrated in the knitting and weaving of synthetic fabrics and processing of yarn and gray fabrics. Though with some addition of new activities and the acquisition of another company (Sidhpur Mills), the textiles phase of the group continued till 1982. After that the growth for a decade came to be increasingly centered on polyester and other petrochemicals. This growth carried Reliance to the very top of India's corporate hierarchy by the end of the decade of the 1980s. While there was a rapid proliferation in the number of companies alongside this (Table 5.1), all the manufacturing activity came to be concentrated in what was for several years the only publicly listed company in the group and was ultimately rechristened as Reliance Industries Ltd.

The first listing of a Reliance group company was preceded by the amalgamation of Reliance Textiles into another company, Mynylon Ltd., which was doing no business at that time. The amalgamation was followed by a change in the company's name, and city of registration, to those of the acquired entity. This apparently odd rebirth of Reliance Textiles considerably increased the number of shares held by its controlling family from which a part was divested to the public to get the company listed. Subsequently, as the company repeatedly and successfully tapped the capital market for funds in the 1980s, the share capital and the number of shareholders multiplied. The family retained its control over the company through a stake that was increasingly held not by individuals but by other companies, the many which were added to the stable during this period.

Table 5.1 Increase in the number of companies of the Reliance group, 1978 to 1989

Year- >	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Companies Registered in the Year	6	7	2	10	17	21	31	6	49	5	2	5
Cumulative total of group companies	12	19	21	31	48	69	100	106	155	160	162	167

Note The above table excludes companies for whom the relevant information was not available. Seven companies that were registered earlier but acquired during this period have also not been included

Source Mazumdar (2006)

With the advent of liberalization, Reliance expanded its petrochemical operations and moved into oil and gas, power, telecom as well as several other new services activities. Manufacturing operations, however, continued to be concentrated in one public company and its subsidiaries. Even when new companies were created to start a business or companies were acquired, they were eventually merged into Reliance Industries. This merger process began with Sidhpur Mills in 1982, which was followed by that of Reliance Petrochemicals in 1992, Reliance Polypropylene and Reliance Polyethylene in 1995, Reliance Petroleum in 2002, the privatized IPCL in 2007, and then another Reliance Petroleum in 2009. In the meanwhile, in 2005 the two Ambani brothers also split up the group among themselves which also narrowed the business spread of each. While the two factions have had 10 odd companies listed on stock exchanges, most of them were part of the Reliance ADAG (Anil Ambani) that was engaged in mainly power, telecom, and other services. The Reliance Industries group (Mukesh Ambani), in which the oil and gas and manufacturing operations came to be concentrated, eventually ended up with only two listed companies even as it diversified into retail and telecom. Reliance Industries, however, continued to be controlled by the family through the shareholding held by several other companies and one trust, and LLPs after the Limited Liability Partnership Act, 2008 came into force. It in turn became the sole "promoter" of the other listed company (holding 45% of its share capital as on March 2017).

Thus, the simultaneous control of a family over several legally separate units has been a feature of Reliance's structure through most of its history, at least for the last four and a half decades. For some period, this was a feature without there being any publicly listed company in the group's stable. It became one of India's largest groups with a single listed company. No tendency toward conglomerate diversification characterized its initial journey to that position—if it exhibited any tendency toward conglomerate diversification that was later. Like almost all other groups, it also experienced a family division. So, when, if ever, has Reliance been a business group? The answer will change depending on the specific definition one adopts. By the original Hazari conception, however, it has been almost throughout a business group, but its structure has evolved and altered over time—perhaps, one may say, as a response to its own growth and the changing environment of its operation.

5.3 The Business Group: Control and Ownership

The business group serves as an effective vehicle for centralization of capital precisely because in addition to the control of large quantities of assets not necessarily owned by those who manage it that is afforded by the corporate form itself, the group structure also allows business families to enjoy the benefits of concentrated ownership of the equity of group companies including publicly listed ones. A business group can attain a size far beyond the limits it would be subject to if it were to be primarily dependent on the funds owned directly by its controlling family, limits that family divisions make severer, precisely because of this special combination being its feature. The

multi-entity structure enables it by allowing business groups to take recourse to the device that in Indian literature has been referred to as *inter-corporate investments*—units within the group holding the equity of other group companies (Hazari1966; Goyal 1979; Singhania 1980, Rao 1985).

In the colonial period, when financial institutions for providing long-term finance were virtually absent and share capital was the principal means of financing industrial investment, companies could be controlled by European and Indian capitalists through managing agency firms.[2] After independence, by the time this institution was abolished in 1969, long-term industrial financing of private sector companies was also well on its way to increasingly taking the form of lending by public sector financial institutions. However, Indian business groups by then had also evolved the method of inter-corporate investments to protect themselves from any serious threat to their control.

Inter-corporate investments can be said to be a means of creating ***fictitious*** share capital—claims on assets that are themselves claims on other assets—that make use of the property-owning rights vested in the units constituting a group. Any funds acquired by any one unit from any source and in any form is potentially usable for the purchase of the equity of another unit rather than any real asset. For instance, a company controlled by a business family could borrow from a bank to finance its acquisition of shares in another company—thus using the borrowed funds to acquire voting rights in the second company that would be controlled by the family but would not ultimately belong to them. Further, the consequent transfer of funds then places the second unit in exactly the same position—in possession of funds that could be used to acquire equity of any other company. Continuous repetition of this process and multiplication of the total share capital of different units can be done without involving any additional funds and indeed the locking up of any funds in this can be eventually eliminated by forming a circular chain of such investments. In the ultimate analysis, all inter-corporate investments within a group would be the liability of some unit (those issuing the shares) as well as the asset of another (those holding the shares). For the group as a whole, these are liabilities that "finance" nothing but their own holding as assets—and consolidation of all the units within the group into a single entity would result in them getting extinguished.

It is the creation of fictitious share capital in the form of inter-corporate investments that allows business families to control a much large equity in the group companies than that directly owned by them and through that control also the real ***and*** financial assets owned by these companies. It results in a form of separation of capital as property and capital as function that makes that separation appear to be of a lesser order than it actually is—the greater is the proportion of holdings of other corporate bodies in the equity through which group companies are controlled the greater also will tend to be the relative importance of the finance provided by other sources.

[2] The managing agency *system* involved the contractual vesting of the responsibility for managing the affairs of a company to a managing agency, which could be a proprietorship/partnership firm or even a narrowly held joint-stock company. The system was often used to control a single company, but in a managing agency *house* many companies were managed by a single managing agency firm.

The use of the device of inter-corporate investments is something possible only if the group includes several different corporate units and this provides one rationale, alongside others, for groups to have a multi-entity structure. Since the mechanism of centralizing control over several corporate units of a business group lies within the structure of the group, it should be also considered as one determinant of that structure. Indeed, this is one possible explanation for the presence of several small private companies within the business group which might otherwise not be performing any function in the organization of its business activities. Again, the pre-1991 history of the Reliance group subsequent to the listing of Reliance Textiles (Industries) can be used to illustrate this.

As mentioned earlier, Reliance grew rapidly in the 1980s, for financing which made extensive use of the capital market. For a relatively younger group making its entry into what was still a relatively restricted market, the concentration of production activity and real assets in the one company raising funds was perhaps important because it gave it some scale and size. However, that very success achieved in mobilizing finance and the consequent expansion of the share capital posed the problem of how to maintain and secure the family's control. As already indicated, and confirmed by Table 5.2, the proportion of the direct holding by the family came down drastically. Reliance solved this problem by recourse to inter-corporate investments but in circumstances when there were no other large companies in the fold to hold a controlling stake in Reliance Industries. How it did so can perhaps explain why there was also the rapid proliferation of companies noted earlier.

The evidence (Mazumdar 2006) indicates that several small investment and trading companies created by the group used borrowed funds to repeatedly acquire Reliance shares and that this holding was also periodically transferred from one set of such companies to others. Divestments by some of these companies were accompanied by acquisitions by others through concurrent transactions if not transactions among themselves. Since the acquisitions were also financed by fresh borrowing, this

Table 5.2 Distribution of shareholding of Reliance Industries (As on date of annual general meeting of respective years), selected years

Year	1977	1982	1987	1988
Total equity shares	5,951,100	16,643,587	51,609,318	152,146,493
Percentage shares held by:				
Financial institutions	2.94	17.95	12.22	16.68
Bodies corporate	2.94	34.85	36.23	20.47
Directors and relatives	90.29	5.63	2.41	0.81
Other top 50 shareholders	3.83	–	1.65	1.00
Non-resident indians	–	–	–	–
Others	–	41.57	47.50	61.04
Total	100	100	100	100

Source Mazumdar (2006)

Table 5.3 Structure of ownership of shares of sample of narrowly held Reliance group private companies, 1985 to 1989

Year	1985	1986	1987	1988	1989
Equity shares					
Number of companies	56	70	81	64	48
Total number of shares	2,149,238	2,743,448	6,830,480	5,587,990	3,751,340
Value of shares (Rs. Lakhs)	220.64	280.25	734.37	563.77	380.10
Distribution of Ownership (%)					
bodies corporate	33.61	48.20	93.86	91.16	95.96
Individuals	66.39	51.80	6.14	8.84	4.04
Preference shares					
Number of companies	24	23	17	16	14
Total number of shares	588,700	581,200	550,100	564,500	551,250
Value of shares (Rs. Lakhs)	60.27	59.52	56.36	57.85	56.52
Distribution of Ownership (%)					
bodies corporate	82.93	82.79	84.70	81.21	83.17
Individuals	17.07	17.28	15.37	18.86	16.91

Source Mazumdar(2006)

was a way of reconciling servicing of debt by individual companies with permanent holding of an expanding number of shares by them as a group—effectively transferring from time to time the group holding of Reliance shares and the debt which financed it from one set of group investment companies to another. As a result, the block holding in Reliance through which it could be controlled shifted away from that held by individuals to that held by investment companies. The debt-equity ratio of the group as a whole was thus considerably greater than that of Reliance Industries because the controlling stake in the latter was basically resulting from routing debt funds through the investment companies. Even the control over these investment companies came to be ultimately based on cross-holding among themselves, so that their principal shareholders were also companies (Table 5.3).

The structure of the Reliance group that thus emerged toward the end of the 1980s was one where a complex web of inter-connections through inter-corporate investments and even common directors linked a large number of individually small investment and trading companies, and at any point of time a subs-set among them together held a significant portion of the equity of the publicly listed Reliance Industries which in turn had Reliance Petrochemicals, the only other company that came to be also listed, as one of its three subsidiaries.[3]

Clearly, the Reliance structure described above was not a product of some spontaneous evolution but a deliberate creation to resolve the problem of control confronting

[3] For a visual presentation with names of several companies, see Mazumdar (2017).

the group. It was a ***particular*** way of using the ***general*** form of inter-corporate investments to enable the family to mobilize and control greater capital than it could itself accumulate. With each group adapting that form to its own specific requirements at every point of time, several different kinds of structures are clearly possible. However, none of them can be explained without bringing in the question of how control over capital is organized by business families and the legal and regulatory framework which enables it. Thus, the widespread use of narrowly held investment companies by Indian groups in the pre-liberalization era was known to be a way of circumventing the restrictions on inter-corporate investments that were generally operative at that time. The Reliance case also indicates another important possibility, namely, that apparently stand-alone public companies could very well be part of an inter-connected multi-entity structure forming the basis for control over it. Indeed, there is evidence that, more often than not, this is the case (Mazumdar 2012), which brings into question the validity of classifications into group affiliated and stand-alone companies that form the basis for empirical evaluation of propositions pertaining to business groups and their behavior.

5.4 Liberalization and Control in Business Groups

The big fillip to liberal economic reforms after 1991 certainly initiated several important changes in the legal and regulatory framework governing the corporate sector. Curbing the concentration of economic power came to be abandoned even as a formal objective with the abolition of the MRTP Act. The Capital Issues Control Act (CICA), 1947 was also abolished and foreign institutional investors were permitted to invest in the Indian stock market. The Securities and Exchange Board of India was created in 1992 and vested with the responsibility of regulating the market and "protecting the interests of investors in securities" (Government of India 2014, p. 4). The SEBI put in place a takeover code governing acquisitions and changes in control of listed companies. Foreign Direct Investment norms were also liberalized, allowing foreign multinationals to increase equity holdings in their Indian affiliates beyond the limits earlier imposed through the Foreign Exchange Regulation Act (FERA), 1973. Indian companies were also allowed to access international capital markets and then also to invest abroad more freely than earlier.

Though the stock market increased in prominence in Indian capitalism as a combined effect of liberalization measures, this development can scarcely be described as one accompanied by a movement in the direction of creating a "market for corporate control" to serve as a mechanism of disciplining corporate managements. Yes, the regulatory environment became more permissive toward acquisitions and opened the possibility of new and powerful raiders from abroad entering the game. However, this only heightened the need for business families to establish more secure control over their group companies, and the regulatory environment also became simultaneously more "liberal" on this count too. Elements in the takeover

regulations themselves as well as other regulatory changes provided a more permissive and flexible context for achieving that end of secure control (Varottil 2015). At the same time, foreign firms were also able to exercise greater control over their affiliates. As a result of these, concentration in the ownership of equity of listed companies became even more of a pronounced feature of the Indian corporate sector after liberalization.

The takeover regulations introduced in the 1990s gave rise to a new vocabulary, including new meanings to the terms "promoter" and "promoter group" to describe respectively, the controlling authority of a company and the group of individuals and entities who together held the controlling stake. The very idea of a promoter indicated that control over a company was exercised not by the collective of shareholders or even a board of directors or management elected by them. Even the new Companies Act of 2013 acknowledged this in spelling out the meaning of promoter:

> *"69) —Promoter means a person—*
> *(a) who has been named as such in a prospectus or is identified by the company in the annual return referred to in sect. 92; or*
> *(b) who has control over the affairs of the company, directly or indirectly whether as a shareholder, director or otherwise; or*
> *(c) in accordance with whose advice, directions or instructions the Board of Directors of the company is accustomed to act*: "

(Government of India 2013, p. 21).

Table 5.5 (Appendix) shows the proportion and composition of declared promoter holdings as on 31 March 2018 for the 71 private sector companies (excluding banks and insurance companies) which are part of the top 100 companies in terms of market capitalization in the Bombay Stock Exchange. These 71 companies between them accounted for over 45% of the market capitalization of all companies as on 21 June 2018. A perusal of the last column would show that in general such promoter holdings are quite high relative to the company's equity base. In the case of 46 companies, its share was more than 50% and in another 20 companies it was greater than 25%. The exceptions where there is no promoter—ITC and Larsen & Toubro—are truly exceptions and even here the former does have a large stake still held by its original parent company. A hostile takeover of the top listed companies is, therefore, clearly an unlikely possibility and as such there is no basis for a stock-market-based disciplining mechanism to work.

A look at the composition of promoters' holdings also makes it clear that the promoter stake is dominated by holdings by other entities (trusts, Indian companies/LLPs and foreign companies) rather than individuals. Thus, there are barely twelve companies in which the individual holdings of Indians within the promoter group even exceeded 10% of the total share capital. On the other hand, in 58 companies, trusts and Indian and foreign companies within the promoter groups held more than 25% of the share capital.

The architecture of groups however still varies despite their sharing a common essence. Consider for instance 4 of the largest Indian groups—Tata, Reliance, AV Birla, and Adani. Table 5.4 summarizes the recent position of each group about the number of companies, trusts, or LLPs it has and partial indications of their status. The information used to prepare this table has been taken from the group websites, annual reports of companies where available and the details of promoter shareholding submitted by the listed companies to the Bombay Stock Exchange and available on its website. It is clear from the table that each of the four groups includes within its fold very large number of companies/entities. The declared list of group companies within whom the business activities of the group are distributed is a subset of the total, and their number varies significantly even if we consider only the Indian operations of the groups. From these we get the indication that the main businesses of Reliance continue to be highly concentrated in a few companies while in the Tata group it is the opposite. In each case, the number of companies listed on stock exchanges is even fewer than the number declared as business arms–but even this number has a wide range across the four groups and does not have any obvious relationship with the size of the group or the total number of Indian entities.

With regard to the control over companies, each group's listed companies tend to have several subsidiaries, associate companies, and joint ventures, in which directly or indirectly it is the listed companies that tend to hold a controlling shareholding. While these include other listed companies of the group, unlisted entities are in all cases central to the structure of control over listed companies through their importance in the promoter's holding in key listed ones. However, here again there are variations. In the case of the Tata companies, the unlisted Tata Sons clearly occupies the position of being an apex holding company of the group. In the Adani group, on

Table 5.4 Number and types of companies/entities of four major groups (March 2018)

Group	Listed companies	Other companies declared as business arms of the group		Other subsidiaries, JVs or associated companies of listed companies		Other entities in promoter groups of listed companies		Total no. of entities
		Indian	Foreign	Indian	Foreign	Companies/ LLPs	Trusts	
Adani	4	11	7	116	34	7	3	182 (141)
AV Birla	7	20	26	41	55	19	0	168 (87)
Reliance	2	2	0	119	57	44	3	227 (170)
Tata	22	52	13	119	527	1	4	738 (198)

Source Author's compilation from information available on the BSE Website, Company websites and Annual Reports

the other hand, private family trusts have an important role in this (different from the Tata group trusts which are public in nature). A large part of the promoter holding in Reliance Industries is now held by LLPs, but this institutional form doesn't have a comparable prominence in any of the other three groups. Apart from cross-holding among listed companies, unlisted investment companies appear to be the main ways of building up a controlling promoter's stake in the AV Birla group.

Even when there is no substantive change in control, the entities making up the promoter and the distribution of the holding between them are not necessarily stable over time. The extent of this "mobility" varies across groups and even an individual group can exhibit differences over different time periods. We have seen earlier, how the Reliance controlling shareholding kept changing hands in the 1980s—necessitated by the repeated recourse to capital markets. Such movement in the promoter holding has also happened more recently and independent of any recourse to capital issues. Consider for example the changes in the promoter holding of Reliance Industries that took place between December 2009 and September 2010, in the run up to LLPs becoming major holders of the promoter's stake.[4]

Between June 2010 and September 2010, there was no change in the size of the promoter group holding (number of shares held) of Reliance Industries Ltd. Nor was there any change in the composition of the promoter group (the list of individuals/entities). However, 1,059,170,001 shares changed hands within the promoter group and were transferred from 14 companies to 29 LLPs. This number constituted 72.35% of the total promoter holding and 34.17 of the total share capital of Reliance Industries. Their transfer was declared as *inter-se transfers* that took place on 11.08.2010, which is perhaps why the open public offer clause of the Takeover Code was not triggered. Since on 11.08.2010, the low and high prices of Reliance shares were Rs. 490 and Rs. 497, respectively, the value of the 1,059,170,001 shares should therefore have been a minimum of Rs. 5189 crores. Of the 1,059,170,001 transferred on 11.08.2010, 987,241,125 shares (or 93% of the total) are also recorded as being sold by 4 companies[5] through ***off-market*** transactions, and each of them also bought 100 shares on the same day. There was also something, however, that happened before this. These 4 companies did not have these shares to sell in December 2009 as each held only 200 shares at that time and acquired the rest mostly on 31 March 2010 through off-market ***purchases***. On the same day another 5 promoter group companies also sold 780,331,332 through off-market transactions, which could account for 68.71% of the shares bought by the other 4.

Thus, even though all the transactions are not being captured in the disclosed information, it is clear that the holdings eventually held by Reliance group LLPs from

[4] This discussion is based on the records related to Reliance Industries available on the BSE website (Section on Corporates) – including Disclosures on Shareholding Pattern, Disclosures under SEBI (Prohibition of Insider Trading) Regulations, 1992 (Insider Trading 1992) Disclosures under SEBI (Substantial Acquisition of Shares and Takeovers) Regulations, 2011 (SAST). I am grateful to Mohit Gupta for his inputs and for drawing my attention to this while he was working on his M.Phil dissertation.

[5] The four companies, all private limited, were Kshitij Commercials, Kardam Commercials, Nityapriya Commercials and Kankhal Investments and Trading Company.

September 2010 onward had changed hands previously, in the months preceding their acquisition by the LLPs. The 4 companies that accounted for the bulk of this shift to LLPs subsequently ceased to exist, but the available records indicate that these transfers were without any payment being received. This mobility of the controlling stake did not end with the transfer to LLPs. Until a bonus issue in September 2017 doubled it, the size of the promoter holding (number of shares) remained more or less fixed after September 2010 but not necessarily its composition. In fact, another round of significant inter-se transfers happened in March 2017. While all of this can be ascertained from the disclosures mandated by the prevailing regulations, these do not by themselves provide any clue about why the Reliance promoter holding was eventually shifted to LLPs and why did the other moving around of it happen both before and after this change.

5.5 Conclusion

The business group structure in India constitutes a particular way of organizing capital that goes beyond the institutional form of the joint-stock company and incorporates within itself the scope for a mechanism through which the "widely held" public company can also be subject to near proprietary control by business families. This structure is always what it is because that is consistent with the objective of ensuring control—a result of the behavior of their controlling business families and not simply its determinant. The business group structure can and does involve the use of companies, firms, and trusts with little public participation. It is a flexible structure characterized by variations as well as a mobility across time. To what extent and in what ways this flexibility and mobility expresses itself is also influenced by the prevailing legal and regulatory framework—the combination of imperatives, constraints, and opportunities it gives rise to—and to the changes this framework experiences from time to time. The period of liberalization has been far from being an exception—indeed, it has afforded more flexibility than was available earlier. The study of business groups—their structures, behavior, and consequences—without reference to this question of control and how it is resolved would therefore be characterized by an important gap. Wider recognition of the existence of this gap is the precondition for the research that would fill it.

Appendix

See Table 5.5.

Table 5.5 Promoter holdings in major listed non-financial private sector companies (as on March 2018). (Author's compilation from Shareholding Pattern data of companies available at https://www.bseindia.com/corporates/Sharehold_Searchnew.aspx)

S. No	Company	Promoter holding (Percentage share in total equity)					
		Individuals/ HUF	Foreign individuals	Trusts	Indian companies/ LLPs	Foreign companies	Total
1	Adani Ports and Special Economic Zone Ltd			42.96	6.78	16.52	66.26
2	Aditya Birla Capital Ltd	0.06			71.17	1.53	72.76
3	Ambuja Cements Ltd					63.55	63.55
4	Ashok Leyland Ltd					51.27	51.27
5	Asian Paints Ltd	10.66		0.03	42.11		52.8
6	Aurobindo Pharma Ltd	12.32	3.07		36.48		51.87
7	Avenue Supermarts Ltd	53.56		28.64			82.2
8	Bajaj Auto Ltd	4.06		0.25	44.98		49.29
9	Bajaj Finance Limited	0.15			54.99		55.14
10	Bajaj Finserv Ltd	4.72		0.45	53.18		58.35
11	Bajaj Holdings & Investment Ltd	0.49		16.31	27.52		44.32
12	Bharat Forge Ltd	0.35			45.4		45.75
13	Bharti Airtel Ltd				50.1	17.04	67.14
14	Bharti Infratel Ltd				53.51		53.51
15	Biocon Ltd	39.77	1.13			19.77	60.67
16	Bosch Ltd				1.49	69	70.49
17	Britannia Industries Ltd					50.7	50.7
18	Cadila Healthcare Ltd	0.01		74.78			74.79
19	Cipla Ltd	14.08	22.37		0.76		37.21
20	Colgate-Palmolive (INDIA) Ltd					51	51
21	Dabur India Ltd	0.12	0.02		67.93		68.07
22	DLF Ltd	2.75			77.83		80.58
23	DR.Reddy's Laboratories Ltd	2			24.76		26.76

(continued)

Table 5.5 (continued)

S. No	Company	Promoter holding (Percentage share in total equity)					
		Individuals/ HUF	Foreign individuals	Trusts	Indian companies/ LLPs	Foreign companies	Total
24	Eicher Motors Ltd	2.28	2.24	45.92	0.06		50.5
25	Godrej Consumer Products Ltd	2.64	0.28	0.47	59.86		63.25
26	Grasim Industries Ltd	0.13			36.31	3.65	40.09
27	Havells India Ltd	15.2		3.02	41.36		59.58
28	HCL Technologies Ltd				43.38	16.8	60.18
29	Hero Motocorp Ltd.*	14.19			20.44		34.63
30	Hindalco Industries Ltd	0.11			33.92	0.65	34.68
31	Hindustan Unilever Ltd					67.19	67.19
32	Hindustan Zinc Ltd				64.92		64.92
33	Indiabulls Housing Finance Ltd	0.11			22.68		22.79
34	Infosys Ltd	12.9					12.9
35	InterGlobe Aviation Ltd	0.35	23.08	13.6	37.9		74.93
36	ITC Ltd.**						0
37	JSW Steel Ltd.	0.6			38.7	2.07	41.37
38	L&T Finance Holdings Ltd.				64.01		64.01
39	Larsen & Toubro Infotech Ltd.				82.96		82.96
40	Larsen & Toubro Ltd						0
41	Lupin Ltd.	1.25			45.48	0.28	47.01
42	Mahindra & Mahindra Financial Services Ltd.				51.19		51.19
43	Mahindra & Mahindra Ltd.	0.63	0.09	8.85	12.15		21.72
44	Marico Ltd.	12.15	0.14	46	1.42		59.71
45	Maruti Suzuki India Ltd.					56.21	56.21

(continued)

Table 5.5 (continued)

S. No	Company	Promoter holding (Percentage share in total equity)					
		Individuals/ HUF	Foreign individuals	Trusts	Indian companies/ LLPs	Foreign companies	Total
46	Motherson Sumi Systems Ltd.	0.53	2.32		33.43	4.97	41.25
47	MRF Ltd.	11.46	0.62	1.25	14.21		27.54
48	Nestle India Ltd.					62.76	62.76
49	Oracle Financial Services Software Ltd.					73.82	73.82
50	Page Industries Ltd.		49.01				49.01
51	Pidilite Industries Ltd.	50.42		2.18	17.17		69.77
52	Piramal Enterprises Ltd.	0.38		45.99	5.01		51.38
53	Procter & Gamble Hygiene & Health Care Ltd.				1.91	68.73	70.64
54	Reliance Industries Ltd.	0.69		3.91	42.85		47.45
55	Shree Cement Ltd.	3.08			61.7		64.78
56	Shriram Transport Finance Co.Ltd.				26.08		26.08
57	Siemens Ltd.					75	75
58	Sun Pharmaceutical Industries Ltd.	12.22		0.05	42.11		54.38
59	Sun Tv Network Ltd	75					75
60	TATA Consultancy Services Ltd.				71.92		71.92
61	TATA Motors Ltd.				36.37		36.37
62	TATA Steel Ltd.			0.07	33.14		33.21
63	Tech Mahindra Ltd.			9.8	26.17	0.02	35.99
64	Titan Company Limited				52.91		52.91
65	Ultratech Cement Ltd.	0.03			60.95		60.98

(continued)

Table 5.5 (continued)

S. No	Company	Promoter holding (Percentage share in total equity)					
		Individuals/ HUF	Foreign individuals	Trusts	Indian companies/ LLPs	Foreign companies	Total
66	United Breweries Ltd.-$	8.08			21.39	43.88	73.35
67	United Spirits Ltd.	0.01			3.69	54.78	58.48
68	UPL Limited	0.57	1.95		25.2		27.72
69	Vedanta Limited					50.13	50.13
70	WIPRO Ltd.***	4.22		13.67	56.43		74.32
71	ZEE Entertainment Enterprises Ltd.				25.21	16.41	41.62

*Individual holdings are mainly through partnership firm **BAT Group holds 29.71 percent of the total equity

***Indian company holdings are mainly by proprietorship/partnership firms

References

Amsden AH, Hikino T (1994) Project execution capability, organizational know-how and conglomerate corporate growth in late industrialization. Ind Corp Chang 3:111–147

Basu SK (1958) The managing agency system. In: Prospect and retrospect. The World Press Pvt. Ltd., Calcutta

Ghemawat P, Khanna T (1998) The nature of diversified business groups: a research design and two case studies. J Indus Econ 46(1):35–61

Government of India (1964) Committee on distribution of income and levels of living (Mahalanobis Committee) report. Planning Commission, Government of India, New Delhi

Government of India (1965) Monopolies inquiry commission (MIC) report. Government of India, New Delhi

Government of India (1969) Industrial licensing policy inquiry committee (ILPIC) report. Department of Industrial Development, Ministry of Industrial Development, Trade and Company Affairs, Government of India, New Delhi

Government of India (2013) The companies act, 2013. http://www.mca.gov.in/Ministry/pdf/CompaniesAct2013.pdf. Accessed 23 January 2019

Government of India (2014) Securities and exchange board of India Act, 1992 [As amended by the Securities Laws (Amendment) Act, 2014]. https://www.sebi.gov.in/sebi_data/attachdocs/1456380272563.pdf. Accessed 23 January 2019.

Goyal SK (1979) Monopoly capital and public policy. Allied Publishers Private Limited, New Delhi, Bombay, Calcutta, Madras, Bangalore, Hyderabad

Granovetter M (1995) Coase revisited: business groups in the modern economy. Ind Corp Chang 4(1):93–129

Guillén MF (2000) Business groups in emerging economies: a resource-based view. Acad Manag J 43(3):362–380

Hazari RK (1966) The structure of the private corporate sector: a study of concentration. Asia Publishing House, Bombay, Ownership and Control

Joshi LA (1965) The control of industry in india: a study in aspects of combination and concentration. Vora and Co. Publishers Pvt. Ltd, Bombay

Khanna and Yafeh, 2007 Khanna T, Yafeh Y (2007) Business groups in emerging markets: paragons or parasites. J Econ Literat 45(2):331–372
Khanna T, Palepu K (2007) The evolution of concentrated ownership in India: broad patterns and a history of the Indian software industry. In: Morck RK (ed) A history of corporate governance around the world: family business groups to professional managers, Paperback. University of Chicago Press, Chicago, pp 283–320
Kothari ML (1967) Industrial combinations: a study of managerial integration in Indian industries. Chaitanya Publishing House, Allahabad
Leff NH (1978) Industrial organization and entrepreneurship in the developing countries: the economic groups. Econ Dev Cult Change 26(4):661–675
Mazumdar S (2006) Business groups and concentration in the private corporate sector in India (unpublished thesis). Jawaharlal Nehru University, New Delhi
Mazumdar S (2012) The Indian corporate structure and the 'theory' of emerging market business groups. Hist Sociol South Asia 6(2):87–109
Mazumdar S (2017) From 'outsider' to insider: the case of reliance. South Asia Multi-Discipl Acad J http://journals.openedition.org/samaj/4278. https://doi.org/10.4000/samaj.4278.
Mehta MM (1952) Combination movement in Indian industry (A study of concentration of ownership, control and management in Indian industries). Friends' Book Depot, Allahabad.
Mohnot SR (1962) Concentration of economic power in India: a statistical study of concentration and diffusion of economic power in India. Chaitanya Publishing House, Allahabad
Namjoshi MA (1966) Monopolies in India: policy proposals for a mixed economy. Lalvani Publishing House, Bombay-Calcutta-Madras-New Delhi
Nigam RK, Chaudhuri NC (1960) The corporate sector in India, a factual presentation of long and short-term trends. Research and Statistics Division, Department of Company Law Administration, Ministry of Commerce and Industry, Government of India, New Delhi
Nigam RK, Joshi ND (1963) The pattern of company directorships in India, 2nd Edn. Research and Statistics Division, Department of Company Law Administration, Ministry of Commerce and Industry, Government of India, New Delhi
Nigam RK (1959) Managing agencies in India (First round: basic facts). Department of Company Law Administration, Ministry of Commerce and Industry, Government of India, New Delhi
Rao KSC (1985) Inter-connections under the MRTP act in the context of asset limit hike. Econ Pol Wkly 20(27):1132–1146
Singhania VK (1980) Economic concentration through inter-corporate investments. Himalaya Publishing House, Bombay
Varottil U (2015) The nature of the market for corporate control in India. In: NUS Law Working Paper 2015/011, December 2015. www.law.nus.edu.sg/wps/. Accessed 22 June 2018

Chapter 6
Business Group Affiliation, Financial Distress and Corporate Investment-Cash Flow Sensitivity: Evidence from India

Jitendra Mahakud and Gaurav Gupta

Abstract This study explores the role of business group affiliation and financial distress on determination of corporate investment policy of the manufacturing companies in India. We find that the firm specific variables like cash flow, Tobin's Q ratio, sales income, age of the company, financial leverage are the major determinants of corporate fixed investments. Companies affiliated to a business group invest more in the fixed assets than the standalone companies. Group affiliation reduces the impact of cash flow in determining corporate fixed investment. The results indicate that financial distress plays a negative role in the determination of corporate investment. We also find that financial distress does not affect the investment-cash flow sensitivity of the affiliated firms in India. The results are robust across the periods and different types of companies.

6.1 Introduction

Several empirical studies on investment-cash flow sensitivity show their strong support to the fact that the internal cash flow has a positive impact on investments undertaken by the firm, and the impact is more for the more financially constrained firms than the less financially constrained firms (Hoshi et al. 1991; Calomiris et al. 1994; Gilchrist and Himmelberg 1995; Kadapakkam et al. 1998; Aivazian et al. 2005; Ahn et al. 2006; Ascioglu et al. 2008; Attig et al. 2012). The impact of group affiliation on investment-cash flow sensitivity has gained attention in the recent years as the financing behavior of affiliated firms is different from the stand alone firms. A business group can be regarded as an association of legally independent firms (Leff 1978) and also be defined as a set of firms bound by strategic alliances. The group

J. Mahakud (✉)
Department of Humanities and Social Sciences, Indian Institute of Technology, Kharagpur, India
e-mail: jmahakud@hss.iitkgp.ac.in

G. Gupta
FORE School of Management, New Delhi, India

A. Chakraborty and I. Chakraborty (eds.), *Indian Business Groups and other Corporations*, India Studies in Business and Economics,
https://doi.org/10.1007/978-981-99-5041-6_6

affiliated firms are linked through family ownerships and financial inter-linkages. Several explanations have been proposed to understand the significance of business group affiliations in the corporate finance literature (Ghemawat and Khanna 1998; Khanna and Palepu 1999a, b, 2000a, b; Chang and Hong 2000; Khanna and Rivkin 2001). Business group affiliations may reduce information asymmetry in the member firms (Dewenter and Warther 1998). The inter-linkage between business group affiliation and corporate investments is derived from the argument that in an inefficient capital market, when it is difficult and costlier for the firms to raise external capital, business groups may play a major role in generating and allocating funds to investment projects through internal capital market, and, it is also less costly for the group affiliated firms to raise financial capital from the market due to their reputation and better access (Lensink et al. 2003).

Prior empirical studies have mostly analyzed the role of financial constraints on corporate investment decisions (Kaplan and Zingales 1997; Fazzari et al. 1988; Cleary 1999). A recent study by Bhagat et al. (2005) documents that "financially distressed firms behave differently than financially constrained firms" which depicts that the condition of financial constraints is not directly imposed on the financially distressed firms while firms in financial distress may come under the financial constraints due to the external financing problems. A firm becomes financially distressed when it faces difficulties to meet the principal and interest obligations or the extreme case being bankrupt (Fazzari et al. 1988). Further, financially distressed firms face difficulties in borrowing capital from the external market due to the attitude of lending agencies, banks and financial institutions. This could be due to that market lending agencies do not trust the financially distressed firms as these firms are already struggling to pay their previous loans. Additionally, Lindner and Jung (2014) also document that lenders may choose not to roll over debt, or not to provide new credit to the companies that may become distressed. As a result, distress firms start selling their assets to meet their debt obligations which in turn affect the profitability, availability of internal funds and assets. Firms also start facing external borrowing constraints and finally, their investment policy gets affected. Therefore, a negative association can be expected between investment undertaken by the firm and financial distress condition. Further, we hypothesize that the effect of financial distress may have less effect on investment-cash flow sensitivity of business group affiliated firms than the standalone firms.

Khanna and Danielle (1997) find that, in India, business groups form an important part of the private sector and group affiliated firms are associated with more than 80 percent of the private sectors' assets, profit and sales in the year 1993. Indian business groups are largely diversified and usually have a large proportion of family ownerships. The Indian companies affiliated to a business groupmostly linked through cross-holdings of equity and mutual board representations. There are more than 400 business groups existing in India and group affiliation has the implications for various corporate finance decisions. In this regard, the companies operating in India have been considered as the ideal sample for providing an out of sample evidence on this issue.

The rest of the chapter is organized as follows: Sect. 6.2 discusses literature review. Section 6.3 presents variables and data. Section 6.4 specifies the models and econometric method. Section 6.5 presents the results and Sect. 6.6 provides the summary and conclusions.

6.2 Literature Review

The literature review deals with the various theories and empirical evidences on determinants of corporate investments. This section is divided into two broad sub sections. The first sub-section briefly discusses the various theories of corporate investments. The second sub-section reviews the empirical literature on the determinants of corporate investments, and the impact of financial distress and business group affiliation on corporate investments.

6.2.1 Theories of Corporate Investment

According to Keynes (1936) and Fisher (1930) as long as the expected return on investment is above the opportunity cost of capital, investment will be worthwhile. Return on investment is equivalent to Keynesian concept of marginal efficiency of the capital and the concept of internal rate of return is given by Fisher. According to Keynes (1936) investments are made until "there is no longer any class of assets of which the marginal efficiency exceeds the current rate of interest". The Keynesian theory argues that investments are not determined by the underlying capital stock due to the uncertainty irrational and volatile expectations of the market participants. On the other hand, Fisher (1930) and Hayek (1941) regarded investment as an optimal adjustment path towards an optimal stock. All other theories of investment are derived from the principle of either Keynes or Fisher. There are basically three major theories of corporate investment such as neoclassical theory, accelerator theory and Tobin's Q theory.

6.2.2 Neoclassical Theory of Investment

Neoclassical theory of investment proposed by Jorgenson's (1963) which basically formalizes the arguments and ideas put forward by Fisher (1930). According to this investment theory, maximizing profit in each period always yields an optimal capital stock and the capital adjusts immediately and completely to the desired capital stock. The investment becomes the change in capital between the two periods. This theory basically argues that the desired capital stock is determined by output, price of output and user cost of the capital and therefore, it considers that these variables

or factors are the major determinants of corporate investment. Further, this theory is divided into two models. The first model is based on the concept of the user cost of the capital which states that firms' user cost of capital and level of output are major determinants of a corporate investment. The second model is linked with the theory of profit maximizing firm and firm's production function, which create a technical relationship between the inputs and outputs. The model undertakes flexible accelerator prices and capital markets.

6.2.3 Accelerator Theory of Investment

The idea of the accelerator theory or principle came from Clark (1917). It is assumed that accelerator theory of investment theory is a special case of the neo-classical theory of investments where the price variable has been reduced to a constant. Therefore, the desired capital stock is assumed to be proportional to output. Investment in any period will therefore depend on the growth of the output. In other words, this theory upholds that companies adjust their stock of capital in response to demand from which it can be inferred that the investment of companies has a direct relationship with the output. In this context, firms' investments are proportional to sales or output that confirms that the sales or the output are the major determinants of corporate investment.

6.2.4 Tobin's Q Theory of Investment

Neoclassical theory and accelerator theory of investment have certain fundamental problems such as (i) the adjustment of capital stock is to the desired level is instantaneous and complete in each period which is not basically the possibility, and (ii) existence of expectations may have no role in neoclassical theory and accelerator theory. Brainard and Tobin (1968) and Tobin (1969) proposed a solution which explains that the investment should be made until the value of market value of assets is equal to the replacement cost of assets. According to this theory, investment opportunities are measured by the market value of capital stock. In sum, firms' investment spending has a positive relationship with Tobin's Q. The basic idea behind this theory is that the equity market can capture the investment opportunities of the firms. Further, it states that firm's investment is dependent on the relationship between the value of the firm and the cost of new or replacement capital where the replacement cost is defined as the price that a firm would pay to replace a present asset at the current market price with the same type of assets. This theory emphasizes that the stock market plays a major role in determination of corporate investment.

6.2.5 Empirical Evidence

This sub-section presents a review of empirical studies on the issues like role of cash flow on corporate investments, identification of other firm specific factors which determine the corporate investments, impact of financial distress on corporate investments and effect of group affiliation on investment-cash flow sensitivity.

6.2.6 Cash Flow and Corporate Investments

The Q-model of investment assumes that in the perfect capital market the internal and external funds are perfect substitutes and therefore, the investment decision of a firm solely a function of investment opportunities and invariant to the firms' cash flow. In the imperfect market condition external funding is costlier than internal financing because of frictions arising from asymmetric information, agency problem and transaction costs. Under such conditions, firms' investments are mostly affected by the availability of internal funds. Among the early empirical studies Fazzari et al. (1988) have shown that financial constraints have been the major factor which affects the corporate investment in the US market. Since the seminal work of Fazzari et al. (1988), numerous studies have assumed that the existence of financial constraints can be deduced from a positive relationship between the availability of internal cash flow and investment (e.g. Hoshi et al. 1991; Caggese 2007). Basically, the importance of cash flow has been presented in the financing hierarchy hypothesis, i.e. "pecking order" theory of financing proposed by Myers (1984). The pecking order theory explains that the firm's capital structure will be pushed by the desire to finance new investments, first internally, then with low-risk debt, and finally with equity only as a final recourse. In this context, information asymmetries or transaction costs induce a cost premium that makes external finance an imperfect substitute for internal finance. In a specific manner, the corporate fixed investment may depend on the financial factors, such as the availability of internal finance, access to new debt or equity finance, or the functioning of particular credit markets. Therefore, availability of internal fund is one of the major determinants of corporate investments.

Most of the studies find evidence for developed as well as emerging economies that the investment-cash flow sensitivity has been more for the *financially constrained firms*[1] than for the *unconstrained firms* (see for example, Kadapakkam et al. 1998;

[1] Fazzari et al. (1988) have classified firms to whether they were likely to be financially constrained on the basis of dividend payout ratio. High dividend payout ratio firm's check can effortlessly get financial capitals from the market, if required. Therefore, paying dividends is likely to be a major indicator of a firm's 'good health', signalling long-term growth prospects. Fazzari et al. (1988) have also argued that firms use available internal funds to distribute dividends, which demonstrate that these firms face no or fewer costs related to imperfections on the capital markets and treated as least financially constraints firms than that of firms that uses their lower cost of internal fund to finance their investment or have lower dividend payout ratio. The highest sensitivities to cash flow are found for firms categorized as financially constrained, and this is taken to indicate that financial

Goergen and Renneboog 2001; Laeven 2003; Bhaduri 2005; Shen and Wang 2005; Ghosh and Ghosh 2006; Degryse and De Jong 2006; Aggarwal and Zong 2006; Cleary et al. 2007). Devereux and Schiantarelli (1990) and Schaller (1993) find that cash flow effects are important for smaller and young firms. Whited (1992) finds that investment is more sensitive to cash flow in firms with high financial leverage than the firms having low financial leverage. Houston and James (1996) find that investment-cash flow sensitivity is higher for firms that are closely tied to a single bank than the firms that have relationship with several banks. On the other hand, using Tobin's Q model, Kaplan and Zingales (1997, 2000) show that firms that appear less financially constrained exhibit significantly greater sensitivities towards the fixed investments than the firms that appear more financially constrained. Cleary (1999) also used large data set and showed that the highly constrained firms have the lowest investment-cash flow sensitivity.

Using a panel of 24,184 the UK firm over the period 1993–2003, Guariglia (2008) has found that the sensitivity of investment to cash flow tends to increase monotonically with the degree of external financial constraints faced by firms. Hobdari et al. (2009) examine the determinants of investment of manufacturing firms in Estonia with the annual firm level observation of the data set consisting of 4218 observations over the period 1993–2002. This study revealed that financially constrained firms are more sensitive to the availability of internal finance, while financially non-constrained firms are more responsive to future growth opportunities. Hovakimian (2011) and Ben Mohamed et al. (2014) support the fact that cash flow has a positive relationship with investment and the financing constraints affect the investment. La Rocca et al. (2015) used a cluster analysis and find investment to be highly sensitive to cash flow for financial constraint firms. Riaz et al. (2016) report that investment-cash flow sensitivity has increased monotonically with the level of financial constraints and also, investment-cash flow sensitivity for the constrained group is much higher as compared to the unconstrained group. Mulier et al. (2016) report that constrained firms display the highest investment-cash flow sensitivities. The study of Li et al. (2017) depicts that larger and more mature firms are less financially constrained but have higher investment-cash-flow sensitivity. Gupta and Mahakud (2019, 2020) and Gupta et al. (2021, 2022) documented that cash flow plays a significant role in corporate investment decisions and the role of cash flow for corporate investment is also affected by financial development, macroeconomic condition, economic policy uncertainty and the CEO's education.

constraints are binding in this case. Many further studies have followed the same methodology including Chirinko and Schaller (1995), Hubbard et al. (1995) as summarized by Hubbard (1998). Apart from this, several criteria have been used to classify firms as financially constrained, such as debt (Kaplan and Zingales 1997; Cleary 1999), cash stock (Kaplan and Zingales 1997; Povel and Raith 2001), cash flow volatility (Cleary 2006) and age (Devereux and Schiantarelli 1990; Oliner and Rudebusch 1992).

6.2.7 *Other Firm Specific Factors and Corporate Investments*

Sharpe (1994), Aivazian et al. (2005), Ahn et al. (2006), have shown the importance of leverage on the determination of corporate fixed investments and this study finds a negative relationship between leverage and corporate investment. Hubbard (1998), Chava and Roberts (2008) highlight the significance of debt covenants on corporate investment. Carpenter and Guariglia (2008) find that corporate investment decisions are largely influenced by companies' growth opportunities and financing capacity. Using the data for Australian Companies, La Cava et al. (2005) find that real sales, the user cost of capital, cash flow and availability of internal funds have been the major determinants of corporate investments during the period 1990 to 2004. This finding was also supported by Bond and Meghir (1994). Rajakumar (2005) finds that the financial (economic) sector reform cost, liquidity, leverage, availability, and allocation of fund affect the corporate investment of the Indian firms during the period 1988–89 to 1998–99 and the findings are consistent with the accelerator theory, Tobin's q theory and liquidity theory of investment.

Bhaduri (2005) investigated the impact of financial liberalization on the investment patterns of Indian companies during the period 1989–1990 to 1994–1995 and concluded that the small and young firms experienced a significant increase in financial constraints in the post liberalization period, which in turn reduced their investments. Das and Senapati (2007) have found that the companies' profit and input prices significantly affect the corporate fixed investment in India. Bhattacharyya (2008) also examines the determinants of corporate investment after the post liberalization period and finds that internal liquidity, profitability, and firms' financial strength are the major determinants of corporate investment. The findings are consistent with neoclassical theory of investment. Vijayakumar (2009) has concluded that industry class, size, and profitability are the most significant factors affecting corporate investment. Following the accelerator, neoclassical, Tobin's Q and liquidity theories of investment and considering a data set for 897 firms during the period 2000–01 to 2008–09 Jangili and Kumar (2010) have found that firms' size, cash flow, growth in value of production and capital market development have positive relation with investment and cost of borrowing (lending rates of banks), and real effective exchange rate at the macro level is negatively related to corporate investment of Indian companies.

As information asymmetric problem and financing constraints vary across the age of the firm it also affects corporate investment decision (Devereux and Schiantarelli 1990; Oliner and Rudebusch 1992; La Rocca et al. 2015). As young firms are more financially constraint, corporate investment has an inverse relationship with the investment behavior. Tokuoka (2012) has shown that company specific variables like profitability, liquidity and leverage have been the major determinants of corporate investments in India. Flor and Hirth (2013) document that asset liquidity plays a major role in the determination of corporate fixed investment. Chen et al. (2013) examine bank debt-investment behavior of Chinese manufacturing firms during the period 2008–2010 and conclude that debt-investment relationship is significantly negative for high-growth firms, but not significant for low growth firms.

Datta and Agarwal (2014) have studied the corporate investment behavior during bull, bear and different liquidity phases for the period 1998–2012 and found that firm specific factors like profitability, firm size, growth opportunity, tax, non-debt tax shield, tangibility and cash and bank borrowings and macroeconomic factors like interest rate, gross fiscal deficit and economic growth measured by change in per capita income have been affecting the corporate fixed investments in India. A recent study by Ajide (2017) examines the effect of institutional and firm-specific factors on corporate investment in Nigeria using quoted non-financial firm within the period of 2002–2012. This study reveals that institutional quality does not affect investment but firm specific factors do. Their study postulates that cash flow and leverage have positive and negative relationship with corporate investment.

6.2.8 Business Group Affiliation and Corporate Investments

Earlier studies have shown that business groups support the companies to raise external capital when the capital markets are imperfect or in the presence of external market failure (Leff 1976, 1979; Aoki 1990; Bergolf and Perotti 1994; Weinstein and Yefeh 1998). Specifically, business groups play an intermediate role in the inefficient capital market (Lomnitz and Parez-Lizaur, 1987; Pan, 1991). Ghemawat and Khanna (1998) state that business group affiliation increases the capacity of the firms to access policy makers which help them to access the external capital easily. In this context, Fisman and Khanna (2004) and Khanna and Palepu (1999a, b, 2000a, b) document that business groups in India and Chile have enhanced the value of the company through labor, product, and capital market intermediation. Khanna and Palepu (2000a) have shown that the greater access to foreign technology and foreign capital by the business group firms also aid to increase the access to the external capital. Similarly, Chang and Hong (2000) document that business group firms can share group wide reputation and thus increase their access to the external market. Gopalan et al. (2007) have investigated the internal capital market of Indian businesses and they reveal that group loans are largely used to help the members in situations of financial distress. Gopalan et al. (2014) have also argued that business groups created a virtual or internal capital market that reduces the firms' dependence on external capital. Gupta and Mahakud (2018) find that business group affiliation affects investment-cash flow sensitivity.

6.2.9 Financial Distress and Corporate Investment

Although there are many proxies used to measure financial distress, three of them have been used extensively by earlier literature, which are Altman's Z-score (Nash et al. 2003; Denis and Mihov 2003; Zulkarnain et al. 2001; Khaliq 2014; Lopez-Gutierrez et al. 2015; Vosoughia et al. 2016), financial distress ratio (Bhagat et al.

2005; Wruck 1990; Asquith et al. 1994; Andrade and Kaplan 1998; Pindado et al. 2008; Whitaker 1999 Lopez-Gutierrez et al. 2015) and Ohlson's O Score model (Bhagat et al. 2005; Lopez-Gutierrez et al. 2015). Prior research has investigated the relationship between financial distress and firm performance. The study of Opler and Titman (1994) reveals that increase in financial distress condition reduces the firm performance. Using the data of Swedish firms Asgharian (2003) finds that under distressed condition highly leveraged firms face relatively lower stock returns. Tan (2012) also investigates the impact of financial distress on the performance of Asian economies and finds that firms with low financial leverage tend to perform better than firms with high financial leverage. Additionally, the financial crisis magnifies the adverse impact of financial distress on firm performance.

John (1993) find that firms, which have survived from financial distress, increase their investments. Andrade and Kaplan (1998) explore that financially distressed firms with positive operating income have reduced their capital expenditures and sold their assets at low prices, but these firms do not agree to accept any riskier investment projects. Ogawa (2003) examines the behavior of firms' investment in Japan and finds that financial distress seriously affects firms' investment in 90 s where the firms' leverage had negative and significant relationship with investment for small firms.

Bhagat et al. (2005) examine the investment-cash flow sensitivity of financially distressed firms and find that the relationship between investment and internal fund is controlled by operating profits. This study finds that distressed firms invest less, have lower cash flow, high leverage and grow less than non-distressed or healthy firms. This study also argues that financially distressed firms behave differently from financially constrained firms where financially constrained firms invest more, hold larger cash flows, a larger operating income and lower leverage, and high sales growth than lesser constrained firms, but financially distressed firms invest less, have smaller cash flows, lower operating income, high leverage, and a lower sales growth than more constrained firms.

Bassetto and Kalatzis (2011) find that financially distressed firms showed higher investment-cash flow sensitivity. This study also finds that as the firms become more financially distressed they keep more cash holding, probably to avoid losses of future investment opportunities. The more-capital-intensive firms with higher cash holding and lower profitability suggest that these firms are exposed to severe agency conflicts, showing higher volatility to external financing costs and are more financially constrained. Maripuu and Mannasoo (2014) have found that firm specific factors like liquidity, leverage and profitability play the significant role for the determination of corporate investments for the financially distressed firms.

Considering the 4029 non-financial firms of different countries like Germany, Canada, Spain, France, Italy, UK and US for the period of 1996–2006, Lopez-Gutierrez et al. (2015) find that financially distressed firms invest less than the healthy firms and investment behavior is not uniform for all the financially distressed firms and propensity to underinvestment depends on the investment opportunities available to the companies. This study concludes that firms with greater opportunities have additional investments that can help them to overcome their difficulties. Gupta and

Mahakud (2022) find that financial distress increases investment-cash flow sensitivity and negatively affects corporate investment.

6.3 Variables, Data and Preliminary Evidence

6.3.1 Variables

Following the literature review, we use corporate fixed investments as the dependent variable and identify various factors, which may affect this corporate fixed investment in India in this section.

Corporate Investment (I/K): Following Fazzari et al. (1988), Whited (1992), Gupta et al. (2018) and Gupta and Mahakud (2019, 2022) corporate fixed investment has been measured as the change in fixed assets (current year fixed assets—previous year fixed assets) divided by previous year fixed assets. The following notations are used to explain this variable, which is used as the dependent variable in this study.

$$\left(I/K\right)_{it} = \frac{I_t}{K_{t-1}} = \frac{K_t - K_{t-1}}{K_{t-1}}$$

Here, $I=$ net investments, $K =$ current year fixed assets which include plants, property and equipment, $K_{t-1} =$ previous year fixed assets. The subscripts i, and t, represent the firm and time respectively.

The a priori determinants of corporate investments and their expected relationship with corporate investment are explained as follows:

Lagged Investment (I/K_{it-1}): It is explored that there is a persistent effect of previous year investment on the current year investment (Laeven 2003; Love 2003; Ratti et al. 2008; Gupta et al. 2018; Gupta and Mahakud 2019, 2022). These studies have argued that the company's current year investment behavior is highly influenced by the previous year investment. We expect a direct relationship between lagged investment ratio and current investment ratio.

Tobin's Q Ratio (Q): Tobin's Q ratio shows the availability of growth opportunities in the market. This variable explains that if Q ratio is greater than one, companies can make additional investment in different projects because the earnings made would exceed the cost of firm's assets. If Q is less than one, the companies would be better off to sell their assets rather than trying to put them to use. Firms with high growth opportunities always invest more than the firms with low growth opportunities (Fazzari et al. 1988; Hiller et al. 2010; Gupta and Mahakud 2019, 2022). It is measured as the market value of assets to the book value of existing assets. We expect a positive association between Q and investment.

Sales (S/K): Sales can be considered as the indicator of firm growth and strength of firms to remain in the market. Sales also can be used a proxy for continuation of firm production and operation. It is also assumed that there is a positive association between sales and profitability. We hypothesize that sales has the positive impact in investment decisions. In this study we use the net sales and scaled it by the beginning year capital.

Cash Flow (CF/K): Cash flow is the amount of money in excess of that needed to finance all positive net present value projects. The purpose of allocating money to projects is to generate a cash flow in the future, which should be significantly greater than the amount invested. Therefore, we expect a positive relationship between cash flow and investment. Following Fazzari et al. (1988), Guariglia (2008), Jangili and Kumar (2010), Gupta et al. (2018), Gupta and Mahakud 2019, 2022), we measure cash flow as the summation of profit after tax and depreciation and scaled by beginning year capital.

Interest Expenses (TIE/TB): The investments can be funded through either equity or debt. Firms may undertake new investments when the interest rates are low. On the other hand, firms may defer their investment proposals when the interest rates are high. Also, it is assumed that cost of borrowings or the user cost of capital should be less than the rate of return on the investment. Therefore, we assume that interest expenses or cost of borrowings should be negatively associated with investment. Following Rajakumar (2005), Jangili and Kumar (2010), La Cava et al. (2005), Gupta et al. (2018) and Gupta and Mahakud 2022), we measure cost of borrowings as the ratio of the total interest payments to total borrowings.

Liquidity (LIQ): The liquidity position of a firm is directly associated with investment decisions. It shows that if a firm has more liquid assets then it will make easy for the firms to finance their current investment. The current ratio is used to measure the liquidity position of a company, and it is defined as the ratio of current assets to current liabilities and we expect a positive relation between liquidity and investment decisions.

Leverage (LEV): Debt financing of the firm has certain fixed obligations such as the payment of fixed interest and principal. The failure of these payments increases the bankruptcy and liquidation cost. Higher levels of debt result in an increased probability of financial distress and the demand for higher returns by potential suppliers of funds. Highly levered firms are less likely to exploit valuable growth opportunities as compared to firms with low levels of leverage (Myers 1977). Therefore, we expect that leverage should be negatively associated with corporate investment. Following Lang et al. (1996), Aivazian et al. (2005), Hiller et al. (2010) Gupta et al. (2018), Gupta and Mahakud (2022), we use debt to total assets ratio as the proxy for leverage ratio.

Firm Size (SZ): Larger firms have relatively better access to capital market and find it easier to raise external funds from capital markets with lower cost and fewer constraints as compared to small firms, which increases the probability of more

investment for large size firms (Higgins 1972). Therefore, a direct relationship is expected between the firm's size and the corporate investment decision. Following Fazzari et al. (1988), Jangili and Kumar (2010), Gupta et al. (2018), Gupta and Mahakud (2022), we use the natural logarithm of total assets as a proxy to measure firm size.

Tangibility (***TAN***): The high proportion of tangible assets assures greater degree of protection to the bondholders, which in turn helps to reduce the conflict between the shareholders and bondholders and also to reduce the agency cost (Titman and Wessels 1988). Assets that are more tangible sustain more external financing, which increases the firm's ability to investment more when investment demand is constrained by capital market imperfections (Almeida and Campello 2007). Following Alli et al. (1993), Almeida and Campello (2007), Mollah (2011), we have measured tangibility of assets as the net fixed assets scaling total assets and expect a positive relationship between tangibility and corporate investment decisions.

Firm Age (***AGE***): Young firms are relatively new in the market than the matured firms and also matured firms have more reputation and strong connection with their lending agencieswhich help them avail external financing (La Rocca et al. 2015). Easy availability of external financing increases the probability of investment spending. Therefore, we expect that firm age is positively related with corporate investment. We use the natural logarithm of firm age where the age has been measured as the current year minus the incorporation year of the firm.

Business Group Affiliation (***BGA***): Business group firms are different than the standalone firms because group firms share internal capital market, technology, and risk (Khanna and Palepu 1999a, b; Khanna and Palepu 2000b; Khanna and Yafeh 2005). Also, Group affiliated firms are generally not financially constrained due to the existence of internal capital market and it is easier for the affiliated firms to borrow from the external capital market because of their reputation and political connection (Lensink et al. 2003). These special characteristics of business group help affiliated firms to invest in the profitable projects even if firms are suffering from lack of internal fund. We expect a positive relationship between business group affiliation and corporate investment. Following Gupta and Mahakud (2018, 2022) the firm, which belongs to the business group is considered as a group affiliated company and is represented by dummy variables (1) and the firm not belonging to any business group is considered as the standalone firm represented by the dummy (0).

Following Bhagat et al. (2005), Lopez-Gutierrez et al. (2015) we use three proxies (1) Altman's Z-Score model (*FDA*), (2) Financial distress ratio (*FDB*)and (3) Ohlson's bankruptcy probability model(*FDC*) as the measures of financial distress.

Altman's Z-Score model (*FDA*): Altman (1968) developed a model known as Z Scoremodel considered as the most effective method of measuring the financial distress to access the financial health of non-U.S. companies. Altman (2002) describes the value of *Z*' Score has the following intervals. A value higher than 2.6is considered the "safe zone", and implies the possibility of bankruptcy. Values between 1.1 and 2.6 are considered the "gray zone" or "zone of ignorance", because

of the susceptibility to error classification. Values under 1.10 are considered "distress zone", and it implies that the possibility of bankruptcy is imminent. So, we identify firms in financial distress when they came in the "distress zone", when they have a *Z*' Score less than 1.10 (*FIDA*). The formula may be used to predict the probability that a firm will go bankrupt within two years. The Z'Score uses multiple corporate income and balance sheet variables to measure the financial health of a company. Z'Score formula given by Altman for manufacturing firms is as follows:

$$\text{Z} - \text{ Score } = 0.717.X1 + 0.847.X2 + 3.107.X3 + 0.420.X4 + 0.998.X5$$

where *X1* = (current assets—current liabilities)/total assets, *X2* = retained earnings/total assets, *X3* = earnings before interest and taxes/total assets, *X4* = book value of equity/total liabilities and *X5* = sales/total assets.

Financial Distress Ratio (*FDB*): According to this measure the company is financially distressed when in a given year its EBITDA is lower than the financial expenses (Wruck 1990; Asquith et al. 1994; Andrade and Kaplan 1998; Whitaker 1999; Bhagat et al. 2005; Pindado et al. 2008; Lopez-Gutierrez et al. 2015; Gupta and Mahakud 2022). We consider a firm to be under distress if its financial distress ratio is below 1 in any period. This financial distress ratio is calculated as:

$$\text{Financial Distress Ratio or } FDR_{it} = EBITDA_{it}/FE_{it}$$

where EBITDA is Earnings before interest, tax, depreciation and amortization and FE is financial expenses (the amount of interest expenses over debt borrowings).

Ohlson's Bankruptcy Probabilities Method (*FIDC*): Ohlson (1980) developed Ohlson's predicted bankruptcy probabilities model to predict the bankruptcy of the U.S. firms. Ohlson's model is a result of the 9-factor linear combination of coefficient weighed business ratios which can be easily captured by financial statements of companies. According to this model if the probability of bankruptcy is greater than 0.5, the firm is said to be financially distressed. Ohlson' model is calculated by the probability (P) of bankruptcy and is represented as follows:

$$\text{P} = \frac{1}{1 + e^{-y_{it}}}$$

$$\begin{aligned} y_{it} = &-1.32 - 0.407 * SIZE + 6.03 * TLTA - 1.43 * WCTA \\ &+ 0.757 * CLCA - 2.37 * NITA - 1.83 * FUTL \\ &+ 0.285 * INTWO - 1.72 * OENEG - 0.521\, CHIN \end{aligned}$$

Here, SIZE = log of total assets to GNP price-level index ratio, *TLTA* = total liabilities to total assets, *WCTA* = working capital to total assets, *CLCA* = current liabilities to current assets, *NITA* = net income to total assets, *FUTL* = funds from operations to total liabilities, *INTWO* = one if net income is negative in the previous 2 years

or zero otherwise, *OENEG* = one if total liabilities are greater than total assets or zero otherwise, $CHIN = (NI_t - NI_{t-1})/(NI_t - NI_{t-1})$ where NI_t is the net income for year *t*.

Considering these models, a firm, which came under financial distress condition considered as a financial distress company and is represented by dummy variables (1) and the firm that does not belong to the financial distress criteria are considered as the healthy firms represented by the dummy (0).

This chapter argues that financial distress makes firms more financially constrained due the high cost of borrowing and limited availability of external funds. Therefore, the investment decisions get affected through the channel of investment-cash flow sensitivity, and it is assumed that distress effect increases investment-cash flow sensitivity. This could be due to the fact that a distressed firm faces more borrowing constraints than the non-distressed firms which makes firms to rely more on their internal fund. This chapter also assumes that the effect of distress is less or nil on the investment- cash flow sensitivity for the group affiliated firms, in the non-crisis period and firms having higher Q ratio.

6.3.2 Data

The firm specific data is collected from the prowess data base maintained by the Centre for Monitoring the Indian Economy (CMIE). The macroeconomic data used in this study was collected from the Reserve Bank of India. The study period is 1998–1999 to 2013–14. The main reasons to select this time period as a period of study are first, this time period refers to the period of liberalization, privatization and globalization in India and second, during this time period maximum possible information is available for sample companies in the database. The frequency of data is yearly. To construct a balanced panel data set we have excluded those companies, whose data is not available throughout the period. Out of the total 10,248 companies, we find 1922 companies which have continous fixed investment data during the study period i.e. 1998 to 2013–2014. Out of 1922 firms, 1246 firms did not have the adequate data for other major explanatory variables. Further following Jangili and Kumar (2010), we have not considered 18 Private firms as private firms do not disclose their financial statement. Finally, we selected 617 firms which have continued data throughout the period. Since the dependent variable investment is calculated by taking the first difference of the fixed assets, the first year data is not taken into account in the estimation. Further, we divide our whole sample into two sub samples on the basis of financial crisis occurred in the economy. The first sub period is from 1999–2000 to 2006–07 (non- crisis period), and the second sub period is from 2007–08 to 2013–14 (crisis period), which has witnessed many financial crises such as global financial crisis (2007), European sovereign debt crisis (2010) and Russian financial crisis (2014). We also divide the sample on the basis of Tobin's Q ratio i.e. the companies having Q ratio more than one (high growth companies) and less than one (companies having high growth opportunity or value companies).

6.3.3 Preliminary Evidence

Table 6.1 shows that 17% of group affiliated firms are financially distressed among all the distressed firms in our sample. This implies that largely, the group affiliated firms are not financially distressed in India. Out of total healthy firms around 66 percent are group affiliated. We observe that investment to capital ratio, sales to capital ratio and cash flow to capital ratio are higher for business group affiliated firm than the standalone firms (non-group affiliated firms). The business group affiliated firms pay less cost of borrowing, use more debt and have more growth opportunities in comparison to standalone firms. It could be due to the sharing of the internal capital market, technology, risk, and other facilities among the business group affiliated firms which help them to finance their investment even in the absence of internal fund. Further, it can also be argued that group affiliated firms may have more reputation in the market which help them to decrease their cost of borrowings and enhance the debt capacity, and this effect also affects the sales and cash flow in a positive manner (Table 6.2).

Table 6.3 provides summary statistics of all the variables for different types of firms classified on the basis of group affiliation within the financially distressed and healthy firms. We observe that investment to capital ratio, Tobin's Q ratio, cash flow to capital ratio and sales to capital ratio have been more for the business group affiliated firms than the standalone firms. This could be due to the availability of internal capital among the group firms, which help t in financing the investment during the distress condition. But the ratio of total interest expenses to total borrowings has been higher for standalone firms. The leverage ratio has been more for group affiliated firms than the standalone firms within the financially distressed firms. We find that within the healthy firms' investment to capital ratio, Tobin's Q ratio, sales to capital ratio, cash flow to capital ratio and financial leverage ratio have been more for group affiliated firms than the standalone firms. The investment to capital ratio for group affiliated financially distressed firms has been more than the financially distressed standalone firms throughout the study period. This finding is consistent across the three measures used for measuring financial distress (Figs. 6.1, 6.2 and 6.3).

Table 6.1 Percentage of financially distressed and healthy firms across group affiliation

Items	FDA	FDB	FDC
Distressed firms (%)			
(i) Business group affiliated	17	17	18
(ii) Standalone	83	83	82
Healthy firms (%)			
(i) Business group affiliated	66	63	66
(ii) Standalone	34	37	34

Note *FDA*, *FDB* and *FDC* represent the different measurement to capture financial distress
Source Prowess data base maintained by CMIE

Table 6.2 Summary statistics of the major variables

Type of firms	I/K	Q	S/K	CF/K	TIE/TB	LEV
	Mean (std. dev.)	Mean (std. dev.)	Mean (std. dev.)	Mean (std. dev.)	Mean (std. dev.)	Mean (std. dev.)
All firms (618)	0.13 (0.23)	1.27 (0.74)	0.19 (0.46)	0.22 (0.31)	0.12 (0.35)	0.42 (0.68)
Business group affiliated firms (397)	0.17 (0.21)	1.54 (0.79)	0.22 (0.47)	0.24 (0.33)	0.11 (0.39)	0.48 (0.74)
Standalone firms (221)	0.12 (0.26)	0.79 (0.62)	0.18 (0.37)	0.17 (0.38)	0.12 (0.35)	0.40 (0.56)

Note I/K is the dependent variable where I = net investment in fixed assets, K = capital stock at the beginning of the period, Q = Tobin's Q ratio, S = sales, CF = cash flow, TIE = total interest expenses, TB = total borrowings, and LEV = leverage. The firms affiliated to a particular group are considered as group affiliated firms and rest are designated as standalone firms
Source Prowess data base maintained by CMIE

6.4 Model Specification and Econometric Method

6.4.1 Models Specifications

Assuming the role of business group affiliations on determination of corporate investments and investment-cash flow sensitivity we specify the models as follows:

$$\left(I/K\right)_{it} = \alpha + \beta_1\left(I/K\right)_{it-1} + \beta_2 Q_{it} + \beta_3\left(CF/K\right)_{it} + \beta_4\left(CF/K\right)_{it} \times BGA_i + \beta_5 BGA_i + \vartheta_i + \lambda_t + \mu_{it} \tag{6.1}$$

$$\left(I/K\right)_{it} = \alpha + \beta_1\left(I/K\right)_{it-1} + \beta_2\left(S/K\right)_{it} + \beta_3\left(CF/K\right)_{it} + \beta_4\left(CF/K\right)_{it} \times BGA_i + \beta_5 BGA_i + \vartheta_i + \lambda_t + \mu_{it} \tag{6.2}$$

$$\begin{aligned}\left(I/K\right)_{it} = {} & \alpha + \beta_1\left(I/K\right)_{it-1} + \beta_2 Q_{it} + \beta_3\left(S/K\right)_{it} \\ & + \beta_4\left(CF/K\right)_{it} + \beta_5\left(TIE/TB\right)_{it} + \beta_6 LIQ_{it} + \beta_7 LEV_{it} \\ & + \beta_8 SZ_{it} + \beta_9 TAN_{it} + \beta_{10} AGE_{it} + \beta_{11}\left(CF/K\right)_{it} \\ & \times BGA_i + \beta_{12} BGA_i + \theta_i + \lambda_t + \mu_{it}\end{aligned} \tag{6.3}$$

Table 6.3 Summary statistics of the variables across the group affiliation (within the distressed and healthy firms)

Panel A: distressed firms						
Variables	FDA		FDB		FDC	
	Group affiliated firms Mean (SD)	Standalone firms Mean (SD)	group affiliated firms Mean (SD)	Standalone firms Mean (SD)	group affiliated firms Mean (SD)	Standalone firms Mean (SD)
	(1)	(2)	(3)	(4)	(5)	(6)
I/K	0.12 (0.21)	0.04 (0.15)	0.10 (0.15)	0.05 (0.18)	0.11 (0.13)	0.07 (0.19)
Q	1.61 (0.87)	1.22 (0.92)	1.81 (0.51)	1.14 (0.71)	1.83 (0.48)	1.09 (0.78)
S/K	0.10 (0.17)	0.07 (0.18)	0.09 (0.11)	0.04 (0.12)	0.07 (0.12)	0.06 (0.14)
CF/K	0.09 (0.19)	0.05 (0.11)	0.06 (0.12)	0.05 (0.17)	0.05 (0.09)	0.04 (0.13)
TIE/TB	0.09 (0.43)	0.13 (0.21)	0.08 (0.21)	0.10 (0.23)	0.09 (0.15)	0.10 (0.18)
LEV	0.51 (0.69)	0.42 (1.02)	0.54 (0.58)	0.51 (0.67)	0.51 (0.53)	0.46 (0.62)
Panel B: healthy firms						
I/K	0.19 (0.27)	0.09 (0.15)	0.18 (0.18)	0.11 (0.28)	0.19 (0.09)	0.12 (0.21)
Q	1.33 (0.35)	1.06 (0.49)	1.38 (0.33)	1.04 (0.42)	1.31 (0.41)	0.98 (0.42)
S/K	0.18 (0.28)	0.12 (0.31)	0.14 (0.26)	0.10 (0.29)	0.16 (0.18)	0.12 (0.23)
CF/K	0.12 (0.19)	0.09 (0.15)	0.13 (0.18)	0.07 (0.19)	0.14 (0.11)	0.10 (0.17)
TIE/TB	0.08 (0.41)	0.12 (0.21)	0.08 (0.17)	0.10 (0.18)	0.08 (0.14)	0.11 (0.16)
LEV	0.48 (0.61)	0.43 (78)	0.49 (0.32)	0.44 (0.58)	0.45 (0.28)	0.44 (0.33)

Note I/K is the dependent variable where I = net investment in fixed assets, K = capital stock at the beginning of the period, Q = Tobin's Q ratio, S = sales, CF = cash flow, TIE = total interest expenses, TB = total borrowings, and LEV = leverage. The firms affiliated to a particular group are considered as group affiliated firms and rest are designated as standalone firms

Source Prowess data base maintained by CMIE

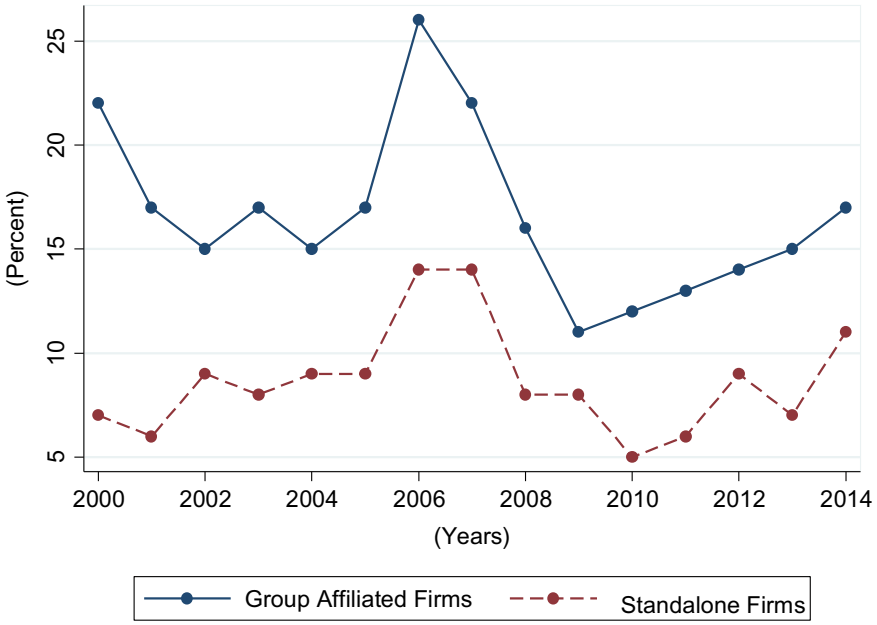

Fig. 6.1 Investment to capital ratio for financially distressed business group affiliated and standlaone firms (financial distress is measured through Altman's Z score). *Source* Prowess data base maintained by CMIE

Here, CF = cash flow, TIE = total interest expenses, TB = total borrowings, LIQ = liquidity, LEV = leverage, SZ = firm size, TAN = collateral assets and, AGE = firm age, BGA = Business group affiliation dummy i.e. 1 for the company which is affiliated to a group and 0 otherwise.

ϑ_i is the firm specific effects, λ_t is the time specific effect, μ_{it} is the error term. The subscripts i and t represent the firms' and time respectively.

We expect the positive association between investment and group affiliation in all models as business group member firms shares their internal capital market, technology and resources which help them to make more investment even in the absence of internal fund and resources. The interaction terms in Eqs. (6.1, 6.2 and 6.3) capture the effect of business group affiliation on the sensitivity of investment to internal funds. We expect that $\beta_3 > 0$ in Eqs. 6.1 and 6.2 and $\beta_4 > 0$ in Eq. 6.3 as an increase in cash flow lead to an increase in the level of investment expenditure. The major objective of this investigation is that the sensitivity of investment to cash flow may decrease with the affiliation of the firm with the business group because the business group affiliated firms create an internal capital market and share it in times of limited availability of internal fund to finance their investment and ultimately their investment becomes less dependent on the internal fund. Therefore, we expect that $\beta_4 < 0$, $\beta_4 < 0$ and $\beta_{11} < 0$ for the Eqs. 6.1, 6.2 and 6.3 respectively.

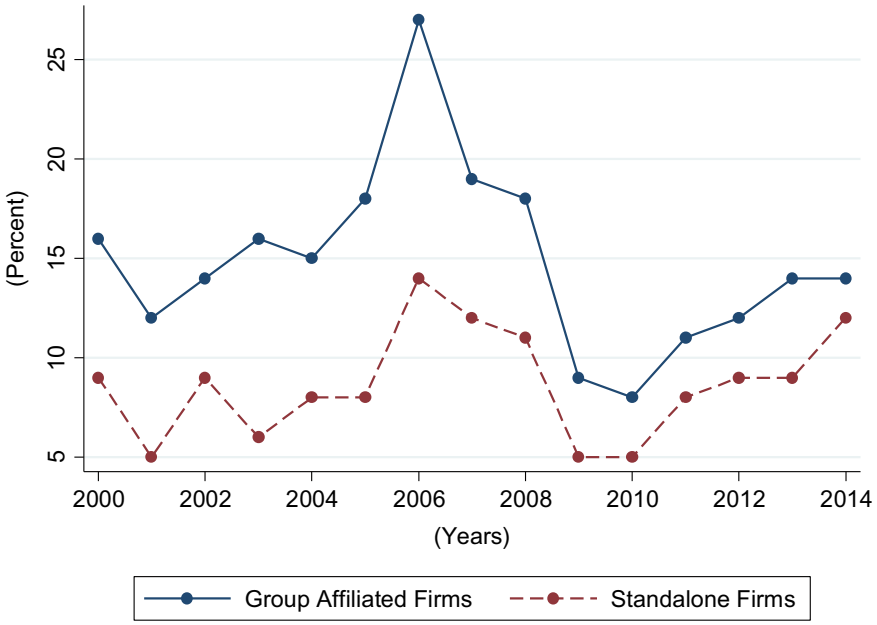

Fig. 6.2 Investment to capital ratio for financially distressed business group affiliated and standlaone firms (financial distress is measured through financial distress ratio). *Source* Prowess data base maintained by CMIE

To investigate the relative importance of group affiliation on financially distressed firms within the group affiliated against the financially distressed standalone firms we specify the following models.

$$\left(I/K\right)_{it} = \alpha + \beta_1\left(I/K\right)_{it-1} + \beta_2 Q_{it} + \beta_3\left(CF/K\right)_{it} + \beta_4\left(CF/K\right)_{it} \times STAND_i \times FD_{it} + \beta_5\left(CF/K\right)_{it} \times GROUP_i \times FD_{it} + \beta_6 FD_{it} + \beta_7 BGA_i + \theta_i + \lambda_t + \mu_{it} \tag{6.4}$$

$$\left(I/K\right)_{it} = \alpha + \beta_1\left(I/K\right)_{it-1} + \beta_2\left(S/K\right)_{it} + \beta_3\left(CF/K\right)_{it} + \beta_4\left(CF/K\right)_{it} \times STAND_i \times FD_{it} + \beta_5\left(CF/K\right)_{it} \times GROUP_i \times FD_{it} + \beta_6 FD_{it} + \beta_7 BGA_i + \theta_i + \lambda_t + \mu_{it} \tag{6.5}$$

$$\left(I/K\right)_{it} = \alpha + \beta_1\left(I/K\right)_{it-1} + \beta_2 Q_{it} + \beta_3\left(S/K\right)_{it} + \beta_4\left(CF/K\right)_{it} + \beta_5\left(TIE/TB\right)_{it} + \beta_6 LIQ_{it} + \beta_7 LEV_{it}$$

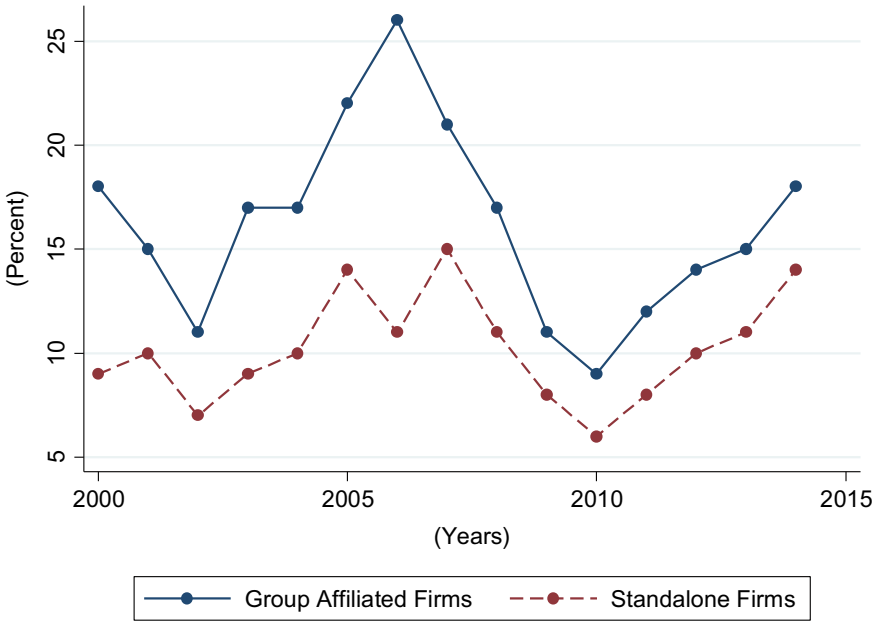

Fig. 6.3 Investment to capital ratio for financially distressed business group affiliated and standlaone firms (financial distress is measured through Ohlson's O score). *Source* Prowess data base maintained by CMIE

$$+\beta_8 SZ_{it} + \beta_9 TAN_{it} + \beta_{10} AGE_{it} + \beta_{11}\left(CF/K\right)_{it} \times STAND_i \times FD_{it} + \beta_{12}\left(CF/K\right)_{it} \times GROUP_i \times FD_{it} + \beta_{13} FD_{it} + \beta_{14} BGA_i + \theta_i + \lambda_t + \mu_{it} \quad (6.6)$$

Here, I = net investment, K = capital stock at the beginning of the period, Q = Q-ratio, S = net sales, CF is the internal cash flow of the firm, FD is the financial distress proxy measured in three ways (represented as FDA, FDB and FDC discussed in the variable section). TIE = total interest expenses, TB = total borrowings, LIQ = liquidity, LEV = leverage, SZ = firm size, TAN = tangible assets, AGE = firm age, $STAND$ is a dummy variable whose value is 1 for standalone companies and zero otherwise. Similarly $GROUP$ is a dummy whose value is 1 for group affiliated firms and zero otherwise. Here, we assume that companies under financial distress restrict their investment and therefore, we expect that $\beta_6 < 0$ (for Eqs. 6.4 and 6.5) and $\beta_{13} < 0$ (for Eq. 6.6). Comparing the absolute values of the coefficients β_4 and β_5 in Eqs. (6.4) and (6.5) and β_{11}&β_{12} in Eq. 6.6 we examine the relative impact of financial distress on group affiliated vs. standalone firms. In this context, we hypothesize that the effect of financial distress may have less effect on investment-cash flow sensitivity of business group affiliated firms than standalone firms.

6.4.2 Econometric Method

Dynamic panel data models have been used for this analysis. For the dynamic analysis, we have used the Generalized Method of Moments (GMM) technique as suggested by Arellano and Bond (1991). When the dynamic model as specified in all the above-mentioned equations are used, the lagged dependent regressor is correlated with the error term even if the errors themselves are uncorrelated. This renders fixed effect estimators to be biased and inconsistent (for fixed T). The random effect estimator is also biased in this context. Simpler instrumental variable estimators may be used but if the errors are correlated then generalized method of moments (GMM) technique is more appropriate. To examine the validity of the instruments used in the analysis we have used the Sargan (1958) test. The Sargan test statistics follows the chi-square distribution. We have also reported the Wald test which shows the joint significance of the estimated coefficients for all the variables and m_1 and m_2 test statistics to test the relevance of the variables used for the analysis and to test the autocorrelation problem.

6.5 Discussion of Results

6.5.1 Empirical Results (Whole Period)

Table 6.4 shows the GMM estimation results of Eqs. 6.1, 6.2 and 6.3. Columns 1, 2 and 3 show the result for the Q-model, Euler equation and extended model respectively. The p-values of m_1 and m_2 test statistics indicate that very little unobserved firm specific effects exist in the estimation results. The results from Sargan test reveal that the instruments used are valid. The Wald test confirms that the models are correctly specified. The significant positive coefficient of lagged investment to capital ratio implies that current investment depends on the past investment (i.e. there has been a persistence effect in firms' investment undertaken). This positive effect is consistent with the findings in Laeven (2003), Love (2003), Ratti et al. (2008), Firth et al. (2012), Tran and Le (2017) and Gupta and Mahakud (2019, 2020, 2022), but inconsistent with the evidence shown by Guariglia (2008) and Gochoco-Bautista et al. (2014). Tobin's Q plays the significant role of increasing the investment to capital ratio as predicted by the theory.

The significant regression coefficient of sales confirms its strong explanatory power for firm investment determination. The significant positive coefficient of cash flow in all investments models suggests that Indian firms are financially constraint. It is consistent with the findings of Fazzari et al. (1988), Guariglia (2008), Jangili and Kumar (2010) and Gupta and Mahakud (2018, 2019, 2022). The negative and significant relationship between interest expenses and investment is consistent with the neo classical theory of investment which assumes that the high cost of borrowing reduces the corporate fixed investment (Rajakumar 2005; Jangili and

Table 6.4 Business group affiliation and investment-cash flow sensitivity

Variables	Q-model (Eq. 6.1)	Euler equation (Eq. 6.2)	Extended model (Eq. 6.3)
	Coefficient (z)	Coefficient (z)	Coefficient (z)
	(1)	(2)	(3)
$\left(I/K\right)_{it-1}$	0.0894** (2.18)	0.0613** (2.08)	0.1019** (2.38)
Q_{it}	0.0938*** (2.85)	–	0.0622*** (7.78)
$\left(S/K\right)_{it}$	–	0.1104** (2.05)	0.1022*** (8.67)
$\left(CF/K\right)_{it}$	0.0911*** (2.99)	0.0807*** (2.69)	0.1227*** (9.3)
$\left(TIE/TB\right)_{it}$	–	–	−0.0201* (-2.10)
LIQ_{it}	–	–	0.0433*** (4.28)
LEV_{it}	–	–	−0.0175* (-1.77)
SZ_{it}	–	–	0.1437*** (4.85)
TAN_{it}	–	–	0.0543*** (4.14)
AGE_{it}	–	–	0.1002* (1.82)
$\left(CF/K\right)_{it} \times BGA_{it}$	−0.0429 (−1.10)	-0.0391 (−1.09)	−0.0872 (−1.27)
BGA_{it}	0.0716** (2.11)	0.0851** (2.38)	0.0982*** (3.30)
Constant	0.0028* (1.81)	0.0303** (2.45)	0.0219*** (2.66)
Wald test	χ^2 (06) = 671.16 (0.0000)	χ^2 (06) = 658.33 (0.0000)	χ^2 (13) = 823.28 (0.0000)
m_1 (p)	(0.00)	(0.00)	(0.00)
m_2 (p)	(0.19)	(0.29)	(0.27)

(continued)

Table 6.4 (continued)

Variables	Q-model (Eq. 6.1)	Euler equation (Eq. 6.2)	Extended model (Eq. 6.3)
	Coefficient (z)	Coefficient (z)	Coefficient (z)
	(1)	(2)	(3)
Sargan test	χ^2 (90) = 19.18 (0.1203)	χ^2 (90) = 21.51 (0.1103)	χ^2 (90) = 16.74 (0.1514)
NOB	8021	8021	8021

Note I/K is the dependent variable where I = net investment in fixed assets, K = capital stock at the beginning of the period, CF = cash flow, S = sales, TIE = total interest expenses, TB = total borrowings, Q = Tobin's Q ratio, LIQ = liquidity, LEV = leverage, SZ = firm size and, AGE = firm age, BGA= business group affiliation, i = number of firms represented as 1, 2,…,n, and t = time period. (ii) ***, ** and * show the 1%, 5% and 10% level of significance respectively. (iii) z-statistics given in the parenthesis. (iv) $m_1(m_2)$ is a test for first- (second-) order serial correlation in the first-differenced residuals, asymptotically distributed as N(0,1) under the null of no serial correlation. (v) Wald test is a test of joint significance of the estimated coefficients which is asymptotically distributed as chi-square under the null of no relationship and Sargan test of over identifying restrictions, which is asymptotically distributed as chi-square under the null of instrumental validity. (vi) NOB is the number of observations

Kumar 2010; La Cava et al. 2005; Gupta et al. 2018 and Gupta and Mahakud 2022). The regression coefficient of liquidity is positive and statistically significant, which implies that liquid assets do explain the investment behavior of the firms.

A negative influence of leverage on investments postulates that external financing through debt leads to the certain fixed obligations for firms such as the payment of interest and principal. Further, if firms fail to pay interest and principle amount that can increases the bankruptcy and liquidation cost and high use of debt or high leverage increases probability of financial distress which in turn reduces the corporate investment (Hiller et al. 2010; Lang et al. 1996, Aivazian et al. 2005, Gupta and Mahakud 2018). The regression coefficient of firm size is positive and significant. This result supports the argument that the cost of capital is lesser for the large companies due to the less asymmetric information problem. Tangibility has also positive impact on the investment decision of the companies. The positive impact of firm age is consistent with the argument that matured and old firms are reputed and have strong social network which helps in obtaining capital from the market, and therefore, they can invest more. The signs of the regression coefficients of interaction term of cash flow with business group dummy have been negative in all models. This implies that investment behavior of group affiliated companies is the less sensitive to the cash flow. This could be because of the availability of internal capital market and a better reputation for the group affiliated companies. The positive and statistically significant value of the business group dummy reveals that corporate fixed investment increases with the affiliations of firms with a business group. It could be due to the fact that business group firms have their own internal capital market which helps member firms to finance their investment in the absence of internal fund.

Table 6.5 reveals that the regression coefficient of the interaction terms of cash flow, group affiliation and financial distress is negative, but not statistically significant for the business group affiliated firms, which implies that financial distress does not affect the investment-cash flow sensitivity of the affiliated firms in India. This could be due to the fact that business groups might be able to fulfill the financing requirements through the internal capital market. This result also suggests that the effects of group affiliation dominate the effect of financial distress on the investment cash-flow sensitivity. For standalone firms it has been positive and statistically significant.

This finding is consistent with the argument that it may be more difficult for the financially distressed standalone firms to raise the external capital and therefore, these firms rely more on the cash flow for the investments in fixed assets. The results indicate that financial distress plays a negative role in the determination of corporate investment. This could be due to the fact that a financial distress firms are facing constraints to finance their investment. Internal financing becomes a constraints for a firm which is under the distress condition because distress firms need to pay their old debt as well as finance their project form the internal fund. External financing also becomes a constraint because lenders are aware about their current situation and feel that it will be riskier to provide more loans to a firm which is already in default to repay their old loan and interest.

6.5.2 Empirical Results (Crisis vs. Non-crisis Periods)

Tables 6.6 and 6.7 show the results of the crisis and non-crisis period respectively. We find that variables like firm age and liquidity turnout to be significant during the crisis period. High coefficient values of all firm specific variables reveal that the impact of all these firm specific variables is more on investment decisions during the crisis period that non-crisis period. The negative coefficients of the interaction terms of cash flow, financial distress and group affiliation in both periods depict that the presence of financial distress does not affect the investment-cash flow sensitivity of group-affiliated firms. We find that that there is a difference between the coefficients of interaction term across the periods. High coefficients of interaction term in non-crisis period postulates that business group might have more impact on cash-flow investment sensitivity in the non-crisis period that the crisis period. The results of the interaction terms of cash flow, financial distress and standalone dummy conclude that financial distress does affect the investment-cash flow sensitivity of standalone firms. Our results also report that the isolated effect of financial distress on corporate investment is more during the crisis period than the non-crisis period. Further, the impact of business group affiliation is more on the corporate investment during the non-crisis period than the crisis period.

Table 6.5 Business group affiliation, financial distress and investment-cash flow sensitivity

Variables	Q model specification with financial distress			Euler equation with Financial Distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
$\left(I/K\right)_{it-1}$	0.1211* (1.88)	0.1311** (2.43)	0.1056* (1.91)	0.0911** (2.21)	0.1132* (1.72)	0.1411* (1.88)	0.0954* (1.68)	0.1044* (1.80)	0.1187* (1.78)
Q_{it}	0.1059* (1.79)	0.1195* (1.88)	0.0995* (1.91)	–	–	–	0.0626** (2.33)	0.0849 (1.14)	0.0944 (1.37)
$\left(S/K\right)_{it}$	–	–	–	0.1095** (2.63)	0.1312** (2.45)	0.1012** (2.45)	0.0708 (1.46)	0.0841* (1.94)	0.0911** (2.41)
$\left(CF/K\right)_{it}$	0.0879** (2.33)	0.0712** (2.49)	0.0501** (2.11)	0.1112** (2.38)	0.0612** (2.45)	0.0623** (2.18)	0.0959** (2.14)	0.0887** (2.35)	0.0642** (2.45)
$\left(TIE/TB\right)_{it}$	–	–	–	–	–	–	−0.0806 (−1.24)	−0.0916** (−2.28)	−0.0955 (−1.27)
LIQ_{it}	–	–	–	–	–	–	0.0826** (2.42)	0.0841 (1.19)	0.0831 (1.44)
LEV_{it}	–	–	–	–	–	–	−0.1047** (−2.33)	−0.1149*** (−2.56)	−0.0918 (−1.38)
SZ_{it}	–	–	–	–	–	–	0.0874*** (6.25)	0.0817*** (7.48)	0.0916*** (4.55)
TAN_{it}	–	–	–	–	–	–	0.0642*** (2.68)	0.0749 (1.65)	0.0624 (1.16)
AGE_{it}	–	–	–	–	–	–	0.0767 (1.45)	0.0815 (1.33)	0.0813** (2.46)

(continued)

Table 6.5 (continued)

Variables	Q model specification with financial distress			Euler equation with Financial Distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
$\left(CF/K\right)_{it} \times FDA_{it} \times STAND_{it}$	0.2503** (1.99)	–	–	0.2425* (1.78)	–	–	0.2241*** (2.88)	–	–
$\left(CF/K\right)_{it} \times FDB_{it} \times STAND_{it}$	–	0.2227** (2.02)	–	–	0.2611** (2.23)	–	–	0.2446** (1.99)	–
$\left(CF/K\right)_{it} \times FDC_{it} \times STAND_{it}$	–	–	0.2418** (2.27)	–	–	0.2128** (2.13)	–	–	0.2642*** (2.56)
$\left(CF/K\right)_{it} \times FDA_{it} \times GROUP_{it}$	−0.0821 (−1.39)	–	–	−0.0392 (−1.48)	–	–	−0.0511 (−1.31)	–	–
$\left(CF/K\right)_{it} \times FDB_{it} \times GROUP_{it}$	–	−0.0432 (−1.52)	–	–	−0.0361 (−1.41)	–	–	−0.0583 (−1.38)	–
$\left(CF/K\right)_{it} \times FDC_{it} \times GROUP_{it}$	–	–	−0.0618 (−1.47)	–	–	−0.0521 (−1.13)	–	–	−0.0611 (−1.59)
FDA_{it}	−0.0415* (−1.85)	–	–	−0.0318* (−1.91)	–	–	−0.0484* (−1.72)	–	–
FDB_{it}	–	−0.0612* (−1.67)	–	–	−0.0811* (−1.82)	–	–	−0.0422* (−1.62)	–
FDC_{it}	–	–	−0.0947* (−1.68)	–	–	−0.0740** (−2.21)	–	–	−0.0831* (−1.93)
BGA_i	0.0921** (2.37)	0.1158** (2.35)	0.1016** (2.38)	0.1236** (2.41)	0.0813** (2.26)	0.1123** (2.44)	0.1248** (2.34)	0.1055** (2.47)	0.1156** (2.39)

(continued)

Table 6.5 (continued)

Variables	Q model specification with financial distress			Euler equation with Financial Distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
Constant	0.1211 (1.18)	0.1021** (2.16)	−0.1129 (−1.26)	0.0921 (1.23)	0.1092*** (2.66)	0.1411** (2.16)	0.1024* (1.91)	0.0846 (1.61)	0.1216* (1.67)
Wald test	χ^2 (6) = 219.80 (0.0000)	χ^2 (6) = 119.10 (0.0000)	χ^2 (6) = 196.11 (0.0000)	χ^2 (6) = 217.62 (0.0000)	χ^2 (6) = 217.62 (0.0000)	χ^2 (6) = 217.62 (0.0000)	χ^2 (13) = 428.26 (0.0000)	χ^2 (13) = 385.12 (0.0000)	χ^2 (13) = 426.21 (0.0000)
m_1 (*p*)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
m_2 (*p*)	(0.30)	(0.28)	(0.18)	(0.17)	(0.27)	(0.26)	(0.19)	(0.24)	(0.23)
Sargan test	(0.21)	(0.26)	(0.19)	(0.16)	(0.11)	(0.17)	(0.23)	(0.18)	(0.19)
	7371	7371	6188	7371	7371	6188	7371	7371	6188

Note I/K is the dependent variable where I = net investment in fixed assets, K = capital stock at the beginning of the period, CF = cash flow, S = sales, Q = Tobin's Q ratio, TIE = total interest expenses, TB = total borrowings, Q = Tobin's Q ratio, LIQ = liquidity, LEV = leverage, SZ = firm size, TAN = tangible assets, and AGE = firm age, i = number of firms represented as 1, 2,…,n, and t = time period. (ii) ***, ** and * show the 1%, 5% and 10% level of significance respectively. (iii) z-statistics given in the parenthesis. (iv) $m_1(m_2)$ is a test for first- (second-) order serial correlation in the first-differenced residuals, asymptotically distributed as N(0,1) under the null of no serial correlation. (v) Wald test is a test of joint significance of the estimated coefficients which is asymptotically distributed as chi-square under the null of no relationship and Sargan test of over identifying restrictions, which is asymptotically distributed as chi-square under the null of instrumental validity. (vi) NOB is the number of observations. (vii) FDA, FDB, and FDC considered as financial distress measurement by Altman's Z"-Score model, financial distress ratio, and Ohlson's O score model respectively

Table 6.6 Business group affiliation, financial distress and investment-cash flow sensitivity (crisis period)

Variables	Q model specification with financial distress			Euler equation with financial distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
$\left(I/K\right)_{it-1}$	0.0626 (1.13)	0.0852 (1.22)	0.0846 (1.19)	0.0561 (1.27)	0.0811 (1.16)	0.0411 (1.18)	0.0543 (1.47)	0.0381 (1.35)	0.0419 (1.41)
$\underline{Q_{it}}$	0.1581** (2.33)	0.1426** (2.14)	0.1154* (1.84)	–	–	–	0.0626** (2.33)	0.0849 (1.14)	0.0944 (1.37)
$\left(S/K\right)_{it}$	–	–	–	0.1812** (2.81)	0.1742** (2.51)	0.1901** (2.44)	0.1768** (2.36)	0.2108** (2.39)	0.1956** (2.54)
$\left(CF/K\right)_{it}$	0.1754** (2.45)	0.1507** (2.41)	0.1841** (2.34)	0.1952** (2.48)	0.1954** (2.49)	0.1628** (2.34)	0.1911** (2.44)	0.1851** (2.31)	0.1649** (2.29)
$\left(TIE/TB\right)_{it}$	–	–	–	–	–	–	−0.1243** (-2.29)	−0.1054** (-2.41)	−0.0958** (-2.33)
LIQ_{it}	–	–	–	–	–	–	0.1188** (2.33)	0.0941** (2.19)	0.0857* (1.64)
LEV_{it}	–	–	–	–	–	–	−0.1483** (-2.39)	−0.1245** (-2.44)	−0.1135** (-2.31)
SZ_{it}	–	–	–	–	–	–	0.0971*** (4.29)	0.1051*** (8.47)	0.1158*** (9.33)
TAN_{it}	–	–	–	–	–	–	0.0811** (2.33)	0.0847** (2.16)	0.0751** (2.19)
AGE_{it}	–	–	–	–	–	-	0.0767* (1.65)	0.0715* (1.72)	0.0851* (1.86)

(continued)

Table 6.6 (continued)

Variables	Q model specification with financial distress			Euler equation with financial distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
$\left(CF/K\right)_{it} \times FDA_{it} \times STAND_{it}$	0.2347** (2.12)	–	–	0.2214* (1.89)	–	–	0.1931** (2.38)	–	–
$\left(CF/K\right)_{it} \times FDB_{it} \times STAND_{it}$	–	0.1922** (2.23)	–	–	0.2147** (2.41)	–	–	0.2041** (2.11)	–
$\left(CF/K\right)_{it} \times FDC_{it} \times STAND_{it}$	–	–	0.1914** (2.33)	–	–	0.1846** (2.17)	–	–	0.1844** (2.36)
$\left(CF/K\right)_{it} \times FDA_{it} \times GROUP_{it}$	−0.0722 (-1.17)	–	–	−0.0439 (-1.24)	–	–	-0.0522 (-1.27)	–	–
$\left(CF/K\right)_{it} \times FDB_{it} \times GROUP_{it}$	–	−0.0533 (-1.27)	–	–	−0.0416 (-1.23)	–	–	−0.0509 (-1.14)	–
$\left(CF/K\right)_{it} \times FDC_{it} \times GROUP_{it}$	–	–	−0.0614 (−1.25)	–	–	−0.0519 (-1.24)	–	–	−0.0483 (-1.29)
FDA_{it}	−0.1124** (−2.23)	–	–	−0.1247** (−2.49)	–	–	−0.1431** (-2.11)	–	–
FDB_{it}	–	−0.0914** (−2.36)	–	–	−0.1173** (−2.33)	–	–	−0.1136** (-2.19)	–
FDC_{it}	–	–	−0.0988** (−2.18)	–	–	−0.1048** (-2.47)	–	–	−0.1183** (-2.39)
BGA_i	0.0729** (2.38)	0.0914** (2.18)	0.0748** (2.29)	0.1144** (2.13)	0.0907* (1.88)	0.0733** (2.46)	0.0774** (2.09)	0.0817* (1.86)	0.0915** (1.99)

(continued)

Table 6.6 (continued)

Variables	Q model specification with financial distress			Euler equation with financial distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
Constant	0.0511 (1.19)	0.0621* (1.69)	−0.0744 (−1.28)	0.0927 (1.43)	0.0792* (1.68)	0.0527* (1.76)	0.0731* (1.79)	0.0342 (1.36)	0.0215* (1.77)
Wald test	χ^2 (8) = 417.28 (0.0000)	χ^2 (8) = 319.17 (0.0000)	χ^2 (8) = 496.18 (0.0000)	χ^2 (8) = 318.22 (0.0000)	χ^2 (8) = 358.11 (0.0000)	χ^2 (8) = 422.15 (0.0000)	χ^2 (15) = 325.18 (0.0000)	χ^2 (15) = 386.11 (0.0000)	χ^2 (15) = 488.17 (0.0000)
m_1 *(p)*	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
m_2 *(p)*	(0.32)	(0.26)	(0.21)	(0.29)	(0.25)	(0.27)	(0.22)	(0.23)	(0.24)
Sargan test	(0.35)	(0.32)	(0.31)	(0.33)	(0.29)	(0.28)	(0.29)	(0.24)	(0.21)
NOB	2835	2835	2380	2835	2835	2380	2835	2835	2380

Note I/K is the dependent variable where I = net investment in fixed assets, K = capital stock at the beginning of the period, CF = cash flow, S = sales, Q = Tobin's Q ratio, TIE = total interest expenses, TB = total borrowings, Q = Tobin's Q ratio, LIQ = liquidity, LEV = leverage, SZ = firm size, TAN = tangible assets, and AGE = firm age, i = number of firms represented as 1, 2,…,n, and t = time period. (ii) ***, ** and * show the 1%, 5% and 10% level of significance respectively. (iii) z-statistics given in the parenthesis. (iv) $m_1(m_2)$ is a test for first- (second-) order serial correlation in the first-differenced residuals, asymptotically distributed as N(0,1) under the null of no serial correlation. (v) Wald test is a test of joint significance of the estimated coefficients which is asymptotically distributed as chi-square under the null of no relationship and Sargan test of over identifying restrictions, which is asymptotically distributed as chi-square under the null of instrumental validity. (vi) NOB is the number of observations. (vii) FDA, FDB, and FDC considered as financial distress measurement by Altman's Z"-Score model, financial distress ratio, and Ohlson's O score model respectively

Table 6.7 Business group affiliation, financial distress and investment-cash flow sensitivity (non-crisis period)

Variables	Q model specification with financial distress			Euler equation with financial distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
$\left(I/K\right)_{it-1}$	0.0824* (1.74)	0.0746* (1.79)	0.0833* (1.84)	0.0713* (1.67)	0.0735* (1.94)	0.0766* (1.89)	0.0614* (1.77)	0.0589* (1.81)	0.0921* (1.88)
Q_{it}	0.0924** (2.14)	0.0754** (2.33)	0.0474** (1.97)	–	–	–	0.0477** (2.31)	0.0546* (1.74)	0.0832* (1.87)
$\left(S/K\right)_{it}$	–	–	–	0.1118** (2.38)	0.0944** (2.27)	0.0788** (2.47)	0.0906** (2.16)	0.0842** (2.19)	0.0813** (2.34)
$\left(CF/K\right)_{it}$	0.1328** (2.14)	0.1108** (2.33)	0.1173** (2.38)	0.1419** (2.51)	0.1341** (2.44)	0.1138** (2.11)	0.1247** (2.31)	0.1182** (2.05)	0.1044** (2.13)
$\left(TIE/TB\right)_{it}$	–	–	–	–	–	–	−0.0715** (−2.11)	−0.0644** (−2.16)	−0.0710* (−1.88)
LIQ_{it}	–	–	–	–	–	–	0.0421 (1.14)	0.0433 (1.19)	0.0521 (1.18)
LEV_{it}	–	–	–	–	–	–	−0.0829** (−2.17)	−0.0693** (−2.07)	−0.0612** (−2.11)
SZ_{it}	–	–	–	–	–	–	0.0874** (2.21)	0.0844** (2.48)	0.0917** (2.09)
TAN_{it}	–	–	–	–	–	–	0.0610** (2.14)	0.0619** (2.08)	0.0533** (2.14)
AGE_{it}	–	–	–	–	–	–	0.0531 (1.16)	0.0644 (1.22)	0.0671 (1.36)
$\left(CF/K\right)_{it} \times FDA_{it} \times STAND_{it}$	0.16267* (1.88)	–	–	0.1429* (1.74)	–	-	0.1413* (1.68)	–	–

(continued)

Table 6.7 (continued)

Variables	Q model specification with financial distress			Euler equation with financial distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
$\left(CF/K\right)_{it} \times FDB_{it} \times STAND_{it}$	–	0.1524* (1.83)	–	–	0.1628* (1.93)	–	–	0.1506* (1.71)	–
$\left(CF/K\right)_{it} \times FDC_{it} \times STAND_{it}$	–	–	0.1544* (1.73)	–	–	0.1547* (1.81)	–	–	0.1517* (1.85)
$\left(CF/K\right)_{it} \times FDA_{it} \times GROUP_{it}$	−0.0951 (−1.27)	–	–	−0.1119 (−1.28)	–	–	−0.1124 (−1.38)	–	–
$\left(CF/K\right)_{it} \times FDB_{it} \times GROUP_{it}$	–	−0.1194 (−1.48)	–	–	−0.1287 (−1.33)	–	–	−0.0943 (−1.19)	–
$\left(CF/K\right)_{it} \times FDC_{it} \times GROUP_{it}$	–	–	−0.1039 (−1.35)	–	–	−0.0973 (−1.34)	–	–	−0.1159 (−1.31)
FDA_{it}	−0.0624* (−1.79)	–	–	−0.0613* (−1.71)	–	–	−0.0519* (−1.69)	–	–
FDB_{it}	–	−0.0702* (−1.86)	–	–	−0.0821* (−1.73)	–	–	−0.0613* (−1.89)	–
FDC_{it}	–	–	−0.0507* (−1.75)	–	–	−0.0606* (−1.87)	–	–	−0.0716* (−1.73)
BGA_i	0.1134** (2.49)	0.1424** (2.31)	0.1243** (2.41)	0.1508** (2.33)	0.1243** (1.97)	0.1126** (2.51)	0.1044** (2.29)	0.1156** (2.36)	0.1423** (2.47)
Constant	0.0321 (1.17)	0.0428* (1.68)	0.0736 (1.29)	0.055 (1.23)	0.0741* (1.71)	0.0531* (1.81)	0.0784* (1.85)	0.0426 (1.19)	0.0411* (1.71)

(continued)

Table 6.7 (continued)

Variables	Q model specification with financial distress			Euler equation with financial distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
Wald test	χ^2 (8) = 528.33 (0.0000)	χ^2 (8) = 427.15 (0.0000)	χ^2 (8) = 448.11 (0.0000)	χ^2 (8) = 569.57 (0.0000)	χ^2 (8) = 411.87 (0.0000)	χ^2 (8) = 429.15 (0.0000)	χ^2 (15) = 611.38 (0.0000)	χ^2 (15) = 441.51 (0.0000)	χ^2 (15) = 511.67 (0.0000)
m_1 *(p)*	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
m_2 *(p)*	(0.35)	(0.29)	(0.24)	(0.31)	(0.28)	(0.29)	(0.24)	(0.25)	(0.26)
Sargan test	(0.33)	(0.34)	(0.33)	(0.34)	(0.27)	(0.25)	(0.28)	(0.26)	(0.29)
NOB	3402	3402	2856	3402	3402	2856	3402	3402	2856

Note I/K is the dependent variable where I = net investment in fixed assets, K = capital stock at the beginning of the period, CF = cash flow, S = sales, Q = Tobin's Q ratio, TIE = total interest expenses, TB = total borrowings, Q = Tobin's Q ratio, LIQ = liquidity, LEV = leverage, SZ = firm size, TAN = tangible assets, and AGE = firm age, i = number of firms represented as 1, 2,…,n, and t = time period. (ii) ***, ** and * show the 1%, 5% and 10% level of significance respectively. (iii) z-statistics given in the parenthesis. (iv) $m_1(m_2)$ is a test for first- (second-) order serial correlation in the first-differenced residuals, asymptotically distributed as N(0,1) under the null of no serial correlation. (v) Wald test is a test of joint significance of the estimated coefficients which is asymptotically distributed as chi-square under the null of no relationship and Sargan test of over identifying restrictions, which is asymptotically distributed as chi-square under the null of instrumental validity. (vi) NOB is the number of observations. (vii) $FIDA$, $FIDB$, and $FIDC$ considered as financial distress measurement by Altman's Z"-Score model, financial distress ratio, and Ohlson's O score model respectively

6.5.3 Empirical Results (High Growth vs. Low Growth Companies)

Tables 6.8 and 6.9 show that the presence of financial distress does not affect the investment-cash flow sensitivity of group-affiliated firms for both types of firms classified on the basis of Tobin's Q ratio. We also find that that there is a difference between the coefficients of interaction terms across the firms. High value of the coefficients of interaction terms of high growth firms postulate that business group might be more helpful to these firms to finance their investment opportunities in terms of providing internal funds. For standalone firms, the impact of financial distress on cash flow sensitivity is highly significant in both the cases. Further we find that the individual effect of financial distress on corporate investment is more for the firms having lower Q ratio. Further, the impact of business group affiliation is more on the corporate investment for the firms with high growth opportunity than the firms with low growth opportunities.

6.6 Conclusions

Investment to capital ratio, sales to capital ratio and cash flow to capital ratio are higher for business group affiliated firm than the standalone firms. We find that within the healthy firms' investment to capital ratio, Tobin's Q ratio, sales to capital ratio, cash flow to capital ratio and financial leverage ratio have been more for group affiliated firms than the standalone firms. The econometric analysis concludes that there has been a persistence effect in firms' investment undertaken. The positive impact of cash flow on investment decisions implies that Indian firms are financially constrained. The investment behavior of group affiliated companies is the less sensitive to the cash flow and corporate fixed investment increases with the affiliations of the firm with a business group. It could be due to the fact that business group firms have their own internal capital market which helps member firms to finance their investment in the absence of internal fund. The result reveals that financial distress plays a negative role in the determination of corporate investment. We also find that financial distress does not affect the investment-cash flow sensitivity of the affiliated firms in India. The results are robust across the different periods classified on the basis of financial crisis and growth opportunity of the companies.

Table 6.8 Business group affiliation, financial distress and investment-cash flow sensitivity (firms with Q ratio > 1)

Variables	Q model specification with financial distress			Euler equation with financial distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
	(1)	(2)	(3)	(4)	(5)	**(6)**	**(7)**	**(8)**	**(9)**
$\left(I/K\right)_{it-1}$	0.1033*** (3.14)	0.1133 (1.54)	0.1031*** (2.64)	0.0991*** (2.87)	0.1091 (1.56)	0.1191*** (3.51)	0.1019 (1.38)	0.1114** (2.41)	0.0911 (1.24)
Q_{it}	0.0568*** (2.84)	0.0768*** (2.94)	0.0968*** (2.74)	–	–		0.0611** (2.18)	0.0710 (1.42)	0.0841 (1.50)
$\left(S/K\right)_{it}$	–	–		0.0800* (1.65)	0.1010* (1.83)	0.1210* (1.65)	0.0721*** (3.01)	0.0817*** (2.95)	0.1523*** (4.04)
$\left(CF/K\right)_{it}$	0.0879** (2.35)	0.06179** (2.22)	0.07119** (2.42)	0.0732* (1.69)	0.0612 (1.12)	0.0681**\ (2.12)	0.0924** (2.24)	0.05621** (2.21)	0.0826 (1.23)
$\left(TIE/TB\right)_{it}$		–	–		-	–	−0.0710 (−1.29)	−0.0721 (−1.34)	−0.0781** (−2.51)
LIQ_{it}	–	–	–	–	–	–	0.0826** (2.05)	0.0927 (1.19)	0.0747 (1.15)
LEV_{it}	–	–	–	–	–	–	−0.1140*** (−3.55)	−0.1094* (−1.81)	−0.0819 (−1.19)
SZ_{it}	–	–	–	–	–	–	0.0916 (1.61)	0.1014* (1.91)	0.0872*** (2.88)
TAN_{it} TAN_{it}		–	–	–	–	–	0.0751 (1.28)	0.0786*** (3.55)	0.0932* (1.89)
AGE_{it}	–	–	–	–	–	–	0.0834 (1.61)	0.0814 (1.17)	0.0716 (1.21)

(continued)

Table 6.8 (continued)

Variables	Q model specification with financial distress			Euler equation with financial distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
	(1)	(2)	(3)	(4)	(5)	**(6)**	**(7)**	**(8)**	**(9)**
$\left(CF/K\right)_{it} \times FDA_{it} \times STAND_{it}$	0.1814** (1.94)	–	–	0.1629* (1.69)	–	–	0.1714** (2.17)	–	–
$\left(CF/K\right)_{it} \times FDB_{it} \times STAND_{it}$	–	0.1506** (1.99)	–	–	0.1701** (2.11)	–	–	0.1641** (1.99)	–
$\left(CF/K\right)_{it} \times FDC_{it} \times STAND_{it}$	–	–	0.1722** (2.41)	–	–	0.1713** (2.44)	–	–	0.1809** (2.15)
$\left(CF/K\right)_{it} \times FDA_{it} \times GROUP_{it}$	−0.0829 (−1.17)	–	–	−0.1026 (−1.39)	–	–	−0.0913 (−1.11)	–	–
$\left(CF/K\right)_{it} \times FDB_{it} \times GROUP_{it}$	–	−0.0931 (−1.27)	–	–	−0.0911 (−1.56)	–	–	-0.0823 (-1.27)	-
$\left(CF/K\right)_{it} \times FDC_{it} \times GROUP_{it}$	–	–	−0.0915 (−1.14)	–	–	−0.0814 (−1.18)	–	–	−0.0953 (−1.21)
FDA_{it}	−0.0527* (−1.89)	–	–	−0.0468* (−1.92)	–	–	−0.0516* (−1.68)	–	–
FDB_{it}	–	−0.0727* (−1.71)	–	–	−0.0614* (−1.87)	–	–	−0.0566* (−1.73)	–

(continued)

Table 6.8 (continued)

Variables	Q model specification with financial distress			Euler equation with financial distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
	(1)	(2)	(3)	(4)	(5)	**(6)**	**(7)**	**(8)**	**(9)**
FDC_{it}	–	–	-0.0825^{*} (-1.79)	–	–	-0.0622^{**} (-2.14)	–	–	-0.0716^{*} (-1.83)
BG_{it}	0.0912^{**} (2.11)	0.1126^{**} (2.19)	0.1028^{**} (2.31)	0.1044^{**} (2.10)	0.0813^{**} (1.95)	0.0957^{**} (2.34)	0.0815^{**} (2.12)	0.0956^{**} (2.15)	0.0811^{**} (2.44)
Constant	0.0281 (1.27)	0.0429^{*} (1.76)	0.0681^{*} (1.85)	0.0625^{*} (1.71)	0.0925 (1.30)	0.0321^{*} (1.89)	0.0329^{*} (1.91)	0.0671^{*} (1.81)	0.0529^{*} (1.72)
Wald test	χ^2 (8) = 223.13 (0.0000)	χ^2 (8) = 189.15 (0.0000)	χ^2 (8) = 218.89 (0.0000)	χ^2 (8) = 219.14 (0.0000)	χ^2 (8) = 191.21 (0.0000)	χ^2 (8) = 215.91 (0.0000)	χ^2 (15) = 338.19 (0.0000)	χ^2 (15) = 389.21 (0.0000)	χ^2 (15) = 428.14 (0.0000)
m_1 *(p)*	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
m_2 *(p)*	(0.19)	(0.20)	(0.22)	(0.22)	(0.21)	(0.20)	(0.28)	(0.31)	(0.23)
Sargan test	(0.33)	(0.35)	(0.34)	(0.33)	(0.30)	(0.31)	(0.35)	(0.32)	(0.37)
NOB	2158	2158	1820	2158	2158	1820	2158	2158	1820

Note I/K is the dependent variable where I = net investment in fixed assets, K = capital stock at the beginning of the period, CF = cash flow, S = sales, Q = Tobin's Q ratio, TIE = total interest expenses, TB = total borrowings, Q = Tobin's Q ratio, LIQ = liquidity, LEV = leverage, SZ = firm size, TAN = tangible assets, and AGE = firm age, i = number of firms represented as 1, 2,…,n, and t = time period. (ii) ***, ** and * show the 1%, 5% and 10% level of significance respectively. (iii) z-statistics given in the parenthesis. (iv) $m_1(m_2)$ is a test for first- (second-) order serial correlation in the first-differenced residuals, asymptotically distributed as N(0,1) under the null of no serial correlation. (v) Wald test is a test of joint significance of the estimated coefficients which is asymptotically distributed as chi-square under the null of no relationship and Sargan test of over identifying restrictions, which is asymptotically distributed as chi-square under the null of instrumental validity. (vi) NOB is the number of observations. (vii) $FIDA$, $FIDB$, and $FIDC$ considered as financial distress measurement by Altman's Z"-Score model, financial distress ratio, and Ohlson's O score model respectively

Table 6.9 Business group affiliation, financial distress and investment-cash flow sensitivity (firms with Q ratio < 1)

Variables	Q model specification with financial distress			Euler equation with financial distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$\left(I/K\right)_{it-1}$	0.1028*** (3.45)	0.1128*** (3.49)	0.1138 (1.45)	0.0706* (1.69)	0.1006* (1.74)	0.0902 (1.29)	0.1248** (2.51)	0.1144** (2.41)	0.1201 (1.11)
Q_{it}	0.1002*** (2.66)	0.1502*** (3.61)	0.1802*** (2.94)	–	–	–	0.0814** (2.41)	0.0849 (1.31)	0.1079** (2.15)
$\left(S/K\right)_{it}$	–	–	–	0.1007* (1.77)	0.1007* (1.81)	0.1507** (2.19)	0.0915*** (3.08)	0.0971*** (3.21)	0.1211 (1.01)
$\left(CF/K\right)_{it}$	0.2297** (2.44)	0.2297*** (2.68)	0.2197** (2.45)	0.2318** (2.48)	0.2318** (2.31)	0.2212** (2.47)	0.2426*** (5.21)	0.2511*** (5.11)	0.2511*** (3.11)
$\left(TIE/TB\right)_{it}$	–	–		–	–	–	−0.0910** (−2.23)	−0.0874** (−2.21)	−0.0914 (−1.28)
LIQ_{it}	–	–		–	–	–	0.1114** (2.51)	0.1014 (1.01)	0.1002** (1.99)
LEV_{it}	–	–		–	–	–	−0.1271*** (−3.23)	−0.1108*** (−2.98)	−0.1119 (−1.21)
SZ_{it} SZ_{it}	–	–		–	–	–	0.1108*** (4.06)	0.1107 (1.61)	0.1017*** (2.69)
TAN_{it} TAN_{it}	–	–		–	–	–	0.0851 (2.19)	0.0814 (1.54)	0.0954*** (2.59)
AGE_{it}	–	–		–	–	–	0.0928*** (2.61)	0.0911*** (2.84)	0.0914* (1.69)

(continued)

Table 6.9 (continued)

Variables	Q model specification with financial distress			Euler equation with financial distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$\left(CF/K\right)_{it} \times FDA_{it} \times STAND_{it}$	0.2722*** (3.89)	–	–	0.2551*** (3.33)	–	–	0.2859*** (3.54)	–	–
$\left(CF/K\right)_{it} \times FDB_{it} \times STAND_{it}$	–	0.3161*** (2.72)	–	–	0.3105* (1.65)	–	–	0.2911** (1.99)	–
$\left(CF/K\right)_{it} \times FDC_{it} \times STAND_{it}$	–	–	0.2900*** (2.82)	–	–	0.2498* (1.77)	–	–	0.2912** (2.09)
$\left(CF/K\right)_{it} \times FDA_{it} \times GROUP_{it}$	−0.0414 (−1.11)	–	–	−0.0316 (−1.33)	–	–	−0.0241 (−1.15)	–	–
$\left(CF/K\right)_{it} \times FDB_{it} \times GROUP_{it}$	–	−0.0361 (−1.12)	–	–	−0.0305 (−1.61)	–	–	−0.0419 (−1.11)	–
$\left(CF/K\right)_{it} \times FDC_{it} \times GROUP_{it}$	–	–	−0.0291 (−1.11)	–	–	−0.0498 (−1.17)	–	–	−0.0359 (−1.26)
FDA_{it}	−0.1056** (−2.27)	–	–	−0.0922* (−1.92)	–	–	−0.0826** (−2.33)	–	–
FDB_{it}	–	−0.0921** (−2.33)	–	–	−0.1027* (−1.99)	–	–	−0.0914** (−2.41)	–

(continued)

Table 6.9 (continued)

Variables	Q model specification with financial distress			Euler equation with financial distress			Extended model with financial distress		
	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)	Coefficient (z)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FDC_{it}	–	–	-0.1138^{**} (-1.98)	–	–	-0.0924^{**} (-2.33)	–	–	-0.0971^{*} (-1.84)
BG_{it}	0.1158^{**} (2.49)	0.1347^{**} (2.18)	0.0951^{**} (2.34)	0.1218^{**} (2.19)	0.0915^{**} (2.15)	0.1331^{**} (2.51)	0.0911^{**} (2.29)	0.1059^{**} (2.33)	0.1156^{**} (2.35)
Constant	0.0804^{*} (1.67)	0.0804^{**} (2.11)	0.0611 (1.19)	0.0743^{*} (1.91)	0.0610 (1.88)	0.0621 (1.15)	0.0812^{*} (1.73)	0.0741^{*} (1.87)	0.0911 (1.18)
Wald test	χ^2 (8) = 316.96 (0.0000)	χ^2 (8) = 388.98 (0.0000)	χ^2 (8) = 211.16 (0.0000)	χ^2 (8) = 427.84 (0.0000)	χ^2 (8) = 417.14 (0.0000)	χ^2 (8) = 489.11 (0.0000)	χ^2 (15) = 321.27 (0.0000)	χ^2 (15) = 414.71 (0.0000)	χ^2 (15) = 325.21 (0.0000)
m_1 (p)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
m_2 (p)	(0.29)	(0.29)	(0.20)	(0.18)	(0.21)	(0.25)	(0.21)	(0.29)	(0.27)
Sargan test	(0.29)	(0.19)	(0.26)	(0.18)	(0.19)	(0.15)	(0.17)	(0.18)	(0.19)
NOB	3640	3640	3445	3640	3640	3445	3640	3640	3445

Note I/K is the dependent variable where I = net investment in fixed assets, K = capital stock at the beginning of the period, CF = cash flow, S = sales, Q = Tobin's Q ratio, TIE = total interest expenses, TB = total borrowings, Q = Tobin's Q ratio, LIQ = liquidity, LEV = leverage, SZ = firm size, TAN = tangible assets, and AGE = firm age, i = number of firms represented as 1, 2,…,n, and t = time period. (ii) ***, ** and * show the 1%, 5% and 10% level of significance respectively. (iii) z-statistics given in the parenthesis. (iv) $m_1(m_2)$ is a test for first- (second-) order serial correlation in the first-differenced residuals, asymptotically distributed as N(0,1) under the null of no serial correlation. (v) Wald test is a test of joint significance of the estimated coefficients which is asymptotically distributed as chi-square under the null of no relationship and Sargan test of over identifying restrictions, which is asymptotically distributed as chi-square under the null of instrumental validity. (vi) NOB is the number of observations. (vii) $FIDA$, $FIDB$, and $FIDC$ considered as financial distress measurement by Altman's Z"-Score model, financial distress ratio, and Ohlson's O score model respectively

References

Aggarwal R, Zong S (2006) The cash flow–investment relationship: international evidence of limited access to external finance. J Multinatl Financ Manag 16(1):89–104

Ahn S, Denis JD, Denis KD (2006) Leverage and investment in diversified firms. J Financ Econ 79(2): 317–337

Aivazian VA, Ying G, Qui J (2005) The impact of leverage on firm investment: Canadian evidence. J Corp Finan 11(1):277–291

Ajide FM (2017) Firm-specific, and institutional determinants of corporate investments in Nigeria. Future Bus J 3(2):107–118

Alli KL, Khan AQ, Ramirez GG (1993) Determinants of corporate dividend policy: a factorial analysis. Financ Rev 28(4):523–547

Almeida H, Campello M (2007) Financial constraints, assets tangibility and corporate investment. Rev Financ Stud 20(5):1429–1460

Altman EI (1968) Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. J Finance 23(4):589–609

Altman EI (2002) Corporate distress prediction models in a turbulent economic and Basel II environment. NYU Working Paper No. S-CDM-02-11

Andrade G, Kaplan SN (1998) How costly is financial (not economic) distress? Evidence from highly leveraged transactions that became distressed. J Financ 53(5):1443–1493

Aoki M (1990) Toward an economic model of the Japanese firm. J Econ Literature 28(1):1–27

Arellano M, Bond S (1991) Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. Rev Econ Stud 58(2):277–297

Ascioglu A, Hegde SP, McDermott JB (2008) Information asymmetry and investment–cash flow sensitivity. J Bank Finance 32(6):1036–1048

Asgharian H (2003) Are highly leveraged firms more sensitive to an economic downturn? The Eur J Finance 9(3):219–241

Asquith P, Gertner R, Scharfstein D (1994) Anatomy of financial distress: an examination of junk-bond issuers. Quart J Econ 109(3):1189–1222

Attig N, Cleary S, El Ghoul S, Guedhami O (2012) Institutional investment horizon and investment–cash flow sensitivity. J Bank Finance 36(4):1164–1180

Bassetto CF, Kalatzis AE (2011) Financial distress, financial constraint and investment decision: evidence from Brazil. Econ Model 28(1–2):264–271

Ben Mohamed E, Fairchild R, Bouri A (2014) Investment cash flow sensitivity under managerial optimism: new evidence from NYSE panel data firms. J Econ, Finance Administrative Sci 19(36):11–18

Berglof E, Perotti E (1994) The governance structure of the Japanese financial keiretsu. J Financ Econ 36(2):259–284

Bhaduri SN (2005) Investment, financial constraints and financial liberalization: some stylized facts from a developing economy, India. J Asian Econ 16(4):704–718

Bhagat S, Moyen N, Suh I (2005) Investment and internal funds of distressed firms. J Corp Finan 11(3):449–472

Bhattacharyya S (2008) Determinants of corporate investment: post liberalization panel data evidence from Indian firms. MPRA Paper 6702, University Library of Munich, Germany

Bond S, Meghir C (1994) Dynamic investment models and the firm's financial policy. Rev Econ Stud 61(2):197–222

Brainard WC, Tobin J (1968) Pitfalls in financial model building. Am Econ Rev 58(2):99–122

Caggese A (2007) Testing financing constraints on firm investment using variable capital. J Financ Econ 86(3):683–723

Calomiris CW, Athanasios O, Steven AS (1994) Leverage as a state variable for employment, inventory accumulation, and fixed investment. National Bureau of Economic Research, Working Paper, No. w4800, pp 1–27

Carpenter RE, Guariglia A (2008) Cash flow, investment, and investment opportunities: new tests using UK panel data. J Bank Finance 32(9):1894–1906
Chang SJ, Hong J (2000) Economic performance of group-affiliated companies in Korea: intragroup resource sharing and internal business transactions. Acad Manag J 43(3):429–448
Chava S, Roberts MR (2008) How does financing impact investment? The role of debt covenants. J Financ 63(5):2085–2121
Chen GR, Ding CM, Zheng CY (2013) Bank Debt, growth opportunities and corporate investment behavior. The 19th international conference on industrial engineering and engineering management. Springer, Berlin, Heidelberg, pp 45–53
Chirinko R, Schaller H (1995) Why does liquidity matter in investment equations? J Money, Credit, Banking 27(2):525–548
Clark JM (1917) Business acceleration and the law of demand: a technical factor in economic cycles. J Polit Econ 25(3):217–235
Cleary S (1999) The relationship between firm investment and financial status. J Finance 54(2):673–692
Cleary S (2006) International corporate investment and relationships between financial constraint measures. J Bank Finance 30(5):1559–1580
Cleary S, Povel P, Raith M (2007) The U-shaped investment curve: theory and evidence. The J Financial Quantitative Anal 42(1):1–39
Das A, Senapati M (2007) Profitability of Indian corporate sector: productivity, price or growth? Reserve Bank of India Occasional Paper 28(3):51–74
Datta D, Agarwal B (2014) Corporate investment behaviour in India during 1998–2012 bear, bull and liquidity phase. Paradigm 18(1):87–102
Degryse H, De Jong A (2006) Investment and internal finance: asymmetric information or managerial discretion? Int J Ind Organ 24(1):125–147
Denis DJ, Mihov VT (2003) The choice among bank debt, non-bank private debt, and public debt: evidence from new corporate borrowings. J Financ Econ 70(1):3–28
Devereux M, Schiantarelli F (1990) Investment, financial factors, and cash flow: Evidence from UK panel data. In: Glenn R (ed) Asymmetric information, corporate finance, and investment, University of Chicago Press, pp 279–306
Dewenter KL, Warther VA (1998) Dividends, asymmetric information, and agency conflicts: evidence from a comparison of the dividend policies of Japanese and US firms. J Financ 53(3):879–904
Fazzari SM, Hubbard RG, Peterson BC (1988) Financing constraints and corporate investment. Brook Pap Econ Act 1:141–206
Firth M, Malatesta PH, Xin Q, Xu L (2012) Corporate investment, government control, and financing channels: evidence from China's listed companies. J Corp Finan 18(3):433–450
Fisher I (1930) The theory of interest. The Macmillan Company, New York, p 43
Fisman R, Khanna T (2004) Facilitating development: the role of business groups. World Dev 32(4):609–628
Flor CR, Hirth S (2013) Asset liquidity, corporate investment, and endogenous financing costs. J Bank Finance 37(2):474–489
Ghemawat P, Khanna T (1998) The nature of diversified business groups: a research design and two case studies. J Ind Econ 46(1):35–61
Ghosh S, Ghosh S (2006) Impact of liquidity constraint on firms' investment decisions. Economia 54(1):17–32
Gilchrist S, Himmelberg CP (1995) Evidence on the role of cash flow for investment. J Monet Econ 36(3):541–572
Gochoco-Bautista MS, Sotocinal NR, Wang J (2014) Corporate investments in Asian markets: financial conditions, financial development, and financial constraints. World Development, vol 57, no C, pp 63–78
Goergen M, Renneboog L (2001) Investment policy, internal financing and ownership concentration in the UK. J Corp Finan 7(3):257–284

Gopalan R, Nanda V, Seru A (2007) Affliated firms and financial support: evidence from Indian business group. J Financ Econ 86(3):759–795
Gopalan R, Nanda V, Seru A (2014) Internal capital market and dividend policies: evidence from business groups. The Rev Financial Stud 27(4):1102–1142
Guariglia A (2008) Internal financial constraints, external financial constraints, and investment choice: evidence from a panel of UK firms. J Bank Finance 32(9):1795–1809
Gupta G, Mahakud J, Debata B (2018) Impact of CEO's characteristics on investment decisions of Indian listed firms: does crisis make any difference? Cogent Econ Finance 6:1439258. https://doi.org/10.1080/23322039.2018.1439258
Gupta G, Mahakud J (2018) Business group affiliation and corporate investment: evidence from Indian companies. J Manag Res 18(1):56–67
Gupta G, Mahakud J (2019) Alternative measure of financial development and investment-cash flow sensitivity: evidence from an emerging economy. Financial Innov 5(1):1
Gupta G, Mahakud J (2020) The impact of macroeconomic condition on investment-cash flow sensitivity of Indian firms: do business group affiliation and firm size matter? South Asian J Bus Stud 9(1):19–42
Gupta G, Mahakud J, Verma V (2021) CEO's education and investment–cash flow sensitivity: an empirical investigation. Int J Managerial Finance 17(4):589–618
Gupta G, Mahakud J, Singh VK (2022) Economic policy uncertainty and investment-cash flow sensitivity: evidence from India. Int J Emerg Mark. https://doi.org/10.1108/IJOEM-11-2020-1415
Gupta G, Mahakud J (2022) Impact of financial distress on investment-cash flow sensitivity: evidence from emerging economy. Int J Managerial Finance. https://doi.org/10.1108/IJMF-03-2022-0102
Hayek FV (1941) Maintaining capital intact: a reply. Economica 8(31):276–280
Higgins RC (1972) The corporate dividend-saving decision. J Financ Quantitative Anal 7(2):1527–1541
Hillier D, Jaffe J, Jordan B, Ross S, Westerfield R (2010) Corporate finance, first European Edition, McGraw-Hill Education
Hobdari B, Jones DC, Mygind N (2009) Capital investment and determinants of financial constraints in Estonia. Econ Syst 33(4):344–359
Hoshi T, Kashyap A, Scharfstein D (1991) Corporate structure, liquidity, and investment: evidence from Japanese industrial groups. Q J Econ 106(1):33–60
Houston J, James C (1996) Bank information monopolies and the mix of private and public debt claims. J Finance 51(5):1863–1889
Hovakimian G (2011) Financial constraints and investment efficiency: internal capital allocation across the business cycle. J Financial Intermediation 20(2):264–283
Hubbard RG (1998) Capital market imperfections and investment. J Econ Literature 36(1):193–225
Hubbard RG, Kashyap AK, Whited TM (1995) Internal finance and firm investment. J Money, Credit, Bank 27(3):683–701
Jangili R, Kumar S (2010) Determinants of private corporate sector investment in India. Reserve Bank of India Occasional Papers 31:67–89
John TA (1993) Accounting measures of corporate liquidity, leverage, and costs of financial distress. Financ Manage 22(3):91–100
Jorgenson DW (1963) Capital theory and investment behavior. Am Econ Rev 53(2):247–259
Kadapakkam P, Kumar P, Riddick L (1998) The impact of cash flows and firm size on investment: the international evidence. J Bank Finance 22(3):293–320
Kaplan SN, Zingales L (1997) Do investment-cash flow sensitivities provide useful measures of financing constraints? Quart J Econ 112(1):169–215
Kaplan SN, Zingales L (2000) Investment-cash flow sensitivities are not valid measures of financing constraints. Quart J Econ 115(2):707–712
Keynes JM (1936) William Stanley Jevons 1835–1882: a centenary allocation on his life and work as economist and statistician. J Roy Stat Soc 99(3):516–555

Khaliq A, Altarturi BHM, Thaker HMT, Harun MY, Nahar N (2014) Identifying financial distress firms: a case study of Malaysia's government linked companies (GLC). Int J Econ, Finance Manage 3(3):1–10

Khanna T, Danielle JM (1997) Modern India. Harvard Business School, Background Note, pp 797–108

Khanna T, Palepu K (1999a) The right way to restructure conglomerates in emerging markets. Harv Bus Rev 77(4):125–134

Khanna T, Palepu K (1999b) Policy shocks, market intermediaries, and corporate strategy: the evolution of business groups in Chile and India. J Econ Manage Strategy 8(2):271–310

Khanna T, Palepu K (2000a) The future of business groups in emerging markets: long run evidence from Chile. Acad Manage J 43(3):268–285

Khanna T, Palepu K (2000b) Is group membership profitable in emerging markets? An analysis of diversified Indian business groups. J Finance 55(2):867–891

Khanna T, Rivkin JW (2001) Estimating the performance effects of business groups in emerging markets. Strateg Manage J 22(1):45–74

Khanna T, Yafeh Y (2005) Business groups and risk sharing around the world. The J Bus 78(1):301–340

La Cava G, Richards T, Shuetrim G, Vickery J (2005) Financial constraints, the user cost of capital and corporate investment in Australia. Research Discussion Paper, Reserve Bank of Australia, UK, December

La Rocca M, Staglianò R, La Rocca T, Cariola A (2015) Investment cash flow sensitivity and financial constraint: a cluster analysis approach. Appl Econ 47(41):4442–4457

Laeven L (2003) Does financial liberalization reduce financing constraints? Financ Manage 32(1):5–34

Lang L, Eli O, Stulz R (1996) Leverage, investment, and firm growth. J Financ Econ 40(1):3–29

Leff N (1976) Capital markets in the less developed countries: the group principle. In: McKinnon R (ed) Money and finance in economic growth and development. Marcel Dekker, New York

Leff NH (1978) Industrial organization and entrepreneurship in the developing countries: the economic groups. Econ Dev Cult Change 26(4):661–675

Leff NH (1979) Entrepreneurship and economic development: the problem revisited. J Econ Literature 17(1):46–64

Lensink R, Van der Molen R, Gangopadhyay S (2003) Business groups, financing constraints and investment: the case of India. The J Dev Stud 40(2):93–119

Li R, Li K, Ai H (2017) February. Moral hazard and investment-cash-flow sensitivity. Society for Economic Dynamics, Meeting Papers No. 410

Lindner P, Jung SE (2014) Corporate vulnerabilities in India and banks' loan performance (No. 14–232). International Monetary Fund

Lomnitz LA, Perez-Lizaur M (1987) A Mexican elite family, 1820–1980: Kinship, class, and culture (C. Lomnitz, trans.). Princeton University Press, Princeton, NJ

López-Gutiérrez C, Sanfilippo-Azofra S, Torre-Olmo B (2015) Investment decisions of companies in financial distress. Bus Res Q 18(3):174–187

Love I (2003) Financial development and financing constraints: international evidence from the structural investment model. Rev Financial Stud 16(3):765–791

Maripuu P, Männasoo K (2014) Financial distress and cycle-sensitive corporate investments. Baltic J Econ 14(1–2):181–193

Mollah S (2011) Do emerging market firms follow different dividend policies?: Empirical investigation on the pre-and post-reform dividend policy and behaviour of Dhaka Stock exchange listed firms. Stud Econ Financ 28(2):118–135

Mulier K, Schoors K, Merlevede B (2016) Investment-cash flow sensitivity and financial constraints: evidence from unquoted European SMEs. J Bank Finance 73:182–197

Myers SC (1984) The capital structure puzzle. J Financ 39(3):574–592

Nash RC, Netter JM, Poulsen AB (2003) Determinants of contractual relations between shareholders and bondholders: investment opportunities and restrictive covenants. J Corp Finan 9(2):201–232

Ogawa K (2003) Financial distress and employment: the Japanese case in the 90s, No. w9646, National Bureau of Economic Research
Ohlson JS (1980) Financial ratios and the probabilistic prediction of bankruptcy. J Account Res 18(1):109–131
Oliner S, Rudebusch G (1992) Sources of the financing hierarchy for business investment and agency costs. Rev Econ Stat 74(4):643–653
Opler TC, Titman S (1994) Financial distress and corporate performance. J Financ 49(3):1015–1040
Pan L (1991) Sons of the yellow emperor: the story of the overseas Chinese. Mandarin Paper- backs/ Reed International Books, London
Pindado J, Rodrigues L, De La Torre C (2008) Estimating financial distress likelihood. J Bus Res 61(9):995–1003
Povel P, Raith M (2001) Optimal investment under financial constraints: the roles of internal funds and asymmetric information. Working paper, University of Chicago and University of Minnesota
Rajakumar JD (2005) Corporate financing and investment behaviour in India. Econ Pol Wkly 40(38):4159–4165
Ratti RA, Lee S, Seol Y (2008) Bank concentration and financial constraints on firm-level investment in Europe. J Bank Finance 32(12):2684–2694
Riaz Y, Shahab Y, Bibi R, Zeb S (2016) Investment-cash flow sensitivity and financial constraints: evidence from Pakistan. South Asian J Global Bus Res 5(3):403–423
Schaller H (1993) Asymmetric information, liquidity constraints, and Canadian investment. Can J Econ 26(3):552–574
Sharpe SA (1994) Financial market imperfections, firm leverage, and the cyclicality of employment. Am Econ Rev 84(4):1060–1074
Shen CH, Wang CA (2005) Does bank relationship matter for a firm's investment and financial constraints? The case of Taiwan. Pac Basin Financ J 13(2):163–184
Tan TK (2012) Financial distress and firm performance: evidence from the Asian financial crisis. J Finance Accountancy 11:1–11
Titman S, Wessels R (1988) The determinants of capital structure choice. J Financ 43(1):1–19
Tobin J (1969) A general equilibrium approach to monetary theory. J Money, Credit, Bank 1(1):15–29
Tokuoka K (2012) Does the business environment affect corporate investment in India? International Monetary Fund, Working Paper, No. WP12/70, pp 1–21
Tran NH, Le CD (2017) Financial conditions and corporate investment: evidence from Vietnam. Pac Account Rev 29(2):183–203
Vijayakumar A (2009) Determinants of financial structure of corporate sector in India-some empirical evidence. Manage Labour Stud 34(4):471–487
Vosoughia M, Derakhshanb H, Alipourc M (2016) Investigating the relationship between financial distress and investment efficiency of companies listed on the Tehran Stock Exchange. Accounting 2(4):167–176
Weinstein D, Yafeh Y (1998) On the costs of a bank-centered financial system: evidence from the changing main bank relations in Japan. J Finance 53(2):635–672
Whitaker RB (1999) The early stages of financial distress. J Econ Finance 23(2):123–133
Whited TM (1992) Debt, liquidity constraints, and corporate investment: evidence from panel data. J Financ 47(4):1425–1460
Wruck KH (1990) Financial distress, reorganization, and organizational efficiency. J Financ Econ 27(2):419–444
Zulkarnain MS, Mohamad Ali AH, Annuar MN, Zainal Abidin M (2001) Forecasting corporate failure in Malaysian industrial sector firms. Asian Acad Manage J 6(1):15–30

Chapter 7
Promoter Ownership and Performance in Publicly Listed Firms in India: Does Group Affiliation Matter?

Ansgar Richter and Indrani Chakraborty

Abstract Many of the largest Indian firms are characterized by promoter ownership, a hybrid form of ownership and governance in which the companies' founders or their heirs hold controlling stakes, while inviting external minority shareholders to contribute capital, and outside managers to participate in the day-to-day administration of the companies concerned. We analyze a sample of 4056 publicly quoted firms with promoter ownership in India during 2007–2013. We find that in group-affiliated firms, the level of promoter ownership has no effect on performance of firms, as measured by Tobin's *q* and return on assets (ROA). However, in stand-alone firms, the level of promoter ownership has a U-shaped relationship with Tobin's q and no relationship with ROA. Moreover, group-affiliated firms show lower performance than stand-alone firms. This seems to be due to the development of the capital market in post-reform India which has greatly reduced the financing constraints for both group-affiliated and stand-alone firms.

7.1 Introduction

In the Indian economy, many firms are fully or partially owned by "promoters", individuals who, often with other family members, exercise control over the companies concerned by virtue of their shareholding and management rights (Shleifer 2005; Bertrand et al. 2002; Chong and Lopez-De-Silanes 2007). Promoter ownership implies that the ownership rights in a firm are relatively concentrated in the hands of an internal party, either an individual or a family that is closely connected with the company, even if external shareholders may participate in the ownership structure (Balasubramanian and Anand 2013; Kumar and Singh 2013).

A. Richter
Rotterdam School of Management, Erasmus University, Rotterdam, Netherlands

I. Chakraborty (✉)
Institute of Development Studies, Kolkata, India
e-mail: indranic.61@gmail.com

A. Chakraborty and I. Chakraborty (eds.), *Indian Business Groups and other Corporations*, India Studies in Business and Economics,
https://doi.org/10.1007/978-981-99-5041-6_7

According to the corporate governance literature, such concentrated ownership among insiders has both benefits and costs as compared to the ownership of firms by dispersed groups of external shareholders (Claessens et al. 2002). On the one hand, promoters tend to have greater commitment to the firms in which they are invested than more neutral, external shareholders, and are thus more likely to make decisions that maximize firm value in the long run (Anderson and Reeb 2003a, b). On the other hand, there is a danger that promoter-owners become entrenched in their companies, and that they engage in tunneling behaviors through which they transfer value to their own advantage, while shifting costs and liabilities to outside minority shareholders (Morck et al. 2005).

There is a rich theoretical and empirical literature on the relationship between insider ownership and firm performance (e.g., Jensen and Meckling 1976; Fama 1980; Jensen and Murphy 1990; Jensen 2000). However, this literature relates primarily to the allocation of comparatively small ownership stakes to managers in order to overcome managerial agency problems and align their interests with those of external shareholders (Morck et al. 1988; McConnell and Servaes 1990; Loderer and Martin 1997; Himmelberg et al. 1999; Short and Keasey 1999; Fahlenbach and Stulz 2009). It is thus not clear whether the evidence on the relationship between managerial ownership and firm performance produced in this literature is applicable to the inside ownership by promoters, who hold direct or indirect control over their firms. Likewise, although promoter ownership in emerging economy firms may have similarities with family ownership in firms in developed countries (Morck and Yeung 2004), such that insights from the latter can be drawn to understand the former better, there are also important differences between the two concepts. Not all promoters in emerging market firms are families; some are individuals (CMIE 2014). Furthermore, promoters maintain a high level of involvement in their firms, whereas in some family-owned firms in the developed market context, the owning families play a more passive role (Handler 1994).

Little is known about the relationship between promoter ownership and performance in emerging market firms, and the empirical evidence available so far (e.g., Kumar and Singh 2013) suffers from a number of methodological limitations. Moreover, in the extant governance literature, promoter ownership is often equated with firm affiliation in pyramidal groups (Khanna and Palepu 2000a), in which the tunneling behavior sketched above is said to be particularly virulent (Bertrand et al. 2002). In contrast, there are many promoter-owned firms that operate on a stand-alone basis i.e., that are not part of a larger group of firms connected through a system of cross-shareholdings and personal relationships (Balasubramanian and Anand 2013). In these stand-alone firms, promoter shareholders tend to have more direct managerial involvement, as they can concentrate their efforts more closely on a particular company, rather than to spread them across an entire portfolio of diverse investments as is the case in group-affiliated firms (Joern et al. 2010). According to this line of argument, stand-alone firms with promoter ownership should show higher levels of performance than group-affiliated firms, as tunneling behaviors should be less prevalent in the former than in the latter.

In this paper, we investigate the relationship between promoter ownership and performance in a large panel of group-affiliated and stand-alone firms quoted on the Indian stock market between 2007 and 2013. We also analyze whether the effects of promoter ownership hold for different dimensions of firm performance namely, capital market performance and accounting performance. Furthermore, we provide an advance over existing studies by taking into account the dynamic nature of the dependent variable (firm performance), by using a dynamic panel data (DPD) regression approach.

The structure of the paper is as follows. In the next section we review the theoretical arguments as well as the empirical evidence with respect to the relationship between the insider and family ownership and firm performance, and discuss its applicability to the case of promoter ownership. Furthermore, we introduce the distinction between group-affiliated and stand-alone firms, specifically in the Indian context on which our analysis focuses. Thereafter, we describe the data used in this study and discuss the measures and methods employed. Finally, we present the results of our analysis and discuss their theoretical and managerial implications. We also point out the limitations of our study, and sketch avenues for future research.

7.2 Review and Hypotheses

7.2.1 The Role of Promoter Ownership in Indian Firms

According to the seminal paper by La Porta et al. (1999), a large proportion of corporate ownership around the world is not in the hands of outside shareholders, but rather it is held by parties that are more closely connected with the firms they own, such as founders and families. One special form of ownership allocation that has received relatively little attention in both the corporate finance and the management literatures is the ownership of Indian firms by the so-called "promoters". Kumar and Singh (2013: 91) define the term promoter loosely as "a person or a group of persons who is/are involved in the incorporation and organization of a corporation". More formally, promoter ownership has three major characteristics.

First, according to SEBI's Disclosure and Investor Protection (DIP) Guidelines (2000) and the Indian Takeover Code (1997), promoters *effectively control the firm* by virtue of the shareholding and management rights. In conjunction with the rapid growth of promoter-owned firms, many promoters have invited outside shareholders to participate in the ownership structure, e.g. by floating a portion of the equity on the stock market. However, even in these situations, the promoters seek to retain a stake in the company that is sufficiently large to ensure ultimate control over it (Sarkar 2010; Sarkar and Sarkar 2000; Varma 1997).

Second, promoters tend to retain an *active involvement* with the company, even if they or other members of their families occupy only some, or even no, formal management positions in it. They regularly retain position as board chairs, but their involvement goes beyond the role that many external directors play in typical "Western" economies characterized by more widely dispersed shareholder structures (Khanna and Palepu 2000b). For example, promoters often play the role of lobbyists who maintain relationships with local and national governments and policy-makers in order to advance their companies' interests. They are involved and retain the ultimate decision-making power in key investment decisions, and develop relationships with banks and financiers.

Third, many, but not all, promoter-owned firms are family businesses in the sense that other family members are involved in the management of the company, and that there is an implicit or explicit expectation that the company will continue to be (majority-) owned and controlled by future generations of the family, and managed along similar lines. The promoter-owned firms where other family members (often the children of the founder-promoter) are involved are generally organized as business groups (diverse groups of firms that are connected to one another through complex networks of relationships). In contrast, in stand-alone firms, family members usually have less of an involvement with the firm. Stand-alone firms with promoter ownership rely heavily on outside managers who are in charge of much or all of the day-to-day administration of the company concerned.

Overall, promoter ownership constitutes a form of hybrid model of ownership and governance, in which concentrated ownership by a particular type of "insiders" is combined with equity participation by minority shareholders and managerial participation from outside professionals. The insider ownership in promoter-owned firms differs from the managerial insider ownership discussed in the corporate finance literature by the comparatively large stake of the promoter's ownership stake, and the resulting absence of an effective governance mechanism that would control the dominant inside owner (namely, the promoter). In the following, we discuss the expected performance consequences of this particular form of inside ownership.

7.2.2 Performance Effects of Variations in the Level of Promoter Ownership

The extant literature on inside ownership is dominated by two perspectives that imply conflicting predictions regarding the relationship between inside ownership and firm performance. First, according to the 'alignment of interest' hypothesis (Jensen and Meckling 1976; Demsetz 1983; Fama and Jensen 1983), the inside allocation of ownership rights overcomes (or at least reduces) agency conflicts between outside shareholders and insiders (i.e., managers and/or employees) in situations of asymmetric information, costly monitoring, and opportunistic behaviour (Holmstrom and Milgrom 1991; Cable and Fitzroy 1980). Due to the active involvement of promoters,

promoter ownership may reduce asymmetric information, thus resulting in a reduction of aggregate monitoring costs (Conte and Svejnar 1988; Demsetz 1983; Fama and Jensen 1983). If promoter shareholdings were small and the ownership rights are widely dispersed among multiple classes of shareholders, the incentives for none of the shareholder groups (neither the promoters, nor the external shareholders) might be sufficiently large for any of them to invest in monitoring. However, promoters tend to own relatively large stakes in their companies, thus tying a substantial proportion of their wealth to the fortunes of their companies. Therefore they have material incentives to monitor their companies carefully. In this situation, external shareholders are effectively able to free-ride on the efforts of the dominant owner namely, the promoter. According to this line of argument, we would expect the intensity of monitoring (and hence, firm performance) to be positively associated with the share of ownership rights held by promoters.

Second, Morck et al. (1988) argue that a substantial level of inside ownership can contribute to managerial entrenchment, which adversely affects outside shareholders and thus reduces firm value. Such entrenchment may take several forms. For example, the owner-manager (in this context, the promoter) may extract pecuniary benefits for herself or family or, she may take decisions that favours 'cronies', or hire incompetent relatives for key positions (Bloom and Van Reenen 2007; Perez-Gonzalez 2006). Moreover, information asymmetry between the dominant promoters and minority shareholders may increase the entrenchment effect due to a lower flow of information. Less transparency will affect performance adversely (Wang 2006).

An alternative perspective to explaining the insider ownership–firm performance relationship which can be applied to the case of promoter ownership is through using the managerial discretion approach, initially developed by Stultz (1990) and Zwiebel (1996). According to this approach, managers are in control of the firm and choose their ownership stake to maximize their welfare. An extension of the earlier models was developed by Fahlenbach and Stultz (2009) in which managers acquire a stake in the firm if it adds value to managers. This approach predicts that decreases in managerial ownership do not lead to decreases in firm value but increases in managerial ownership would be associated with increases in firm value (Fahlenbach and Stultz 2009).

In an attempt to reconcile the two rival arguments for alignment and entrenchment sketched above, a growing body of research has suggested the existence of non-linear relationships between insider ownership and firm performance (Morck et al. 1988; Hermalin and Weisbach 1991; Davis et al. 2005; Cui and Mak 2002; Selarka 2005). Furthermore, the empirical results appear to be sensitive to model specification, the use of alternative performance measures, and the type of firms considered. Many of these studies use market-based measure of performance only (Morck et al. 1988; Hermalin and Weisbach 1991; Davies et al. 2005; Cui and Mak 2002).

A large number of studies suggest a cubic relationship between insider ownership and firm value, supporting the existence of both the alignment effect and entrenchment effect (Morck et al. 1988; Short and Keasey 1999; Faccio and Lasfer 1999; Sarkar and Sarkar 2000; Hung and Chen 2009). The cubic specification, however,

has the limitation that inflexion points are sensitive to the inclusion of control variables. Dropping one or more control variables may affect the results. Moreover, the cubic specification may not fit the data well if the non-linear relation is not smooth (Pattanayak 2001). This problem can be resolved by using piecewise linear regression as done by Morck et al. (1988). However, the inflexion points in piecewise linear regression are critical. Morck et al. (1988) chose the inflexion points arbitrarily. This approach may make the results biased due to misspecification of the model.

Other studies, however, suggest that the relationship between inside ownership and performance may not be a cubic one. The relationship between insider ownership and firm performance appears to differ between family and non-family firms (Arosa et al. 2010; Selarka 2005; Khanna and Palepu 1999). Arosa et al. (2010), using accounting measure of performance found a cubic relationship between insider ownership and performance in family firms, whereas there was no relationship between the two in non-family firms. In the specific context of India, Selarka (2005) using 1397 firms for the year 2001 and based on the performance measure of market-to-book value ratio, found a U-shaped relationship between insider ownership and firm performance. The inflexion point of this relationship differed between group-affiliated (31%) and stand-alone firms (51%). Another important study in the Indian context is Khanna and Palepu (1999) who found that insider ownership has positive and significant effects on firm value. We believe that this empirical evidence may be informative with respect to the relationship between the level of promoter ownership and firm performance, too. In line with the study by Khanna and Palepu (1999), we propose the following hypothesis:

Hypothesis 1: The level of promoter ownership has a positive effect on firm performance.

7.2.3 Group-Affiliation Compared to Stand-Alone Firms with Promoter Ownership

As indicated above, group-affiliated firms are distinguished from stand-alone firms in two major ways. First, group-affiliated firms consist of groups of companies that are connected through a network of legal, financial and transactional relationships. According to Gopalan et al. (2007), Indian business groups are characterized by a substantial amount of intra-group financing. Comparing group-affiliated firms with stand-alone firms, Khanna and Palepu (2000a) argue that the use of internal market mechanisms reduces transactions costs among group-affiliated firms, in the absence of well-developed and efficient factor markets. They conclude that in highly diversified and large business groups in India, group-affiliation affects firm performance positively.

Second, in group-affiliated firms the role of family in firm management is higher than is the case in stand-alone firms (Holderness and Sheehan 1988; Denis and Denis

1994).Many family members play the role of leadership and provide guidance to the firm in setting the goals (Jones et al. 2008). These family leaders have attachment to their firms. Family management in group-affiliated firms are often concerned with the non-financial aspects of the business which address the family's emotional needs. These non-financial aspects are known as "socio-emotional wealth" (SEW) and it becomes important for the family when the family managers look for growth of their firms, specifically through diversification (Gomez-Mejia et al. 2007). SEW is defined as the ability to exercise authority, the enjoyment of personal control, "clan membership", a sense of belonging, affection, intimacy as well as an active role in the family dynasty. Family firms will not opt for diversification because it may reduce the family's control over the managerial aspects.. Gomez-Mejia et al. (2010) argues that as diversification requires raising of additional capital through debt or stocks, it will raise the risk of financial distress and will lead to loss of family control, and consequently, family firms will be less willing to diversify. Moreover, due to diversification, outside managers will be hired which may lead to information asymmetries and increase the conflict regarding the goals of the firms and hence reduce family SEW. Also diversification requires involvement of outside parties through their expertise, which may lead to loss of control by family and hence family firms would not like diversification (Schulz et al. 2001, 2003b).

However, these arguments for family firms in developed economies are not applicable in the context of an emerging economy like India. The promoter family in an emerging economy that may diversify into multiple industries and still retain control over affiliate firms through a pyramidal ownership structure and family management (Chung, 2012; Almeida and Wolfenzon 2006; La Porta et al. 1999). The extant literature has suggested that in emerging economies, the existence of imperfect markets and institutional voids are conducive to group-affiliated firms, controlled by promoter family, to gain some benefit through diversification (Khanna and Palepu 1997; Khanna and Rivkin 2001).Khanna and Palepu (2000a) find that group-affiliated firms diversify in India and after reaching a certain threshold, diversification increases firm value.

On the other hand, in case of stand-alone firms, entrenched managers have the motivation for diversification so that they become valuable to shareholders and costly to replace (Shleifer and Vishny 1989). Diversification also helps the managers to diversify their employment risk (Amihud and Lev 1999), and produce several personal gains relating compensation (Stulz 1990). However, diversification reduces shareholder wealth which leads to conflict between the manager and shareholders regarding diversification (Denis et al. 1999). The effect of diversification on firm value is ambiguous. A large number of studies show that diversification is value-destroying (Amihud and Lev 1999; Chkir and Cosset 2001; Berger and Ofek 1995; Lang and Stulz 1994, Servaes 1995). However, a recent study by Villalonga (2004) shows that diversification results in some premium, which supports the idea that the manager pursues shareholders' interests when diversifying. However, some studies predict a negative relationship between diversification and managerial equity ownership (Denis et al. 1997, 1999) which is based on the assumption that "the manager's private benefits from diversification are invariant with respect to the manager's equity

stake". However, Chen and Ho (2000) find support for this view in some Singapore firms, where they find that diversification leads to value loss for those firms which have low managerial ownership. As a corollary to this finding, we can say that high promoter ownership leads to increase in firm value due to the diversification strategy in both group-affiliated and stand-alone firms. But Manikandan and Ramachandran (2015) raise doubts about the value-increasing effect of diversification in stand-alone firms. They argue that, in the case of diversified stand-alone firms, each firm has no separate legal entity and each firm reports to the firm's corporate headquarters, and on the top, there is the firm's board of directors. These diversified stand-alone firms publish a single financial statement on the performance of all these firms as a whole (Manikandan and Ramachandran 2015). Some scholars argue that the presence of the corporate headquarters as the top-level decision-maker hampers the motivation of the managers in each of the divisions of these stand-alone firms (Manikandan and Ramachandran 2015; Campbell et al. 1995; Day and Wendler 1998) and hence profitability may not be reached at the optimum level (Manikandan and Ramachandran 2015; Prahlad and Bettis 1986; Rajan et al. 2000).

Furthermore, family members in group-affiliated firms generally have long time horizon (James 1999), because families try to keep control across generations. This phenomenon would provide incentive to invest in a manner that would maximize the value of the firm, and therefore would benefit minority shareholders (James 1999; McVey and Draho 2005).

Furthermore, in group-affiliated firms, family ties help to control managerial self-dealing which in turn ensure the firm's survival (Denis and Denis 1994). Due to the long-term relationships between the family and other stakeholders, transaction costs will be low (Anderson and Reeb 2003a, b; McVey and Draho 2005). Further, these firms will get fund at a lower cost because of their reputation and hence the conflicts of interests between shareholders and bondholders will be less (Anderson et al. 2003).

However, some scholars point out that the entrenchment effects will be higher in group-affiliated firms relative to stand-alone firms due to the greater family involvement (Morck et al. 2005). It has been noted that entrenchment of management in family-owned firms will result in more severe agency problems than those in non-family firms (Gomez-Mejia et al. 2001; McVey and Draho 2005). As the family owners have greater stake in group-affiliated firms, the management of these companies will be more concerned with the family interests instead of pursuing the goal of value maximisation of the company (DeAngelo and DeAngelo 2000).

Group-affiliated firms have a number of unique governance structure characteristics in comparison to stand-alone firms. One such characteristic is dependence on pyramidal ownership by promoter family to control the affiliate firms in which the control operates through cross-holdings of the other firms (Claessens et al. 2000; La Porta et al. 1999, 2002; Young et al. 2008). The advantage of this method of operation is that, it needs very little direct ownership by the promoter family. However, pyramidal ownership structure leads to a particular kind of agency problem that arises

due to conflicts between controlling shareholders and minority shareholders. In pyramidal ownership structure of the group-affiliated firms, minority shareholders' interests will be expropriated by the controlling shareholders (Morck and Yeung 2004) and therefore, it will adversely affect the performance of group-affiliated firms (DeAngelo and DeAngelo 2000; Morck et al. 2000; Santana et al. 2007). Anderson and Reeb (2003a, b) argue that, whereas minority shareholders would be interested in maximization of firm value, owner-managers in group-affiliated firms may pursue other objectives. As a consequence, the interests of the minority shareholders will be adversely affected. This practice of expropriation of minority shareholders by the controlling shareholders in group-affiliated firms may lead to reduced firm profitability (DeAngelo and DeAngelo 2000; Morck et al. 2000; Santana et al. 2007). In this context, Cronqvist and Nilsson (2003) argue that high levels of family ownership in group-affiliated firms lead to investment decisions which are inefficient and finally lead to a reduction in the market value of the company which in turn will have deleterious effects on minority shareholders. In the particular context of Indian firms, the evidence provided by Bertrand et al. (2002) suggests that group affiliation may reduce firm value, as group-affiliated firms are subject to the tunnelling behaviour sketched above.

However, some recent studies (Manikandan and Ramachandran 2015; Foss et al. 2006) show that the presence of outside directors in each of the affiliates in group-affiliated firms, help to check the opportunistic behaviour of the controlling shareholders. Some scholars further argue that, due to the requirement of compulsory reporting by group-affiliated firms, tunnelling becomes difficult and consequently, the management of group-affiliated firms will pursue the goal of value maximization (Almeida and Wolfenzon 2006; Belenzon and Berkovitz 2010; Manikandan and Ramachandran 2015; Foss et al. 2006). We thus propose the following hypothesis:

Hypothesis 2: Ceteris paribus, group-affiliated firms have higher performance than stand-alone firms.

7.2.4 Methodological Concerns

A particular concern in both the theoretical and the empirical literature with regard to the relationship between ownership allocation and firm performance relates to the possibility that ownership allocation itself may be endogenously determined by unobservable, firm-specific factors (Demsetz 1983; Demsetz and Lehn 1985). These authors show that ownership structure of U.S. firms is determined by firm size, industry affiliation and various other firm-specific variables (Demsetz and Lehn 1985). In a later study, Himmelberg et al. (1999) use a fixed effect panel data method and instrumental variables to control for unobserved firm level heterogeneity. They found that the managerial ownership has no statistically significant effect on firm performance. Some other studies, assuming endogeneity of managerial ownership

Table 7.1 Distribution of firms in various years with entry and exit of firms

	2007	2008	2009	2010	2011	2012	2013
No. of firms in year-end	2851	2951	2990	3033	3085	3130	3170
No. of firms entering	1442	117	62	65	75	87	96
No. of firms exiting	35	17	23	22	23	42	56

and applying a simultaneous equation framework, have observed reverse causality (Cho 1998; Loderer and Martin 1997; Kole 1996). Therefore, in our own approach, we choose a method that is better able to handle such endogeneity concerns than conventional cross-sectional regression approaches are.

7.3 Data and Methods

7.3.1 Data

Our sample is drawn from PROWESS, a database provided by the Centre for Monitoring Indian Economy (CMIE). This database has been widely used in reputable studies on Indian firms (e.g., Khanna and Palepu 1999; Khanna and Palepu 2000a; Marisetty and Subrahmanyam 2006). It includes all Indian firms listed on the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) during the 2007-2013period. The total number of firms included in the PROWESS database is 5327. We begin our analysis from 2007 as Clause 49 of the Listing Agreements to the Indian Stock Exchange, which was enacted in order to improve reporting standards and corporate governance practices in India, came into effect on December 31, 2005. Moreover, the maximum number of IPO's were initiated in the year 2007 (see Table 7.1).

We excluded firms which operate in the financial sector (banks, insurance companies and investment trust), reducing the size of the database to 4056 firms. Furthermore, we eliminated those firms for which information on shareholding patterns and other variables were missing for at least one year of the seven-year period investigated here. Our final sample involves 3363 firms with promoter ownership and 693 firms without promoter ownership. Of the firms with promoter ownership, there are 2832 firms with only Indian promoters, 520 firms with a mixed ownership structure (i.e., both Indian and foreign promoters), and 11 firms with only foreign promoters. Of the 2832 firms with Indian promoters, there are 1230 group-affiliated firms and 1602 stand-alone firms.[1] Characteristics of the sample are reported in Table 7.2.

[1] It may be noted that the listed group-affiliated firms have gone for initial public offering (IPO) at some point during their life time to raise capital from the market. The total number of IPOs in India during the 1990-2004 period was 484 for group-affiliated firms, and 2147 for stand-alone firms (Marisetty and Subrahmanyam 2006).

Table 7.2 Characteristics of the sample

Variables	Sample	
	Mean	Std. dev
Tobin'*q*	3.656	130.056
ROA	0.031	1.972
IPS	39.710	25.172
SIZE	4.663	3.308
GROWTH	3.719	264.471
LEVERAGE	0.841	19.989
R&D	0.010	0.032
AGE	3.085	0.614

Note N = 2832 = Firms with Indian promoter ownership; IPS = Indian promoter's share; Tobin's *q* and SIZE are reported in million Indian Rupees. ROA, IPS, GROWTH, LEVERAGE and R&D are percentages. AGE is reported in years

7.3.2 Variables

Performance: As firm performance constitutes a multidimensional phenomenon (Shen and Cannella 2002a; Richard et al., 2009), we used two types of performance measures. First, as a measure of capital market performance, we used Tobin's *q*, measured by the ratio of the sum of the market value of equity and the book value of debt divided by total assets. Second, we used operating return on assets (ROA), which reflects operational firm performance and is independent of short-term accounting policy manipulation (Dowdell and Krishnan 2004; Geiger and North 2006; Geiger et al. 2005). Following Huson et al. (2004), we adjusted this measure for industry effects by calculating the difference between the value of this measure for each company and the industry median in the year concerned, using the two digit industry code according to the National Industry Classification (NIC) system provided by National Accounts Statistics (Government of India 2008).

Promoter ownership (PROMOWN): This variable measures the share of equity owned by the promoters of Indian firms. Promoters are defined as all individuals and their relatives, corporate bodies/trusts/partnership or any other type of entity that either founded or acquired a controlling stake in the firm concerned, where the ownership stake exceeds that of any external shareholder. Note that the Companies Act of 2013 in India stipulates the one-share-one-vote principle, so that voting rights and financial return rights do not diverge (as they often do in other countries, thus creating control-enhancing mechanisms; see Balasubramaniam and Anand 2013).

Group-affiliated firms versus *stand-alone firms*: In the PROWESS database, group-affiliated firms are defined as those that are classified as business houses, whereas stand-alone firms are unaffiliated to other firms. In stand-alone firms, the promoters are generally individuals, rather than families with diverse business interests. Following Khanna and Palepu (1999), we note that CMIE uses several criteria for

classifying firms into groups. Specifically, CMIE takes into account (i) the identity of the promoter of a firm upon its incorporation; it then traces whether the original owners retained their affiliation with the firm; (ii) announcements/ statements by individual firms indicating whether they belong to business groups, as well as announcements / statements by groups regarding the firms affiliated with them. Such information is contained in annual reports, statements made at the time of public offerings, acquisition announcements, and news releases about the future plans of the groups or the firms concerned; (iii) information on a firm's group affiliation that is evident from the membership of the firm's board of directors (Khanna and Palepu 1999).

Control variables: We have included the following control variables as prior literature suggests that they may affect firm performance. Firm size (*SIZE*) may provide a firm with economies of scale and enhance its marketing power (Short and Keasey 1999; Pindado et al. 2008; Selarka 2005; Arosa et al. 2010). We measured *SIZE* as the natural logarithm of a firm's revenues (Cui and Mak 2002; Himmelberg et al. 1999; Khanna and Palepu 2000a). We included firm growth (*GROWTH*), measured as the percentage change in sales in a particular year as compared to the previous year, in order to control for the effects of a firm's growth on its performance (Short and Keasey 1999; Hermalin and Weisbach 1999; Cui and Mak 2002). Next, we included financial leverage (*LEV*), as high levels of debt in a firm's capital structure may signal that a firm has bonded itself to achieving the levels of cash flow required to meet its debt obligations (Grossman and Hart 1982; Jensen 1986). Financial leverage is measured as the ratio of total borrowing to assets (Davies et al. 2005, Short and Keasey 1999; Pindado et al. 2008; Davies et al. 2005; Cui and Mak 2002).As a firm's research and development (*R&D*) intensity may affect performance, we included the ratio of its research and development expenditures to total assets, following prior literature in the field (Morck et al. 1988; McConnell and Servaes 1990; Short and Keasey 1999). Finally, the age of a firm (*AGE*), measured by the natural logarithm of the number of years since its incorporation, was included in our analyses (Pindado et al. 2008; Selarka 2005; Arosa et al. 2010).

7.3.3 Analytical Approach

In this study we apply two different estimation methods, viz. (a) propensity score matching and (b) dynamic panel data method. To answer the question whether promoter ownership matters for firm performance, we have applied the propensity score matching technique. Then for estimating the effects of promoter ownership on performance we have applied the dynamic panel data method. In particular, we apply the dynamic panel data method to find out whether group-affiliated firms perform better than stand-alone firms. We briefly discuss both methods here.

In propensity score matching method, for each firm i in the sample, let PO_i be the indicator of promoter ownership that equals one when the firm is owned by a promoter and zero otherwise. We denote Y_{it} as the performance of firm *i* in year *t*

when it was owned by a promoter, and Y_{i0} as the performance of a firm not owned by a promoter and observe PO_i and hence $Y_i = PO_i.Y_{it} + (1\text{-}PO_i).\ Y_{i0}$. Let $E[Y_{it} | PO_i = 1]$ and $E[\ Y_{io}\ |\ PO_i = 0]$ denote average performances of the promoter-owned and non-promoter-owned firms, respectively. The effect we are interested in is that of promoter ownership on firm performance of the promoter-owned firms, or the difference between the firm performance of the promoter-owned firms and the firm's performance that would have experienced by the same group of firms if they had not been owned by promoters:

$$\tau|_{Poi=1} = E[Y_{i1}|\ PO_i + 1] - E[\ Y_{i0}|\ PO_i = 1] \tag{7.1}$$

This denotes the expected treatment effect on the treated. Since we do not have the counterfactual evidence of what would have happened if a firm had not owned by a promoter,$E[Y_{io}|\ PO_i = 1]$ is unobservable. However, it can be estimated by $E\ [Y_{io}\ |PO_i = 0]$ and the effect is given by the difference in the average firm performance between the promoter-owned and non-promoter-owned performances:

$$\tau^e = E[Y_{it}|\ PO_i = 1] - E[Y_{i0}|\ PO_i = 0] \tag{7.2}$$

In fact, we have observations on the firms which were not owned by promoters, but if the promoter-owned and non-promoter-owned firms systematically differ in their firm characteristics, (7.2) will be a biased estimator of (7.1) (Hirano et al. 2002).

Rubin (1977), Rosenbaum and Rubin (1984) showed that a propensity score analysis can be used to create groups of treated and untreated units that have similar characteristics, and then comparisons can be made within each group. In each group, there are firms that are owned by promoters and those not owned by promoters. Hence the promoter ownership can be considered to be random inside a group of firms (Gantumur and Stephan 2007). The propensity score of promoter ownership is defined as the conditional probability of being owned by the promoter given a set of observed covariates X_i:

$$PS(PO_i) = Pr\ (PO_i = 1|X_i) = E\ [PO_i|X_i] \tag{7.3}$$

The treatment effect of promoter ownership is then estimated as the expectation of the conditional effects over the distribution of the propensity score in the promoter-owned firms:

$$\tau\ \big|_{Poi=1} = E_{ps(Poi)}\{E[Y_{i1}\big|ps(PO_i),\ PO_i = 1] - E[\ Y_{i0}|ps(PO_i),\ PO_i = 0]\ |PO_i = 1\} \tag{7.4}$$

In order to reduce endogeneity concerns, we use dynamic panel data (DPD) models (Wintoki et al. 2009). DPD models are particularly useful when the dependent variable depends on its own past realizations (Bond 2002). Our base model is as follows:

$$\mathrm{PERF}_{it} = \mathrm{PERF}_{it-1} + \beta \mathrm{PROMOWN}_{it} + \delta \mathrm{X}_{it} + \alpha_i + \varepsilon_{it} \tag{7.5}$$

where firm $i = 1, \ldots N$ and year $t = 1, \ldots T$

In this model $X_{it}$are the control variables, α_i are the firm fixed effects, and the error term ε_{it} has zero mean constant variance and is uncorrelated across both time and firms. For estimation purposes, we have to remove the firm fixed effects α_{it} from Eq. (7.5) by first differencing. Thus we obtain:

$$\begin{aligned}\mathrm{PERF}_{it} - \mathrm{PERF}_{it-1} = {} & \gamma(\mathrm{PERF}_{it-1} - \mathrm{PERF}_{it-2}) \\ & + \beta(\mathrm{PROMOWN}_{it} - \mathrm{PROMOWN}_{it-1}) + \delta(\mathrm{X}_{it} - \mathrm{X}_{it-1}) + (\varepsilon_{it} - \varepsilon_{it-1})\end{aligned} \tag{7.6}$$

Alternatively,

$$\Delta \mathrm{PERF}_{it} = \gamma \Delta \mathrm{PERF}_{it-1} + \beta \Delta \mathrm{PROMOWN}_{it} + \delta \Delta \mathrm{X}_{it} + \Delta \varepsilon_{it} \tag{7.7}$$

In Eq. (7.7), the variable $\Delta \mathrm{PERF}_{it-1}$ is correlated with $\Delta \mathrm{PERF}_{it}$ due to the dynamic nature of the equation. To solve this problem Anderson and Hsiao (1982) proposed to use $\Delta \mathrm{PERF}_{it-2}$ or PERF_{it-2} as instruments for $\Delta \mathrm{PERF}_{it}$. In fact, lagged levels of the endogenous variable PERF_{it}, , three or more time periods before, can be used as instruments (Holtz-Eakin et al. 1988).

Arellano and Bond (1991) proposed the method of Generalized Method of Moments (GMM) which uses all possible instruments. Using this method estimates were obtained based on the moment conditions generated by lagged levels of the dependent variable (PERF_{it-2}, PERF_{it-3}, …) with $\Delta \mathrm{PERF}_{it}$. These are called difference GMM estimators. Furthermore, Arellano-Bover/ Blundell-Bond developed another estimator which is based on the Arellano-Bond with an additional assumption that first differences of instrumental variables are uncorrelated with the fixed effects. This considers the introduction of additional instruments and improves efficiency (Roodman 2009). It develops a system of two equations, namely, the original equation and the transformed one, and is known as system GMM. In this study we use a system GMM method.

7.4 Results

7.4.1 Descriptive Statistics

We present the summary statistics regarding the proportion of promoter ownership over 2007–2013 in Table 7.3. The evidence suggests that promoters hold approximately 50 percent of the ownership rights in the firms contained in the sample, and that this proportion increased slightly over time. The minimum percentage of equity holding by promoters fell from 8.73% in 2007 to 5.12 percent in 2013, whereas the maximum percentage of their equity holding (98.19%) remained unchanged.

Table 7.3 Pattern of promoter ownership over the years in sample firms

Promoter ownership (%)	2007	2008	2009	2010	2011	2012	2013
Mean	49.88	50.13	51.19	51.24	51.38	51.90	52.22
Std. dev	15.17	15.06	14.95	15.28	15.44	15.40	15.36
Minimum	8.73	8.85	5.30	5.30	5.30	5.30	5.12
Maximum	98.19	98.19	98.19	98.19	98.19	98.19	98.19

N = 19,824

Table 7.4 Summary statistics

Variables	Group1: Group-affiliated firms				Group2: Stand-alone firms				G1-G2
	Mean	Std. dev	Min	Max	Mean	Std. dev	Min	Max	
Tobin's q	1.920	17.863	0	17.5	4.473	57.38	0	29.14	−3.203*
ROA	0.025	1.556	0.045	77.812	0.038	2.098	0.063	252	−0.013
IPS	49.159	18.659	0	100	44.453	21.459	0	100	4.706*
SIZE	6.00	3.436	2.302	15.126	3.946	2.986	2.302	12.814	2.054
GROWTH	6.585	428.857	−1	42,965	2.331	77.423	−1	7282.778	4.254*
LEVERAGE	0.810	7.928	0	420	0.819	22.284	0	2565	−0.009*
R&D	0.009	0.032	0	0.963	0.011	0.032	0	0.657	−0.002
AGE	3.213	0.732	0	4.634	2.985	0.555	0	4.625	0.228

Note G1-G2: Difference between the means of variables in group-affiliated firms and stand-alone firms. N = 8610 for group-affiliated firms. N = 11,214 for stand-alone firms. * $p < 0.05$. Tobin's q and SIZE are reported in million Indian Rupees. ROA, IPS, GROWTH, LEVERAGE and R&D are in percentages. AGE is reported in years

Overall, we do not find an indication that, over the seven year period investigated here, promoters tend to decrease their ownership stakes, which one would expect given the growth of these firms.

Table 7.4 reports the descriptive statistics for the variables in this study, distinguishing between group-affiliated firms and stand-alone firms. Overall, group-affiliated firms are significantly larger and older than stand-alone firms, and their R&D expenditures (relative to their size) are higher. Furthermore, the group-affiliated firms in the sample show lower performance than stand-alone firms, both in terms of capital market performance (Tobin's q), and in terms of industry-adjusted ROA, and a Z-test shows that these differences are statistically significant. These results cast doubt on Hypothesis 2, according to which group-affiliated firms are expected to outperform stand-alone firms. Surprisingly, the group-affiliated firms have higher levels of promoter ownership than stand-alone firms.

Table 7.5 presents the correlations between the variables in this study. Promoter ownership is negatively correlated with Tobin's q and positively with ROA. It is positively correlated with, age and size and negatively correlated with growth, leverage

Table 7.5 Correlation matrix

	Tobin's q	ROA	PS	SIZE	GROWTH	LEV1	R&D	AGE
Tobin's q	1.00							
ROA	−0.0006	1.00						
PS	−0.021	0.012	1.00					
SIZE	−0.014	0.003	0.155	1.00				
GROWTH	−0.0003	0.0001	0.002	0.014	1.00			
LEV1	−0.0007	−0.010	0.006	−0.035	−0.0008	1.00		
R&D	0.006	0.002	−0.053	−0.101	−0.006	−0.007	1.00	
AGE	−0.005	0.005	0.084	0.131	-0.017	0.011	−0.031	1.00

N = 28,392. *Note* None of the correlations is statistically significant

Table 7.6 Results for propensity score matching

	Tobin's q	ROA
Average Treatment Effect	Coefficient	Coefficient
PO (1vs 0)	−8.274 (5.614)	0.010 (0. 016)

N = 283

and research and development expenditures. None of the correlations among the independent variables raises multicollinearity concerns.

7.4.2 Propensity Score Matching (PSM) Results

For PSM analysis, we have taken all 4056 firms, of which 3363 firms are 'treated' with promoter ownership and 693 firms are 'untreated'. Results of PSM reported in Table 7.6 show that, on average, Tobin's *q* is less by 8.27 million Indian rupees in promoter owned firms than that in comparable firms that were not promoter-owned. This difference in performance is, however, statistically insignificant, and therefore Hypothesis 1 is rejected, which implies, as a means for improving firm performance, promoter ownership appears to be an ineffective means. However, for ROA, there is no difference in performances between promoter-owned firms and non-promoter-owned firms.

7.4.3 Regression Results

We tested the hypotheses first in the context of a system GMM approach, using the entire sample of firms. Table 7.7 presents the results of these analyses for both

performance measures as dependent variables. For each dependent variable (Tobin's *q* and ROA) we estimated four models. All models have good model fit, as indicated by the Wald Chi-square statistic. The baseline models 1.1 and 2.1 include the control variables, namely firm size, firm growth, leverage, research and development expenditures and firm age and the dummy for promoter ownership (DPROMOWN) which takes the value 1 if the firm is owned by a promoter and zero otherwise.

In the baseline model 1.1 with Tobin's *q* as dependent variable, the coefficient for firm age is only statistically significant and the variable DPROMOWN is statically insignificant. We then tested Hypothesis 1 by including the linear, the quadratic and the cubic terms of the variable promoter's share (PS) in models 1.2, 1.3 and 1.4 respectively. We find the linear term of the promoter's share variable in model 1.2 to be positive but insignificant. In model 1.3, where we include the quadratic variable of PS, the Wald Chi-square value of the model decreases slightly. Overall, the results suggest that promoter ownership has no positive effect on Tobin's *q*, in contrast to Hypothesis 1. Moreover, we do not find support for the hypothesized effects of promoter ownership when ROA is used as the dependent variable (see models 2.1–2.4 in Table 7.7).

Then we split the entire sample into two different groups: (a) firms with ownership of only Indian promoters and (b) firms with ownership of mixed groups and foreign promoters and run system GMM separately for these two groups. The regression results for (a) and (b) are reported in Table 7.8 and Table 7.9, respectively. The baseline models 1.1 and 2.1 in Tables 7.8 and 7.9 include the control variables as earlier. In Table 7.8, in the baseline model 1.1 with Tobin's *q* as the dependent variable, the coefficient for age is positively significant. We then tested for Hypothesis 1 by including the linear, the quadratic and the cubic terms of the variable Indian promoter's share (IPS) in models 1.2, 1.3, and 1.4 respectively. We find that the linear, the quadratic and the cubic terms of the variable IPS are not significant in models 1.2, 1.3 and 1.4. The results suggest that promoter ownership has no effect on Tobin's *q* in Indian promoter–owned firms, contrary to Hypothesis 1. With respect to ROA also we have obtained similar results (see models 2.1, 2.2 and 2.4 in Table 7.8).

System GMM results for the firms owned by mixed group and foreign promoters are reported in Table 7.9. In model 1.1, the coefficients for size and age are statistically significant. Then we find the linear term of the promoter's share (PS) variable in model 1.2 to be positive and weakly significant at 10% level. Overall, the results suggest that promoter ownership has no significant effect on Tobin's *q* in contrast with Hypothesis 1. Moreover, we do not find support for the hypothesized effects of promoter ownership when ROA is used as the dependent variable (see models 2.1–2.4 in Table 7.9).

In order to provide a more differentiated understanding of promoter ownership as an antecedent of firm performance, we implement our analysis in a system GMM model, splitting the sample between group-affiliated and stand-alone firms for Indian promoter-owned firms. Results of the system GMM regressions for group-affiliated firms are presented in Table 7.10. All models have good model fit, as indicated by the Wald chi-square statistic. In the baseline model 1.1 with Tobin's *q* as dependent variable, the coefficients for all control variables are statistically insignificant, except

Table 7.7 Results for system GMM regressions using Tobin's q and ROA for all firms

Variables	1. Tobin's q				2. ROA			
	1.1	1.2	1.3	1.4	2.1	2.2	**2.3**	**2.4**
Constant	93.774 (22.759)***	94.647 (22.791)***	94.478 (22.799)***	95.551 (22.949)***	0.330 (0.336)	0.339 (0.336)	0.337 (0.336)	0.334 (0.336)
Tobin's q_{it-1}	0.683 (0.005)***	0.683 (0.005)***	0.683 (0.005)***	0.683 (0.005)***				
ROA_{it-1}					0.014 (0.004)***	0.014 (0.004)***	0.014 (0.004)***	0.014 (0.004)***
PS		0.084 (0.109)	−0.189 (0.368)	−0.350 (0.787)***		0.001 (0.001)	0.003 (0.005)	0.005 (0.011)
PS^2			−0.001 (0.004)	0.013 (0.019)			−0.00002 (0.00005)	−0.00008 (0.0002))
PS^3				-0.0001 (0.0001)				4.58e-07 (2.06e-06)
SIZE	−0.414 (0.791)ǂ	−0.429 (0.792)	−0.434 (0.792)	−0.434 (0.792)	0.057 (0.011)***	0.056 (0.011)***	0.056 (0.011)***	0.056 (0.011)***
GROWTH	0.00007 (0.002)	0.00007 (0.002)	0.00008 (0.002)	0.00008 (0.002)	−8.91e-06 (0.00003)	−8.94e-06 (0.00003)	−8.86e-06 (0.00003)	−8.89e-06 (0.00003)
LEVERAGE	−0.004 (0.033)	−0.004 (0.033)	−0.004 (0.033)	−0.004 (0.033)	0.015 (0.0004)***	0.015 (0.0005)***	0.015 (0.0005)***	0.015 (0.0005)***

(continued)

Table 7.7 (continued)

Variables	1. Tobin's q				2. ROA			
	1.1	1.2	1.3	1.4	2.1	2.2	**2.3**	**2.4**
R&D	−99.808 (41.460)**	−100.155 (41.463)**	−100.279 (41.455)**	−100.666 (61.469)**	3.320 (0.616)***	3.315 (0.616)***	3,312 (0.616)***	3.312 (0.616)_***
AGE	−27.116 (7.507)***	−27.431 (7.520)***	−27.389 (7.52)***	−27.751 (7.530)***	09.177 (0.110)†	−0.180 (0.110)†	−0.180 (0.110)†	−0.179 (0.111)†
DPROMOWN	−5.897 (4.744)	−9.805 (6.935)	−11.561 (9.100)	−7.253 (10.669)	−0.090 (0.070)	−0.141 (0.102)	−0.177 (0.134)	−0.195 (0.158)
Wald Chi-square value	17,400.03***	27,399.89***	27,399.20***	17,399.03***	1145.32***	1146.63***	1146.78***	1146.87***

N = 28,392.† *p < 0.1; * P < 0.05; ** P < 0.01; *** P < 0.00*

Table 7.8 Results for system GMM regressions using Tobin's q and ROA for Indian promoter-owned firms

Variables	1. Tobin's q				2. ROA			
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4
Constant	658.410 (55.583)***	657.756 (55.645)***	657.943 (55.648)***	658.861 (55.654)***	1.157 (0.517)†	1.154 (0.507)*	1.164 (0.518)**	1.172 (0.518)**
Tobin's q_{it-1}	0.633 ()0.006)***	0.633 (0.006)***	0.633 (0.006)***	0.633 (0.006)***				
ROA_{it-1}					0.012 (0.004)**	0.012 (0.004)**	0.012 (0.004)**	0.012 (0.004)**
IPS		−0.016 (0.040)***	−0.144 (0.250)	−0.698 (0.529)		−0.0006 (0.001)	−0.003 (0.003)	−0.006 (0.007)
IPS^2			0.001 (0.003)	0.020 (0.016)			0.00004 (0.00004)	0.0001 (0.0002)
IPS^3				-0.0001 (0.0001)				-7.40e-07 (1.87e-06)
SIZE	0.051 (0.849)	0.075 (0.851)	0.093 (0.852)	0.100 (0.852)	0.058 (0.012)***	0.058 (0.012)***	0.059 (0.012)***	0.059 (0.012)***
GROWTH	−1.63e-06 (0.002)	−5.43e-06 (0.002)	−0.00001 (0.002)	−2.47e-07 (0.002)	−8.55e-06 (0.00003)	−8.55e-06 (0.00003)***	−8.71e-06 (0.00003)	−8.64e-06 (0.00003)
LEVERAGE	−0.003 (0.034)	−0.003 (0.034)	−0.003 (0.034)	−0.003 (0.034)	0.015 (0.0005)***	0.015 (0.0005)***	0.016 (0.0005)***	0.015 (0.0005)***

(continued)

Table 7.8 (continued)

Variables	1. Tobin's q				2. ROA			
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4
R&D	−73.145 (43.773)†	−74.006 (43.833)†	−74.926 (43.861)†	−76.920 (43.897)†	3.203 (0.643)***	3.192 (0.643)***	3.181 (0.644)***	3.272 (0.645)***
AGE	−32.336 (8.016)***	−32.047 (8.119)***	−31.928 (8.122)***	−32.105 (8.124)***	−0.220 (0.118)†	−0.212 (0.119)†	−0.209 (0.119)†	3.172 (0.644)†
DGROUP	−1856.646 (169.384)***	−1856.008 (169.4721)***	−1854.484 (169.499)***	−1852.079 (169.515)***	−2.565 (1.106)*	−2.561 (1.106)**	−2.553 (1.106)**	−2.567 (1.106)**
Wald Chi-square value	15,960.92***	15,959.85***	15,959.15***	15,959.94***	1097.90***	1097.95***	1098.63***	1098.77***

N = 21,802.† *P < 0.1; * P < 0.05; ** P < 0.01; *** P < 0.001*

Table 7.9 Results for system GMM regressions using Tobin's *q* and ROA for mixed group and foreign promoter owned firms

Variables	1. Tobin's q				1. ROA			
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4
Constant	−34.828 (11.712)**	−34.622 (11.764)**	−34.722 (11.776)**	−34.198 (11.794)**	0.122 (0.620)	0.140 (0.621)	0.125 (0.621)	0.130 (0.621)
Tobin's q_{it-1}	−0.113 (0.016)***	−0.114 (0.016)***	−0.113 (0.016)***	−0.112 (0.016)***				
ROA_{it-1}					−0.032 (0.011)**	−0.033)0.012)**	−0.033 (0.012)**	−0.034 (0.012)***
PS		0.004 (0.044)	−0.023 (0.125)	−0.468)0.328)		0.0008 (0.002)	0.007 (0.007)	0.002 (0.019)
PS^2			0.0003 (0.001)	0.014 (0.009)			−0.00008 (0.00008)	0.00008 (0.0005)
PS^3				−0.0001 (0.00007)				−1.26e-06 (6.21e-06)
SIZE	−1.028 (0.522)**	−1.032 (0.523)**	−1.029 (0.524)**	−1.024 (0.524)**	−0.012 (0.028)	−0.013 (0.028)	−0.013 (0.028)	−0.013 (0.028)
GROWTH	0.046 (0.066)	0.045 (0.066)	0.046 (0.067)	0.049 (0.067)	0.0004 (0.004)	0.0003 (0.003)	0.0001 (0.004)	0.0002 (0.003)
LEVERAGE	0.015 (0.205)	0.015 (0.205)	0.015 (0.205)	0.017 (0.205)	−0.136 (0.011)***	−0.136 (0.011)***	−0.137 (0.011)***	−0.137 (0.011)***
R&D	−12.549 (39.167)	−12.579 (39.207)	−12.242 (39.250)	−10.696 (39.307)	3.217 (2.265)	3.193 (2.260)	3.111 (2.268)	3.120 (2.269)
AGE	13.887 (3.734)***	13.759 (3.873)***	13.900 (3.921)***	14.188 (3.930)***	0.008 (0.192)	−0.008 (0.199)	−0.029 (0.199)	−0.025 (0.199)
Wald Chi-square value	63.19***	63.16***	63.38***	65.21***	154.94***	155.02***	155.97***	156.03***

N = 2546.† *P < 0.1; * P < 0.05; ** P < 0.01; *** P < 0.001*

age. In the baseline model 2.1 where ROA is the dependent variable, we get similar results.

In models 1.2 and 2.2, we added the linear term of promoter share (IPS), our central independent variable of interest. In model 1.2, the coefficient for this variable is positive but statistically insignificant, and its inclusion increases the model fit considerably. We then added both the quadratic and the cubic term of IPS in models 1.3 and 1.4. In both cases, the coefficients on these variables are statistically insignificant. However, model fit increases in 1.3 compared to 1.2 and but then decreases further in 1.4. Thus, the "best" model is 1.3 which shows no relationship between promoter ownership and Tobin's *q*. In system dynamic panel models, Wald statistics should be used to decide on the selection of the optimal model (Candelon et al. 2012). Model 1.3 thus constitutes the best representation of the determinants of Tobin's *q* in group-affiliated firms. Therefore, we conclude that promoter ownership has no effects on capital market performance.

By contrast, when ROA is used as the performance variable, model 2.4 has higher Wald chi-square statistics than any of the models 2.1, 2.2 and 2.3 that include no, linear, or quadratic terms of the IPS variable. However, none of the variables on promoter ownership is significant in 2.4. Therefore, promoter ownership has no relationship with ROA in group-affiliated firms.

We then proceeded to analyse the performance effects of promoter ownership in stand-alone firms in firms with Indian promoters. To this end, we ran the system GMM regressions reported in Table 7.11. In the controls-only model (1.1) with Tobin's *q* as the dependent variable, R&D has negative effects. We then included the linear, quadric and cubic values of the promoter share variable (IPS) in models 1.2, 1.3 and 1.4 respectively. The model with the highest Wald chi square statistic is model 1.3 with significant quadratic terms for IPS. These findings show that promoter ownership has an U-shaped relationship withTobin's *q* in stand-alone firms.

However, we do not find support for Hypothesis 1 when ROA is used as the dependent variable. In model 2.1, where ROA is the dependent variable, two of the controls are statistically significant, namely LEVERAGE and R&D. When promoter share (IPS) is included in model 2.2, the coefficient on IPS is negative and insignificant, and, the inclusion of this variable leads to a reduction in model fit. Furthermore, models 2.3 and 2.4, which include the quadratic and the cubic terms of IPS, have lower Wald chi square statistics than model 2.1. Therefore, promoter ownership does not appear to have a significant effect on ROA in stand-alone firms.

Overall, the results presented in Tables 7.10 and 7.11 suggest that promoter ownership does not enhance performance in group-affiliated firms with Indian promoters, in contrast with Hypothesis 1. In stand-alone firms, there is a U-shaped relationship between promoter ownership and performance measured by Tobin's *q*. However, there is no relationship between promoter ownership and performance for ROA.

For the test of Hypothesis 2 regarding performance differentials between stand-alone and group-affiliated firms in Indian promoter-owned firms, we return to our system GMM regression (Table 7.8), which includes a dummy variable for group affiliation (DGROUP). When Tobin's *q* is used as dependent variable, we find this variable to be negative and statistically significant in all the models. Thus, after

Table 7.10 Results for System GMM Regressions Using Tobin's q and ROA for Group-affiliated Firms Owned by Indian Promoters

Variables	1. Tobin's q				2. ROA			
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4
Constant	46.179 (5.895)***	46.567 (5.910)***	46.350 (5.911)***	46.345 (5.916)***	0.167 (0.527)	0.162 (0.529)	0.167 (0.529)	0.205 (0.530)
Tobin's q_{it-1}	0.382 (0.009)***	0.282 (0.009)***	0.382 (0.009)***	0.382 (0.009)***				
ROA_{it-1}					−0.005 (0.007)	−0.005 (0.007)	−0.005 (0.007)	−0.005 (0.007)
IPS		0.033 (0.020)†	0.109 (0.070)	0.106 (0.147)		−0.0004 (0.002)	−0.001 (0.006)	−0.016 (0.012)
IPS^2			−0.001 (0.0009)	−0.0009 (0.004)			0.00002 (0.00007)	0.0005 (0.0004)
IPS^3				−8.93e-07 (0.00003)				−3.81e-06 (2.95e-06)
SIZE	−0.244 (0.226)	−0.282 (0.229)	−0.294 (0.229)	−0.294 (0.229)	0.095 (0.019)	0.095 (0.020)***	0.095 (0.020)***	0.096 (0.020)***
GROWTH	6.12e-06 (0.0004)	6.47e-06 (0.0004)	0.00001 (0.0004)	0.00001 (0.0004)	−0.00001 (0.00003)	−0.00001 (0.00003)	−0.00001 (0.00003)	−0.00001 (0.00003)
LEVERAGE	0.005 (0.039)	0.005 (0.039)	0.005 (0.039)	0.005 (0.039)	−0.011 (0.003)***	−0.011 (0.003)***	−0.011 (0.003)***	−0.011 (0.003)***
R&D	5.503 (12.269)	5.944 (12.280)	6.194 (12.285)	6.220 (12.299)	3.685 (1.080)***	3.682 (1.080)***	3.683 (1.080)***	3.636 (1.081)***
AGE	−13.438 (1.856)***	−13.947 (1.892)***	−14.105 91.898)***	−14.103 (1.898)***	−0.232 (0.165)	−0.225 (0.169)	−0.222 (0.169)	−0.016 (0.012)
Wald Chi-square value	1631.12***	1632.02***	1632.91***	1632.50***	41.91***	41.92***	41.91***	43.63***

N = 8610.† *P < 0.1; * P < 0.05; ** P < 0.01; *** P < 0.001*

Table 7.11 Results for system GMM regressions using Tobin's q and ROA for stand-alone firms owned by Indian promoters

Variables	1. Tobin's q				2. ROA			
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4
Constant	134.391 (27.498)***	133.545 (27.493)***	135.253 (27.517)***	138.749 (27.583)***	0.725 (0.529)	0.728 (0.529)	0.730 (0.529)	0.720 (0.530)
Tobin's q_{it-1}	0.633 (0.006)***	0.633 (0.005)***	0.633 (0.005)***	0.632 (0.005)***				
ROA_{it-1}					0.012 (0.004***	0.012 (0.004)***	0.012 90.005)***	0.012 (0.004)***
IPS		−0.117 (0.092)	−0.592 (0.278)**	−1.545 (0.598)*		−0.0003 (0.002)	−0.0008 (0.005)	0.002 (0.011)
IPS^2			0.006 (0.004)*	0.039 (0.018)**			5.96e-06 (0.00007)	−0.00008 (0.0003)
IPS^3				−0.0002 (0.0001)*				7.39e-07 (2.77e-06)
SIZE	−1.497 (1.026)	−1.416 (1.027)	−1.333 (1.029)	−1.334 (1.029)	0.006 (0.019)	0.007 (0.019)	0.007 90.019)	0.007 (0.019)
GROWTH	0.002 (0.014)	0.002 (0.014)	0.002 (0.014)	0.002 (0.014)	0.00008 (0.0002)	0.00008 90.0002)	0.00008 (0.0002)	0.00008 (0.0002)
LEVERAGE	−0.006 (0.038)	−0.006 (0.038)	−0.005 (0.038)	−0.006 (0.038)	0.016 (0.0007)***	0.016 (0.0007)***	0.016 (0.0007)***	0.016 90.0007)***
R&D	−148.709 (54.248)***	−152.888 (54.320)***	−156.055 (54.350)**	−159.439 (54.382)**	2.222 (1.021)**	2.217 (1.023)**	2.212 (1.024)**	2.222 (1.024)**
AGE	−41.470 (9.212)***	−39.812 (9.296)***	−39.282 (9.302)***	−30.674 (9.305)***	−0.250 (0.177)	−0.247 (0.178)	−0.246 (0.178)	−0.245 (0.178)
Wald Chi-square value	12,322.74***	12,322.97***	12,323.98***	12,325.66***	559.29***	559.27***	559.24***	559.28***

N = 11,214.† $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

controlling for other factors, group-affiliated firms show the lower level of capital-markets performance than stand-alone firms, in contrast to Hypothesis 2. When ROA is used as a dependent variable, however, the dummy variable denoting group affiliation is again negative and statistically significant in all the models. These results therefore contradict Hypothesis 2. After controlling for other factors, such as differences in scale, leverage and others, group-affiliated firms appear to have lower accounting returns than stand-alone firms.

7.5 Discussion and Conclusion

The objective of this study was to explore the relationship between promoter ownership and firm performance using a sample of Indian publicly listed firms for the period from 2007 to 2013, differentiating between group-affiliated and stand-alone firms. We described promoter ownership as a hybrid form of ownership and governance that combines majority ownership and control by insiders (namely, the promoters) with an active involvement and participation by outside shareholders and managers. We have tested two hypotheses in this study.

Hypothesis 1 states that promoter ownership has a positive effect on firm performance. However, we find no support for this hypothesis. Moreover, the results (Tables 7.10 and 7.11) suggest that promoter ownership has no effect on capital market performance in group-affiliated firms. However, in stand-alone firms, promoter ownership has a U-shaped relationship with Tobin's *q*. Furthermore, Hypothesis 1 is not supported when using ROA as the dependent variable in both group-affiliated and stand-alone firms. The argument for such a relationship follows from our review of the theoretical literature (Morck et al. 1988; Bloom and Van Reenen 2007; Perez-Gonzalez 2006; Wang 2006). According to this literature, large promoter ownership may lead to managerial entrenchment, which adversely affects firm performance.

According to Hypothesis 2 we expected group-affiliated firms to have higher performance than stand-alone firms. In contrast to this hypothesis, the results show that group-affiliated firms have lower level of capital markets performance than stand-alone firms. The analysis using ROA as the dependent variable also provides similar results. The development of capital markets in post-reform India has greatly reduced financing constraints for both group-affiliated and stand-alone firms. Therefore, the advantage of stronger internal capital market of the group-affiliated firms is no longer playing any role to lead to higher performance by group-affiliated firms than stand-alone firms. Another potential explanatory route might relate to the degree of diversification of group-affiliated firms in emerging economies (Bamiatzi et al. 2014; Carney et al. 2008). The presence of family management in group-affiliated firms is harmful for other kinds of managerial capabilities required for diversification (Gomez-Mejia et. al., 2007, 2010). In case of developed economies, it has been observed that the agency problem does not arise if independent directors are present on the board or if the family members accumulate outside information for

their businesses and as a result performance will not hamper (Anderson and Reeb 2003a, 2003b; Cruz et. al. 2010). However, in emerging economies, getting outside information by the family owners is much difficult due to imperfect institutions and rules for corporate governance do not require that the independent directors will be in majority on the board (Morck et al. 2005; Young et al. 2008). Hence, family management in group-affiliated firms has the disadvantage in getting the flow of new ideas which generate inadequate managerial capabilities for decision-making (Morck and Yeung 2003; Young et al. 2008). Moreover, due to the entrenchment of managers in group-affiliated firms, conflicts of interest arise between generations and it adversely affects the ability to acquire improved managerial capabilities which is needed for diversification (Morck et al. 2005; Morck and Yeung 2003).

7.5.1 Limitations and Directions for Future Research

Our study has some limitations that should be addressed in future research. First, more work of both a theoretical and an empirical nature is needed to understand the phenomenon of promoter ownership more fully. Little is known to date about the nature of this specific form of ownership, and its consequences for the governance of the firms concerned. For example, while this paper focuses on a few select classes of stakeholders only (inside and outside shareholders, etc.), hardly any evidence is available with respect to stakeholder groups such as employees, and customers. Another area of interest relates to the public welfare consequences of promoter ownership. Further research on these issues is urgently needed.

Second, our sample focuses on relatively young group-affiliated listed firms which are controlled by the founding family. In such group-affiliated firms, managers are likely to be from the family members. However, the decision to select managers is crucial in descendant-controlled, group-affiliated firms. Prior literature has shown that if a manager in a descendant-controlled firm is from outside the family, firm value tends to increase, whereas management by family managers is associated with a decline in firm value (Pindado et al. 2008; Barontini and Caprio 2006). The behaviour of managers of descendant-controlled group-affiliated firms with promoter ownership might be different from the ones we have analysed here. Future research should explore the performance effects of promoter ownership in such firms.

Finally, the regression models used in this paper help resolve some, but not all endogeneity issues. Specifically, DPD regression addresses problem of simultaneity i.e., the possibility that the variables included in the model are endogenous to one another (Wintoki et al. 2009). However, it does not consider other types of endogeneity concerns, e.g., those arising from omitted variable bias, sample selection bias or measurement error (Antonakis et al. 2010). We believe that future research should consider these issues.

References

Acharya VV, Bisin A (2009) Managerial hedging, equity ownership and firm value. The Rand J Econ 40(1): 47–77

Almeida H, Wolfenzon D (2006) A theory of pyramidal ownership and family business group. J Fin 61: 2637–2680

Amihud Y, Lev B (1999) Does corporate ownership structure affect its strategy toward diversification? Strat Manage J 20(11): 1063–1069

Anderson TW, Hsiao C (1982) Formulation and estimation of dynamic models using panel data. J Ecotrics 18: 47–82

Anderson RC, Reeb DM (2003a) Founding-family ownership and firm performance: evidence from the S&P 500. The J Fin 58(3):1301–1328

Anderson RC, Reeb DM (2003b) Founding family ownership, corporate diversification and firm leverage. J Law Econ 46(2): 653–686

Anderson RC, Mansi SA, Reeb DM (2003) Founding family ownership and the agency cost of debt. J Finan Econ 68(2):263–285

Antonakis J, Bendahan S, Jacquart P, Lalive R (2010) On making causal claims: a review and recommendations. The Lead Q 21:1086–1120

Arellano M, Bond S (1991) Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. Rev Econ Stud 58(194): 277–297

Arellano M, Bover O (1995) Another look at the instrumental variable estimation of error-components models. J Ecotrics 68(1): 29–51

Arosa B, Iturralde T, Maseda A (2010) Ownership structure, insiders ownership and firm performance in Spanish non-listed firms. J Fam Bus Strat 1(2): 88–96

Balasubramanian N, Anand RV, (2013) Ownership trends in corporate India 2001–2011: evidence and implications, Working paper No. 419, IIM Bangalore

Bamiatzi V, Cavusgil ST, Jabbour L, Sinkovics RR (2014) Doe business group affiliation help firms achieve superior performance during industrial downturns? An empirical examination. Int Bus Rev 23(1): 195–211

Barontini R, Caprion L (2006) The effect of family control on firm value and performance: evidence from continental Europe. Eur Fin Manage 12(5):689–723

Berger PG, Ofek E (1995) Diversification's effect on firm value. J Fin Econ 37:39–65

Berle AA, Means GC (1932) The modern corporation and private property. MacMillan, New York

Bertrand M, Mehta P, Mullainathan S (2002) Ferreting out tunneling: an application to Indian business groups. Q J Econ 117(1): 121–147

Bloom N, Van Reenen J (2007) Measuring and explaining management practices across firms and countries. Q J Econ 122(4): 1351–1408

Bolenzon S, Berkovitz T (2010) Innovation in business groups. Manage Sci 56(3): 519–535

Bond SR (2002) Dynamic panel data models: a guide to micro data methods and practice. Port Econ J 1:141–162

Cable J, Fitzroy F (1980) Production efficiency, incentives and employee participation: some preliminary results for West Germany. Kyklos 33:100–121

Campbell A, Goold M, Alexander M (1995) The value of parent company. Cal Manage Rev 28(6): 107–108

Candelon B, Ahmed J, Straetmans S (2012) Predicting and capitalizing on stock market bears in the U.S. Working Paper No. RM/12/019, Maastricht University

Carney M, Shapiro D, Tang Y (2008) Business group performance in China: ownership and temporal consideration. http://www.bowdoin.edu/~ytang/business-group-china-4.pdf

Chen S-S, Ho KW (2000) Corporate diversification, ownership structure and firm value: the Singapore evidence. Int Rev Fin Ana 9:315–326

Chkir IE, Cosset JC (2001) Diversification strategy and capital structure of multinational corporations. J Multinational Fin Manage 11:17–37

Cho MH (1998) Ownership structure, investment and the corporate value: an empirical analysis. J Fin Econ 47:103–121
Chong A, Lopez-De-Silanes F (2007) Corporate governance in Latin America. Working Paper No. 591, Inter-American Development Bank, University of Amsterdam
Chung H-M (2012) The role of family management and family ownership in diversification: the case of family business groups. Asia Pac J Manage https://doi.org/10.1007/s10490-012-9284-x
Classens S, Djankov S, Lang LHP (2000) The separation of ownership and control in East Asian corporations. J Fin Econ 58: 81–112
Classens S, Djankov S, Fan JPH, Lang LHP (2002) Disentangling the incentive and entrenchment effects of large shareholdings. J Fin 57(6): 2741–2771
CMIE (2014) PROWESS database. Published by the Centre for Monitoring Indian Economy
Conte MA, Svejner J (1988) Productivity effects of worker participation in management, profit-sharing, worker ownership of assets and unionization in US firms. Int J Ind Org 139–151
Cronqvist H, Nilsson M (2003) Agency costs of controlling minority shareholders. J Fin Q Ana 38(4):695–719
Cruz C, Gomez-Mejia LR, Becerra M (2010) Perceptions of benevolence and the design of agency contracts: CEO-TMT relations in family firms. Acad Manage J 53(1): 69–89
Cui H, Mak YT (2002) The relationship between managerial ownership and firm performance in high R&D firms. J Corp Fin 8: 313–336
Davies JR, Hillier D, McColgan P (2005) Ownership structure, managerial behaviour and corporate value. J Corp Fin 11: 645–660
Davis JR, Hiller D, McColgan P (2005) Ownership structure, managerial behaviour and corporate value. J Corp Fin 11: 645–660
Day D, Wendler JC (1998)The new economics of organization. McKinsey Q 1: 4–18
DeAngelo H, DeAngelo L (2000) Controlling shareholders and the disciplinary role of corporate payout policy: a study of the times mirror company. J Fin Econ 56(2): 153–207
Demsetz H (1983) The structure of ownership and the theory of the firm. J Law Econ 26: 375–390
Demsetz H, Lehn K (1985) The structure of corporate ownership: causes and consequences. J Pol Econ 93:1155–1177
Denis D, Denis D (1994) Majority owner-managers and organizational efficiency. J Corp Fin 1(1): 91–118
Denis J, Denis DK, Sarin A (1997) Agency problems, equity ownership and corporate diversification. J Fin 52(1): 135–160
Denis D, Denis D, Sarin A (1999) Agency theory and the influence of equity ownership on corporate diversification strategies. Strateg Manage J 20(11): 1071–1076
Dowdell TD, Krishnan J (2004) Former audit firm personnel as CFOs: effect of earning management. Can Accounting Persp 3(1):117–142
Faccio M, Lasfer MA (1999) Managerial ownership, board structure and firm value: the UK evidence. Working paper
Fahlenbrach R, Stultz RM (2009) Managerial ownership dynamics and firm value. J Fin Econ 92(3): 342–361
Fama EF, Jensen MC (1983) Separation of ownership and control. J Law Econ 26: 301–325
Fama EF (1980) Agency problems and the theory of the firm. J Pol Econ 88: 288–307
Foss K, Foss NJ, Vazquez XH (2006) Tying the manager's hands': contrasting opportunistic managerial intervention. Cam J Econ 30(5):797–818
Gadhoum Y, Ayadi MA (2003) Ownership structure and risk A Canadian empirical analysis. Q J Bus Econ 42(1/2): 19–39
Gantumur T, Stephan A (2007) Mergers & acquisitions and innovation performance in the telecommunications equipment industry. http://sfb649.wiwi.hu-berlin.de/
Geiger MA, North DS (2006) Does hiring a new CFO change things? An investigation of changes in discretionary accruals. Acc Rev 81(4): 781–809
Geiger MA, North DS, O'Connell BT (2005) The auditor-to client revolving door and earnings management. J Acc Fin 20(1): 1–26

Gopalan R, Nanda V, Seru A (2007) Affiliated firms and financial support: evidence from Indian business groups. J Fin Econ 86: 759–795
Gomez-Mejia L, Nunez-Nickel M, Gutierrez I (2001) The role of family ties in agency contracts. Acad Manage J 44(1):81–95
Gomez-Mejia LR, Haynes K, Nunez-Nickel M, Jacobson K, Moyano-Fuentes J (2007) Socioemotional wealth and business risks in family controlled firms: evidence from Spanish olive oil mills. Admin Sci Q 52: 106–137
Gomez-Mejia LR, Makri M, Kintana ML (2010) Diversification decisions in family-controlled firms. J Manage Stud 47(2): 223–252
Government of India (2008) National Accounts Statistics, Ministry of Statistics and Programme Implementation
Grossman SJ, Hart OD (1982) The corporate financial structure and managerial incentives. In: McCall JJ (ed) The economics of information and uncertainty. University of Chicago Press, pp 107–140
Handler WC (1994) Succession in family business: a review of the research. Fam Bus Rev 7(2):133–157
Hansmann H (1996) The ownership of enterprise. Harvard University Press, Cambridge, MA
Hermalin B, Weisbach MS (1991) The effect of board composition and direct incentives on corporate performance. Fin Manage 20: 101–112
Himmelberg CP, Hubbard RG, Palia D (1999) Understanding the determinants of managerial ownership and the link between ownership and performance. J Fin Econ 53: 353–384
Hirano K, Imbens GW, Ridder G (2002) Efficient estimation of average treatment effects using the estimated propensity score. Econometrica 71(4):1161–1189
Holderness CG, Sheehan DP (1988) The role of majority shareholders in publicly held corporations: an exploratory analysis. J Fin Econ 20(1–2):317–346
Holmstrom B, Milgrom P (1991) Multitask principal-agent analyses: incentives contracts, asset ownership and job design. J Law, Econ Org 7:24–52
Holtz-Eakin D, Newey W, Rosen HS (1988) Estimating vector autoregressions with panel data. Econometrica 56(6): 1371–1395
Hung J, Chen H (2009) Minimum shareholding requirements for insiders: evidence from Taiwanese SMEs. Corp Gov: an Intl Rev 17(1):35–46
Huson MR, Malatesta PH, Parrino R (2004) Managerial succession and firm performance. J Fin Econ 74(2): 237–275
James HS (1999) Owner as manager, extended horizons and the family firm. Int J Econ Bus 6(1): 41–55
Jensen MC (2000) Theory of the firm: governance, residual claims and organizational forms. Harvard University Press, Cambridge
Jensen MC, Meckling W (1976) Theory of the firm: managerial behavior, agency costs and capital structure. J Fin Econ 3:305–360
Jensen MC, Murphy KJ (1990) Performance pay and top-management turnover. The J Fin 3–21
Jensen MC (1986) The agency costs of free cash flow: corporate finance and takeovers. Amer Econ Rev 76(2):323–339
Joern B, Jaskiewiecz P, Miller D (2010) Ownership versus management effects on performance in family and founder companies: a Bayesian analysis, MPRA Paper No. 23526, http://mpra.ub.uni-muenchende/ 23526
Jones G, Makri M, Gomez-Mejia LR (2008) Affiliate directors and perceived risk bearing in publicly traded family-controlled firms: the case of diversification. Entrepreneurship Theory Pract 32:1007–1026
Khanna T, Palepu K (1997) Why focused strategies may be wrong for emerging markets. Har Bus Rev 75: 41–51
Khanna T, Palepu K (1999) Emerging market business groups, foreign investors and corporate governance, National Bureau of Economic Research Working Paper No. W6955. Cambridge, MA

Khanna T, Palepu K (2000a) Emerging market business groups, foreign investors and corporate governance. In: Morck R (ed) Concentrated corporate ownership. University of Chicago Press, Chicago, pp 265–294

Khanna T, Palepu K (2000a) Is group membership profitable in emerging markets? An analysis of diversified Indian business groups.J Fin 55: 867–891

Khanna T, Rivkin JW (2001) Estimating the performance effects of business groups in emerging markets. Strateg Manage J 22: 45–74

Kole S (1996) Managerial ownership and firm performance: incentives or rewards? Adv Fin Econ 2: 119–149

Kumar N, Singh JP (2013) Effect of board size and promoter ownership on firm value: some empirical findings from India. Corp Gov: the Int J Bus Soc 13(1):88–98

La Porta R, Lopez-de-Silanes F, Shleifer A (1999) Corporate ownership around the world. J Fin 54(2): 471–517

La Porta R, Lopez-de-Silanes F, Shleifer A, Vishny RW (2002) Investor protection and corporate valuation. J Fin 57: 1147-1170

Lang LHP, Sctulz RM (1994) Tobin's *q*, corporate diversification and firm performance. J Pol Econ 102: 1248–1280

Loderer C, Martin K (1997) Executive stock ownership and performance: tracking faint traces. J Fin Econ 45:223–255

Manikandan KS, Ramachandran J (2015) Beyond institutional voids: business groups, incomplete markets, organizationalform. Strateg Manage J 36:598–617

Marisetty VB, Subrahmanya MG (2006) Group-affiliation and the performance of initial public offerings in the Indian stock market. Discussion Paper 30, Business and Economics, Monash University

McConnell JJ, Servaes H (1990) Additional evidence on equity ownership and corporate value. J Fin Econ 27:595–612

McVey H, Draho J (2005) U.S. family-run companies-they may be better than you think. J Appl Corp Fin 17(4): 134–143

Morck R, Yeung B (2004) Family control and the rent-seeking society. Entrepreneurship: Theory Pract 28(4): 391–409

Morck R, Yeung B (2003) Agency problems in large family business groups. Entrepreneurship Theory Pract 27: 367–382

Morck R, Shleifer A, Vishny RW (1988) Management ownership and market valuation: an empirical analysis. J Fin Econ 20:293–315

Morck R, Stangeland DA, Yeung B (2000) Inherited wealth, corporate control and economic growth: the Canadian disease. In: Morck R (ed) Concentrated corporate ownership. University of Chicago Press, Chicago, pp 319–369

Morck R, Wolfenzon D, Yeung B (2005) Corporate governance, economic entrenchment and growth. J Econ Lit 43: 657–722

Pant M, Pattanayak M (2007) Insider ownership and firm value: evidence from Indian corporate sector. Econ Pol Wly April 21: 1450–1467

Perez-Gonzalez F (2006) Inherited control and firm performance. Amer Econ Rev 96(5):1559–1588

Pindado J, Requejo I, Torre CDL (2008) Does family ownership impact positively on firm value? Empirical evidence from Western Europe, Working Paper No. 02/08. Universidad de Salamanca, Spain

Piramal G (1996) Business maharajas. Penguin Books, New Delhi, India

Prahlad CK, Bettis RA (1986) The dominant logic: a new linkage between diversity and performance. Strateg Manage J 7(6):485–501

Rajan R, Servaes H, Zingales L (2000) The cost of diversity: the diversification discount and inefficient investment. J Fin 55(1):35–80

Richard PJ, Devinney TM, Yip GS, Johnson G (2009) Measuring organizational performance: towards methodological best practice. J Manage 35(3):718–804

Roodman D (2009) How to do xtabond2: an introduction to difference and system GMM in Stata. The Stata J 9(1):86–136
Rosenbaum PR, Rubin DB (1984) Reducing bias in observational studies using subclassification on the propensity score. J Am Stat Assoc 79: 516–524
Sarkar J (2010) Ownership and corporate governance in Indian firms. In: Balasubhramaniam N, Satwalekar DM (eds) Corporate governance an emerging scenario, National Stock Exchange of India Ltd., Mumbai, India
Sarkar J, Sarkar S (2000) Large shareholder activism in corporate governance in developing countries: evidence from India. Int Rev Fin 1(3):161–194
Schulze WS, Lubatkin MH, Dino RN, Buchholtz AK (2001) Agency relationship in family firms: theory and evidence. Org Sci 12(9):99–116
SEBI (2000) Disclosure and investor protection guideline. www.sebi.gov.in/guide/dip2009.pdf
Selarka E (2005) Ownership concentration and firm value: a study from Indian corporate sector. Eme Mar Fin Tr 41(6):83–108
Shleifer A (2005) Understanding regulation. Eur Fin Manage 11(4): 439–451
Shleifer A, Vishny R (1989) Managerial entrenchment: the case of manager-specific investments. J Fin Econ 25:123–139
Short H, Keasey K (1999) Managerial ownership and the performance of firm: evidence from UK. J Corp Fin 5: 79–101
Stultz RM (1990) Managerial discretion and optimal financing polices. J Fin Econ 26:3–26
Thomas H, Logan C (1982) Mondragon- an economic analysis. Allen and Unwin, London
Varma JR (1997) Corporate governance in India: disciplining the dominant shareholder. IIMB Manage Rev 9(4): 5–18
Villalonga B (2004) Diversification discount or premium? New evidence from the business information tracking series. J Fin 59(2): 479–506
Volpin P (2002) Governance with poor investor protection: evidence from top executive turnover in Italy. J Fin Econ 64:61–90
Wang D (2006) Founding family ownership and earnings management. J Accounting Res 44L: 619–656
Wintoki MB, Linck JS, Netter JM (2009) Endogeneity and the dynamics of corporate governance. In: European summer symposium in financial markets, study centre Gerzensee, 13–24 July, 2009
Wu Z (2003) Altruism as an influence on agency costs and risk-taking in the family firm: some special cases. Unpublished MBA thesis, University of Calgary
Young MN, Peng MW, Ahlstrom D, Bruton GD, Jiang Y (2008) Corporate governance in emerging economies: a review for the principal-principal perspective. J Manage Stud 45(1):196–220
Zwiebel J (1996) Dynamic capital structure under managerial entrenchment. Am Econ Rev 86:1197–1215

Chapter 8
Differences in the Performance of Group-Affiliated and Stand-Alone Firms

Jhuma Mukhopadhyay

Abstract In this study, we try to find out whether group-affiliated firms perform better than the stand-alone firms in the post-reform period. Our study is based on the 14,274 numbers of BSE-listed manufacturing firms. Using dynamic panel data regression technique, we find that group-affiliated firms outperform the stand-alone firms. In order to find the factors responsible for better performance of affiliated firms, we again apply dynamic panel data regression technique. But more importantly, since we are interested to examine whether the impact of explanatory variables on firm performance differs between top performing and bottom-performing firms, we apply panel quantile regression method. However, the study finds that ownership opacity as well as internal financial capital, both are responsible for improved performance of group-affiliated firms. This refutes institutional void theory. The findings are analyzed from the perspectives of Resource-Based View, Resource Dependency theory and agency theory.

8.1 Introduction

One important feature of business or industrial organizations in most of the emerging economies is the ubiquitous presence of business groups. Business groups as defined by Khanna and Rivkin (2001) are "a set of firms which, though legally independent, are bound together by a constellation of formal and informal ties and are accustomed to taking coordinated action". The ubiquity of the business groups and the critical role played by them in the emerging economies suggest that group affiliation may affect the performance of the affiliated firms positively or negatively depending upon the relative strengths of the benefits and costs associated with the group affiliation. This has attracted the researchers to examine the characteristics and the performance of these groups. In fact, there is not a dearth of studies related to business group literature

J. Mukhopadhyay (✉)
Independent Researcher, Kolkata, India
e-mail: mukhopadhyay.jhuma@gmail.com

A. Chakraborty and I. Chakraborty (eds.), *Indian Business Groups and other Corporations*, India Studies in Business and Economics,
https://doi.org/10.1007/978-981-99-5041-6_8

that examine the relationship between group affiliation and firm performance in the context of emerging economies. However, most of these researches have been carried during the period when the institutional setup was weak, external capital market was underdeveloped and factor markets were imperfect.

In the post-1991 period, as a part of economic reforms, India started to adopt market-oriented reforms, which has brought a substantial transformation in the institutional landscape of the economy especially after the period 2000–2001 with the adaptation of corporate governance measures. This new institutional environment has created opportunities as well as challenges for both the group-affiliated and unaffiliated firms. On one hand, the firms have got the opportunities to grow by accessing larger market but on the other hand, they are required to accept new laws and regulations and withstand competition that might come from domestic as well as foreign firms.

In fact, economic liberalization can have either a positive or negative impact on the performance of business groups. In the regulated regime of pre-liberalization era, group firms used to be benefitted by engaging themselves in unrelated diversification. However, in the post-liberalization period, those firms can also perform well by restructuring their businesses as per their core competencies. Even with the development of market institutions, group firms can still make use of the advantages that they used to have in the pre-liberalization period with respect to internal factor markets, other non-marketable factors, previous contract based on trust and their reputation as against the stand-alone firms to explore the opportunities that arise in the market due to liberalization (Khanna and Yafeh 2007). Business groups create a strategic network among the group members and share information, knowledge, technical know-how and resources that are not accessible to the outsiders. In most cases, these business groups have higher connections to political power that provide them wider opportunities. On the other side, the structures of business groups are complex in nature which gives rise to the organizational rigidities making it difficult for them to adjust to the new liberalized environment in comparison to the unaffiliated firms. Further, if group-affiliated firms did enjoy the benefits of being a group member in the regulated regime to such an extent that their performance far exceeded than that of the stand-alone firms, then it can also happen that performance differentials will be wiped out in the post-reform era which induces increased competition among firms (Sarkar 2010).

In this respect, it is worth investigating the performance of stand-alone firms against that of the group-affiliated ones in Indian Manufacturing sector during the post-liberalization period. In addition to this, we also want to explore how far the group firm characteristics and group-level features are responsible for poor or better performance of group-affiliated firms. We have taken our span of study from 2000–01 to 2012–13. This is because corporate governance mechanism in India was introduced in the late 1990s as a major initiative by Confederation of Indian Industry (CII). Though it was considered as a voluntary measure, it was soon made a mandatory status in the early 2000s. However, thereafter, it was sometimes made voluntary and sometimes voluntary.

India provides a particular study of interest to study the impact of group affiliation on firm performance for various reasons. One such reason is that although business groups in India emerged in pre-independence period it still rules the corporate sector besides playing a significant role in Indian economy. This scenario has remained unchanged although the institutional environment in India has undergone a radical transformation. Indian corporate sector is characterized by highly concentrated ownership and control structures where control in most cases is in the hands of a family. Another characteristic of Indian corporate sector is the coexistence of group-affiliated firms with a large number of stand-alone firms. These group affiliated companies that are connected by interlocking directorate as well as shareholders are controlled by listed holding companies, either single or multiple. In many instances, in absence of any identifiable holding company, promoters exercise their control over other affiliated companies using flagship company as a cornerstone through the subsidiaries, private companies as well as trusts where the family members are the majority stakeholders. The group-affiliated firms have a pyramid-like structure with holding or flagship company lies at the top of the pyramid. In such type of companies, promoters are the ultimate owners and have entire control of them since they are the maximum shareholders of those companies. As for the affiliated ones situated within the pyramid, the promoters of the holding companies exert informal influence over them without holding majority shares of those companies. Secondly, business groups in India were created as a strategic response to imperfections in the factor market at a time when external financial market was underdeveloped. Presently, India is a country with well-developed external market and strong institutional setup.

The series of research in emerging economies suggest that both benefits and costs are associated with business group affiliation and it is not clear whether affiliation should be considered as "parasites" or "paragons" (Khanna and Yafeh 2007), "heroes or villains" (Claessens et al. 2000).

There are several theories related to the impact of business group affiliation on firm performance. These theories are agency theory, institutional theory, transaction cost theory, resource-based theory and resource dependency theory.

Institutional theory as propagated by North (1990) focuses on how organizational structure as well as behavior is influenced by the socio-cultural rules and values along with the laws and judicial system. According to North (1990), institutions bring stability in the structure of economic exchanges by reducing uncertainty through putting a restraint on the options available to both the individual and organizations. The cost of transactions depends on the effectiveness of institutions. In transaction cost theory, exchange of goods and services is managed by markets and organizations both of which act as a substitute mechanism of each other. The resource-based theory (Wernerfelt 1984; Barney 1991; Grant 1991) emphasizes on the firm-specific internal factors and their influence on firm performance. According to this theory, organizations are bundle of unique resources, the combination of which lead to organizational capabilities (Grant 1991) and help the firms to attain competitive advantage over others, the result of which is reflected on their improved performance. On the other hand, the resource dependence theory argues that firm tries to acquire resources from the external environment consisting of various groups and

while doing so, the more firm interacts with the environment, the more it becomes assure about its access to resources and more it becomes dependent on the source of resources (Pfeffer and Salanick 2003). Reduction in resource uncertainty helps to improve firm performance.

The studies that find a positive relationship between group affiliation and firm performance (Khanna and Palepu 2000; Khanna and Rivkin 2001) argue that transaction cost theory and institutional theory are complement to each other. In emerging economies, while institutional theory indicates market failures or market imperfections in capital, labor and product market with underdeveloped external market, transaction cost theory suggests that group-affiliated firms take advantage of this market failure by internalizing the transactions within the business groups and creating a value-producing synergy of internal network both of which lead to the reduction of transaction cost. Hence, in case of institutional voids and market failures, business groups by serving as a substitute outperform the standalone firms. Moreover, from the perspective of resource-based view, business group-affiliated firms have more access to group resources which they can avail easily. Moreover, affiliated firms have the advantages of sharing the information which they can exploit in allocating resources among units (Williamson 1967). Summarizing the above argument, it can be said that as long as the internal market is more efficient than the external market, the benefits associated with group affiliation are more than the costs of group affiliation (cost to be incurred for transparency). In such a case, irrespective of whether the affiliated firms are transparent or not, they generally outperform the stand-alone firms.

On the other side, there are studies that find a negative impact of business group affiliation on firm performance (Claessens et al. 2000). This negative relation between group affiliation and firm performance can be explained with the help of agency theory.

According to the agency theory, agency problems between controlling shareholders or owners and minority shareholders arise due to the disparity in the interests of group controlling owners and minority investors of each group. For example, as against the profit maximization objective of investors of individual affiliated firms, the group controlling owners would try to focus on the growth of the whole group and share risk among affiliated firms at the expense of profits of the affiliated firms. A more severe agency problem is the expropriation of minority shareholders by the controlling owners. This phenomenon is known as tunneling, which causes diversion of profit from the group-affiliated firms where the controlling shareholders have low cash flow rights to those where they have high cash flow rights (Johnson et al. 2000; Bertrand et al. 2002). This leads to decline in the performance of the group-affiliated firms because of cross-subsidization and increased possibilities in mutual entrenchment (Claessens et al. 2002; Morck and Yeung 2003). The business groups would fail to take optimal decision and the market perception would lead to the decrease in the value of group firms. Hence, if the agency problem is prevalent, then it is expected that group-affiliated firms would perform worse than that of the stand-alone firms. In such a situation, in order to hide the expropriation, group firms would prefer to be less transparent than the stand-alone firms.

However, this scenario might change if the external markets, particularly capital market are well developed. In fact, the liberalization program has thrown up a challenge to the group-affiliated firms. This is because relative benefits of the internal markets in comparison to the external markets is rapidly disappearing from the market. An adoption of strong institutional environment has created an atmosphere for the external market especially the capital or financial market to work efficiently in the way that was never imaginable before. If the group firms want to take the benefits of the external market to obtain resources from the market, they have to incur additional costs to be transparent. The well-developed external market also results in the efficient monitoring from outside. The adoption of corporate governance mechanisms, either mandatorily or voluntarily leads to greater transparency of the firms. With the increase in transparency, agency problems diminish. Hence, if the transparency of the group-affiliated firms is higher, and then group firms are expected to perform better than the unaffiliated ones. This is because better transparency of the firms will not only reduce the cost of acquiring external resources but also increase the valuation of the firms. Further, group-affiliated firms also enjoy the advantages of group synergy effects which help in better performance of firms.

In this study, we try to examine whether any of the above arguments are suitable for explaining the comparative performance of group-affiliated firms as against the stand-alone firms. We not only try to find out whether the group-affiliated firms exhibit better performance than the stand-alone firms but also attempt to figure out the factors that are responsible for group-affiliated firms to perform better or worse than the stand-alone firms. The earlier studies have attempted to focus on one or the other features of business groups in order to examine the impact of business group on firm performance. For example, there are studies (Yiu et al. 2005; Chang 2006; Langlois 2013) that consider evolutions of business groups to examine the influence of group affiliation on firm performance. On the other hand, Morck and Yeung (2003), Cainelli and Iacobucci (2011) consider ownership and control patterns as the characteristics of business groups in their studies. The other aspects of business groups that have been studied by the past literatures are access to different resources like capital (Encarnation 1989; Amsden and Hikino 1994) and group diversification and internationalization (Nayyar 1993; Guillén 2003). Further, most of the studies pertaining to emerging economies are mainly cross-sectional in nature (Khanna and Rivkin 2001; Singh and Gaur 2009). In this study, apart from considering both the objectives, mentioned above, we analyze on the basis of panel data. Moreover, we try to examine how different factors affect the firm performance at different levels of firm performance. This will help us to know whether the factors affecting the top-performing firms are also affecting the bottom-performing firms in the same way or in a different way.

Our analysis is based on 14,274 BSE-listed manufacturing firms, out of which 6565 numbers are group affiliated and 7709 numbers are stand-alone. Our period of study spans from 2000–01 to 2012–13. By applying dynamic panel data regression technique, we find that group-affiliated firms outperform the stand-alone firms irrespective of whether the performance is measured by Tobin's Q or ROA. Moreover, in order to find out which of the factors are responsible for better performance

of group-affiliated firms, we again apply dynamic panel data regression estimation procedure. However, this time, we have considered only group-affiliated firms for analysis. Excluding those firms for which all the required information is not available, we end up with 3341 number of group-affiliated firms. Further, in order to find whether the factors affecting the performance of top-performing firms are also affecting the performance of the bottom performing firms in a similar way or not, we employ panel quantile regression method. We find that apart from age and size of the firms, ownership opacity positively influences firm performance when performance is measured by Tobin's Q. On the other hand, when performance is measured by ROA, we get that age, ownership opacity and financial capital exhibit a positive impact on firm performance.

The rest of the paper is structured as follows. Section 8.2 presents the methodology considered in this study. In Sects. 8.3 and 8.4, we explain the data and the variables selected for our study respectively. Section 8.5 presents the analysis of our findings, and Sect. 8.6 concludes.

8.2 Methodology

8.2.1 Performance of Group-Affiliated Firms as Against Stand-Alone Firms

Our first objective is to find out how the group-affiliated firms perform as against the stand-alone firms. We apply dynamic panel data regression technique which addresses the endogeneity issue present in the model. In our case, the use of dynamic panel data regression model is appropriate because the dependent variable is affected by its own past realizations (Bond 2002), which indicates the presence of endogeneity problem in the model. Our model is as follows:

$$Y_{it} = \alpha_1 Y_{it-1} + \beta_1 GROUP_{it} + \beta_2 X_{it} + \eta_i + \lambda_t + \varepsilon_{it}. \tag{8.1}$$

where i = 1,…., N and t = 1,…., T;

i denotes firm and t denotes time period or year.

Moreover, Y_{it} is the performance variable measured by Tobin's Q and ROA. While the variable η_i indicates firm-specific fixed effects, λ_t captures time effects. Both of them are assumed to be fixed parameters. X_{it} are the control variables and ε_{it} is the error term with zero mean and constant variance and assumed to be uncorrelated across N and t. $GROUP_{it}$ is an explanatory variable. It is also a dummy variable that takes value 1 when a particular firm is affiliated with the group and 0 otherwise. Further, even in the absence of auto-correlation between the predictor variables and the error term, there is a possibility of the lagged dependent variable present in the above equation to be correlated with the unobserved heterogeneity. We also

assume that reverse causality exists which arises from potential endogeneity of lagged dependent variable.

In order to estimate (8.1), we have to get rid of the firm fixed effects from the equation and this we can do by first differencing. Hence, we get,

$$\begin{aligned} Y_{it} - Y_{it-1} =& \alpha_1(Y_{it-1} - Y_{it-2}) + \beta_1(GROUP_{it} - GROUP_{it-1}) \\ &+ \beta 2(X_{it} - X_{it-1}) + (\lambda_t - \lambda_{t-1}) + (\varepsilon_{it} - \varepsilon_{it-1}). \end{aligned} \tag{8.2}$$

Alternatively,

$$\Delta Y_{it} = \alpha_1 \Delta Y_{it-1} + \beta_1 \Delta GROUP_{it} + \beta_2 \Delta X_{it} + \Delta\lambda_t + \Delta\varepsilon_{it}. \tag{8.3}$$

Since (8.3) is dynamic in nature, the variables Y_{it} and Y_{it-1} are correlated with each other. In order to solve this problem, Anderson and Hsiao (1982) suggested the use of ΔY_{it-2} orY_{it-2} as instruments for ΔY_{it}. In fact, endogenous variables with three or more period lags can be considered as instruments (Holtz-Eakin et al. 1988).

Arellano and Bond (1991) suggested a technique that utilizes all possible instruments. They use the Generalized Method of Moments (GMM) and by the use of those moments conditions that are generated by the lagged levels of dependent variables (Y_{it-2}, Y_{it-3},….) withΔY_{it-1}, they got the estimates that are known as difference GMM estimators. Moreover, extending this technique of Arellano-Bond, Arellano-Bover/Blundell-Bond developed an estimator, which requires an additional assumption that the fixed effects and the first differences of instrumental variables are uncorrelated with each other. This gives rise to the requirements of additional instruments and this also enhances efficiency (Roodman 2009). It gives rise to the development of a system of two equations (the original equation and the transformed one), which is popularly known as system GMM. In this study, we employ a linear dynamic panel data (DPD) regression technique. This method is developed on the basis of both 'difference-GMM' of Arellano and Bond (1991) and 'System GMM' of Arellano-Bover (1995), Blundell-Bond (1998) estimation procedures.

In order to tackle standard error bias, we employ Windmeijer two-step robust standard error estimation process. With large cross-sectional observations (N) and small time period, the use of dynamic panel data estimation leads to the production of consistent estimators. In our study, it is appropriate to use dynamic panel data estimation technique because N is much larger than T.

Also, for studying the second objective, i.e. to determine the factors responsible for better or worse performance of group-affiliated firms, we employ dynamic panel data regression technique too in order to address the endogeneity issue associated with the presence of lagged dependent variable as an explanatory variable in the model. However, in this case, we only consider the group-affiliated firms and the control variables are different from those which we have taken in (8.1). The model when we consider only group-affiliated firms is as follows:

$$Y'_{it} = \alpha'_1 Y'_{it-1} + \beta'_1 X'_{it} + \beta'_2 Z'_{it} + \eta'_i + \lambda'_t + \varepsilon'_{it}. \tag{8.4}$$

where Y'_{it} is the performance variable measured by Tobin's Q and ROA.X'_{it}s are explanatory variables, Z'_{it}s are control variables, η'_i is firm-specific fixed effects, λ'_t is time effect and ε'_{itn} is the error term.

8.2.2 *Impact of Different Factors on the Performance of Group-Affiliated Firms*

Since we are interested in whether the impact of explanatory variables on firm performance differs between top-performing and bottom-performing firms, we apply panel quantile regression method.

Application of quantile regression estimation helps to estimate the slope coefficients (different attributes of group-affiliated firms) at different quantiles or percentage points of the relevant distribution which in our case is firm performance. Since panel quantile regression method allows unobserved heterogeneity, this measure helps to explore differences in the performance level among low, moderate and high-performing firms.

In this study, we apply a dynamic quantile regression model which takes into consideration the impact of past firm performance. The dynamic quantile panel regression in our case is as follows:

$$QY'_{it}(\tau) = \alpha'_1(\tau)Y'_{it-1} + \beta'_1(\tau)X'_{it} + \beta'_2(\tau)Z'_{it} + \eta'_i + \varepsilon'_{it}. \tag{8.5}$$

In this case, the impact of Y'_{it-1}, X'_{it}s and Z'_{it} depends on the τth quantile of interest.

The other notations and symbols have already been described before.

The parameter estimates on the lagged dependent variable changes along the different quantiles. There are various methods by which quantile dynamic panel fixed effects can be estimated (Koenkar 2004). However, those methods can give biased estimates in case time dimension is not sufficiently large. In order to address the endogeneity problem in the presence of lagged dependent variable in (8.5) we apply Quantile-Regression-Instrument-Variable (QR-IV) as suggested by Galvao (2011). Motivated from the work of Chernozhukov and Hansen (2005), Galvao (2011) proposes that the dynamic bias can be reduced by the application of instrumental variable quantile regression method. The method developed by Galvao (2011) is a combination of dynamic panel data regression method and quantile instrumental variable technique. However, the key advantage of using this method is that in this approach, any transformation of the model is not required. As suggested by Galvao (2011), we use the lagged values of dependent variable as instruments to estimate (8.5).

8.3 Data

Our study is based on BSE-listed firms collected data from PROWESS database of CMIE (Centre for Monitoring Indian Economy Pvt. Ltd.). The period of study spans from 2000–01 to 2012–2013.

Our first objective is to find out the relative performance of group-affiliated firms as against the stand-alone firms. For that, our analysis is based on balanced panel data comprising of 14,274 numbers of firms. Further out of 14,274 numbers of firms, 6565 numbers are group-affiliated firms as against 7709 number of stand-alone firms.

In order to find out the factors responsible for positive or negative performance of group-affiliated firms as against the stand-alone firms, we separately analyze the group-affiliated firms. We have excluded those group-affiliated firms from our study for which we do not have required information on opacity and wedge which are important for explaining group-firm characteristics. Hence, excluding those firms, finally analyze the model based on 3341 number of observations.

8.4 Key Variables of the Study

8.4.1 Dependent Variable

We employ Tobin's Q and Return on Assets (ROA) as two measures of firm performance. Based on accounting information, ROA is a backward-looking method that captures the historical performance of the firm. On the other hand, values of Tobin's Q indicate the expected future performance of the firm since the measure is based on stock market price. It is considered as a forward-looking measure.

Following the studies of Khanna and Palepu (2000) and Sarkar and Sarkar (2000), we calculate Tobin's Q as.

Tobin's Q = (market value of equity + book value of total liabilities) /book Value of the Assets;

ROA is measured as the ratio between a company's earnings before interest and taxes (EBIT) to its total assets.

8.4.2 Explanatory Variables

Performance of group-affiliated Firms vis-à-vis stand-alone firms

GROUPD, for the first sub-objective, GROUPD is a dummy variable that indicates whether the particular firm is a group affiliated or not.

Impact of Different Factors on the Performance of group-affiliated Firms

In order to find out the reasons behind poor or better performance of group-affiliated firms as against the stand-alone firms, we consider the effect of group-affiliated firm characteristics and group-level characteristics on firm performance.

group-affiliated firm characteristics

In order to capture the group-affiliated firm characteristics, we take wedge (ownership disparity between the control rights and cash flow rights) and ownership opacity as variables. These are two main variables that can serve as a proxy for incentives to tunneling (Kali and Sarkar 2011).

Wedge (WEDG), The pyramidal or circular ownership structure gives rise to ownership disparity, which is considered as a main source of principal–principal agency problems because controlling owners have the possibility to increase their wealth by diverting resources from the firms where they have lower cash flow ownership to those firms with higher cash flow ownership (Johnson et al. 2000). The insiders of Business Group by various means can expropriate the wealth of the other shareholders. One such way is to transfer capital from one firm to another firm despite the fact it may not serve the interests of the other stakeholders. This phenomenon is known as tunneling (Johnson et al. 2000). This occurs when there is a wedge between cash flow rights and control rights. The pyramidal or circular ownership structure gives rise to ownership disparity, which is considered as a main source of principal–principal agency problems because controlling owners have the possibility to increase their wealth by diverting resources from the firms where they have lower cash flow ownership to those firms with higher cash flow ownership (Johnson et al. 2000). If firms where insider ownership is high show a tendency of obtaining or retaining more capital, then it indicates that those firms are trying to have a control over the capital formation. This suggests a case of expropriation.

Wedge of a firm is defined as the difference between the control rights and the cash flow rights of the controlling insiders. In case of a particular affiliate, a direct ownership holding of the controlling insiders in that affiliate is considered as the cash-flow rights. On the other hand, control rights are considered as the sum total of percentage of equity holdings by the controlling insiders and by other group-affiliated firms in the same affiliate.

In India, so far, two proxy measures for wedge have been used in the literature of business groups. Kali and Sarkar (2011) have considered the percentage of outstanding shares held by persons acting in concert (PACs) as a measure of wedge. However, data on PACs are not available in Prowess in the post-2005–06 period.

Another proxy measure of wedge, which has been employed by George et al. (2008), is the percentage holdings of outstanding shares by non-promoter domestic corporations. We use this measure in our study. According to them, shareholdings by domestic corporations indicate the control of the family over an affiliate, which is exercised mainly through the other group-affiliated firms in a group.

Opacity (OPAC). Another variable of interest that is also responsible for creating agency problem is ownership opacity. It is based on the proposition that ownership

stakes of the controlling owners are not always completely disclosed in the public domain. The motive to stay opaque (ownership) can be described with the help of two competing hypothesis. One is entrenchment hypothesis, which suggests that controlling owners want their firms to stay opaque since it helps them to entrench their objective of expropriating firm resources. The other one is monitoring hypothesis, according to which family owners or controlling owners are efficient in inside monitoring and hence they do not require to be transparent as such because the costs of transparency in their case may be more than that of the benefits they would receive for being transparent.

In the presence of agency problem in a firm, it becomes difficult for an outsider to understand the differences and the relationship between ownership and control in that firm. In addition to the complexity of ownership structure, one significant source of agency costs in case of Indian listed firms is the opacity of ownership structure (Sarkar 2010). As identified by Sarkar (2010), the determinants of ownership opacity in the Indian perspective can be of three types—the identity of the owners is not disclosed completely (Type I), the insider ownership is fragmented among a large number of owners (Type II) and the degree at which ownership is controlled by private bodies (Type III).

Between 2002 and 2006, as per the disclosure regulations, the identity of only those equity owners having at least 1% of equity ownership were required to be disclosed by the Indian listed firms. Hence, in order to avoid mandatory disclosures, there might be a tendency among the controlling shareholders to keep the insider ownership strategically and deliberately below 1%. The higher the percentage of shareholding fall in this below 1% category, more will be the opacity of ownership structure from the perspective of an outsider. This type of opacity is known as Type I opacity. Type II opacity arises when a given shareholding is distributed or fragmented among a large number of insiders. On the other hand, Type III opacity occurs when the promoters' shareholding is weighted more towards the unlisted companies and trusts in comparison to the listed companies. In such a case, it becomes difficult for the outside minority shareholders as well as the outside members of the board of directors to understand the chains of control and any related party transactions.

In this study, we have concentrated only on Type II opacity. This is because, in the post-2006, the changed regulations compel the firms to disclose the identity of all the promoters and the promoter group as well as their respective shareholdings under clause 35. Hence, Indian-listed firms are now almost free from Type I problem. We have also not taken into consideration Type III opacity because it is hard to compute for all the listed firms due to the limitations of data. Type III opacity is calculated as the ratio of total percentage of shareholders to total number of promoters.

Group level characteristics

Group Size (GSIZE) The bigger groups can have a positive impact on the performance of the member firms as these groups have the capabilities to access resources easily and hence are more efficient in allocating resources. They also enjoy economies of scale that lead to the reduction of cost (George et al. 2008).

Diversification (GDIV) It could be advantageous for the group firms if the group can profitably utilize its resources like managerial skills, technical know-how etc. to those industries in which it operates. Nevertheless, group size and group diversification can have a negative impact on firm performance if the wealth creation and excessive risk aversion are the motives behind diversification. From the perspective of agency theory, the managerial interests at the costs of shareholders lead to firm diversification. Internal capital markets are more likely to be well developed for bigger and diversified business groups in comparison to the smaller and less diversified groups.

While it is implicit that the firm undertakes diversification as a strategy to grow and maximize profits, it is often not very explicit why the firm chooses to do so. According to the market power theory, the firms diversify in order to dominate the market (Martin and Sayrak 2003; Montgomery 1994) and in order to do so, they want to eliminate the small competitors by aggressive pricing which is backed by utilization of cash flow generated in other business units.

Montgomery (1994) and Martin and Sayrak (2003) recognize three theories that help to explain the motivation of a firm to diversify its businesses. These three theories are agency theory, resource-based theory and market power theory.

From the perspective of agency theory, the decision of the firm to diversify is based on opportunistic reasons (Jensen 1986; Jensen and Meckling 1976; Shleifer and Vishny 1989). The managers, which in our case, are the controlling shareholders look for private benefits and hence go for firm diversification at the cost of minority shareholders. Thus, according to the agency theory, diversification aggravates the opportunistic problems. This explains the negative impact of diversification on firm performance in terms of profit and market value. In fact, many studies find a negative relationship between diversification and firm performance (Lang and Stulz 1994; Berger and Ofek 1995; Denis, Denisand Sarin 1997). However, according to Aggarwal and Samwick (2003), there is another argument related to agency theory that can explain the motivation for corporate diversification. Extending the argument of Aggarwal and Samwick (2003) with respect to Type I agency problem to Type II agency problem, it can be said that the controlling shareholders go for unrelated diversification to reduce idiosyncratic risk.

From the point of resource-based view, diversification takes place when the firms have surplus resources and capabilities which can be moved from one industry to another (Mishra and Akbar 2007). According to Chatterjee and Wernerfelt (1991), while resources like physical, knowledge-based and external finance are linked to related diversification, 'internal financial resources' which ensure availability of long-term capital is related to unrelated diversification.

Internal capital market theory suggests that a firm can operate efficiently if it has the ability to transfer capital generated in one unit to another. Myers and Majluf (1984) suggest that the extent of asymmetric information problems is often found to be less critical for diversified firms. Further, as suggested by Matsusaka and Nanda (2002), coinsurance takes place when the firms as a result of diversification are able to reduce the cash flow variations and then succeed in decreasing the probability of being insolvent. This helps them to get loans at a lower cost in comparison to

focused firms. Hann et al. (2013) suggest that coinsurance effect has the capability of decreasing the systematic risk in diversified firms. This reduces their cost of capital, making diversified firms attractive for investment.

Since diversification in our study is a proxy variable for tunneling, we measure the diversification, following the measure adopted by Kali and Sarkar (2005) based on weighted index of diversification (Caves et al. 1984). Since we are interested in measuring the diversification of a group-affiliated firm in terms of relatedness to the core activities of the group, we adopt the discrete measure, which is based on the International Standard Industrial Classification (ISIC) developed by the United Nations. In line with the ISIC code, National Industrial Classification (NIC) code has been developed in India in such a way that it is equivalent to ISIC code. The activity of each firm in the Prowess database has been assigned a NIC code up to 4-digit level. Our measure of diversification captures the extent to which an activity of a group-affiliated firm is deviated from the group's core competencies to unrelated diversification. Unlike other studies where this concept of relatedness is applied in case of a firm engaged in various activities, we follow Kali and Sarkar (2005) in our study and apply this concept in case of a group consisting of various firms. Since each firm belonging to a group is associated with a single activity; it has been assigned a particular NIC product code at the 4-digit level as a single segment firm. The main activity of the group is determined by the NIC4 of the core firm and the diversification of a firm is measured by the distance by which its activity is away from the core firm's activity in the group divided by the assets of the firm.

Following Caves et al. (1984), let us define the distance d_{ijk} for the ith firm of jth group involved in the kth activity at the 4-digit level of NIC code in such a way that d_{ijk} takes the value zero if the ith firm's 4-digit NIC code is same as that of the core firm, d_{ijk} is one if the firm belongs to the same 3-digit industry but in a different 4-digit industry as that of the core firm,2 if the firm belongs to a different 3-digit industry but within the same 2-digit industry and finally 3 if the activity of the ith firm is in that 2-digit industry which is different from that of the core firm.

If by unrelated diversification, the groups can potentially tunnel out funds from firms engaged in core activities to firms engaged in unrelated activities, then the above measure can capture the relationship between a group-affiliated firm's relative positions in the ownership period with that of the degree at which the firm's production activity is close to the core activity of the group. The firm's relative position in the ownership period is determined on the basis of the divergence between ownership and control rights. The higher is the firm's position in the ownership pyramid, the lower will be the wedge and more it will be located way from the core activities of the business group.

Let us define d_{istijk} as a discrete variable that takes either one of the nominal values 0,1,2,3. Depending on the relatedness of the activity of the core, each group-affiliated firm take either one of the above values.

$D_{istijk} = 0$ if k belongs to the same 4-digit activity as that of the core firms but in a different 3-digit activity.

To explain this, Caves et al. (1984) have considered an example of n number of firms with $n = 4$ and firms are named as A, B, C, D which are engaged in m number

of distinct/different activities (m = 4). They denote these activities as p, q, r and s, respectively. Let. P be the activity taken y group-affiliated firm A, and it is also the core activity of the group and A holds the highest proportion of total group.

Inside Financial Institution/Internal Financial Market An internal capital market has both advantages and disadvantages over external capital market. From the positive side, internal market has greater information about investment prospects (Myers and Majluf 1984) and can add value by providing efficient monitoring (Jensen and Meckling 1976). On the negative side, internal market often led to cross-subsidization (Rajan et al. 2000; Shin and Stulz 1998), which can have a negative impact on firm performance.

In order to capture the phenomenon that a group can make use of the inside financial market for investing in diversified activities when capital market is not fully developed, we have taken a variable named Inside Financial Resource (IFR). Within a business group, IFR acts as a proxy for an internal capital market. Following Chatterjee and Wernerfelt (1991), we calculate IFR as group's current assets to its current liabilities.

When a group-affiliated firm is involved in inter-corporate financing as well as investing, it helps in retaining and hence reallocating capital within the same business group. However, cross-subsidizing poorly performing firms at the cost of well-performing firms by use of internal capital market can have a negative impact on firm performance (Meyer et al. 1992).

8.4.3 Control Variables

SIZE is measured by log (assets) to capture the size of the firm.

AGE is log(age) to measure the firm's age.

LEV is leverage which is measured by total debt to total assets.

However, when we consider only the group-affiliated firms, we take control variables as SIZE and AGE.

8.5 Empirical Analysis

From the descriptive statistics, it is clear that the average values of Tobin's Q and ROA of group-affiliated firms are slightly greater than that of the stand-alone firms. VIF factor makes it clear that the model does not suffer from any multicollinearity problem (Table 8.1).

Performance of group-affiliated Firms vis-à-vis stand-alone Firms

Our dynamic panel data regression model is as follows:

$$Y_{it} = \alpha_1 Y_{it1} + \beta_1 GROUP_{it} + \beta_2 SIZE_{it} + \beta_3 AGE_{it}$$

Table 8.1 Descriptive statistics for all firms

	Observations	Mean	Standard deviation	Minimum	Maximum
Stand-Alone					
TOBIN'S Q	7709	1.399751	0.671566	1.001784	14.549
ROA	7709	0.144738	0.147105	−4.1579	1.049935
SIZE	7709	6.344446	1.475442	2.186051	12.97805
AGE	7709	26.09949	16.75298	6	123
LEV	7709	0.467258	0.695075	0.000021	15.82006
Group-Affiliated					
TOBIN'S Q	6565	1.515064	0.785656	1.001299	11.18976
ROA	6565	0.153013	0.134702	−0.67332	1.438912
SIZE	6565	8.264547	1.651734	2.587764	14.97866
AGE	6565	37.1802	21.42775	1	150
LEV	6565	0.429556	0.392717	6.24E-07	5.928241
ALL					
TOBIN'S Q	14,274	1.452787	0.728513	1.001299	14.549
ROA	14,274	0.148544	0.141591	−4.1579	1.438912
SIZE	14,274	7.227553	1.829249	2.186051	14.97866
AGE	14,274	31.19581	19.82995	1	150
LEV	14,274	0.449918	0.576359	6.24E-07	15.82006

Source Author's calculations

$$+ \beta_4 LEV_{it} + \eta_i + \lambda_t + \varepsilon_{it} \tag{8.6}$$

where Y_{it} indicates Tobin's Q and ROA in two different models, respectively (Table 8.2).

Our findings from the linear dynamic panel data regression suggest that group-affiliated firms have outperformed the stand-alone firms irrespective of whether the performance is measured by Tobin's Q or ROA. Our results apparently support the findings of Khanna and Palepu (2000) and refute the findings of Claessens et al. (2000). There may be various reasons for the group firms to perform better than the stand-alone firms. Affiliation to business group has both positive and negative attributes. According to Khanna and Palepu (2000), one of the reasons for group firms to perform better is the efficiency of internal market in the absence of well-developed external capital market. However, whether their argument is still valid in the country where institutional environment has undergone a sea-change still remains a question. In case of market failures in developing countries, group-affiliated firms make use of the internal capital market. On the other hand, if with the development of external financial market, the transparency of the group-affiliated firms increases so that they can access the external resources at a lower cost, then it is also possible that group-affiliated firms exhibit a better performance than stand-alone firms.

Table 8.2 Panel data regression estimates for all firms

	Tobin's Q	ROA
SIZE	−0.614*** (0.140)	−0.117*** (0 0.021)
AGE	0.062*** (0.014)	0.006* (0.003)
LEV	−2.932*** (1.065)	0.343*** (0.084)
GROUPD	4.141*** (1.303)	0.176*** (0.023)
CONS	3.117*** (0.922)	0.565*** (0.056)
AR(1)	−1.116	−1.677
AR(2)	−0.5825	−0.961

Source Author's calculations
Note (i) Figures in parentheses are standard errors
(ii) * implies significant at 1% level (iii) ** implies significant at 5% level (iv) *** implies significant at 10% level

In order to find out which of the factors are responsible for better performance of group-affiliated firms, we run a separate panel-data regression for group-affiliated firms, the results of which have been analyzed in the subsequent sections.

The control variables indicate that matured but smaller firms are better performers as against the newer and bigger firms. Further, while leverage has a positive and significant impact on firm performance measured by ROA, it has a negative and significant impact on Tobin's Q. The post-estimation results indicate the absence of serial correlations in the model. This signifies that the model is correctly specified.

Impact of different factors on the performance of group-affiliated firms

Dynamic Panel data regression model for this objective is as follows:

$$\begin{aligned} Y'it =& \alpha'_1 Y'_{it-1} + \beta'_1 GSIZE_{it} + \beta'_2 OPACit + \beta'_3 WEDGit \\ &+ \beta'_4 it + \beta'_5 AGEit + \beta'_6 SIZEit + \eta'_{\mathrm{i}} + \lambda'_{\mathrm{t}} + \varepsilon'_{\mathrm{it}} \end{aligned} \tag{8.7}$$

where Y'_{it} indicates Tobin's Q and ROA in two different models (Table 8.3).

The results from linear dynamic panel data regression model from the coefficients associated with size and opacity, all other coefficients are insignificant when performance is measured by Tobin's Q. We find that both the size and the opacity have a positive and significant impact on firm performance when Tobin's Q is the measure of firm performance. On the other hand, when performance is measured by ROA, we find that the variables like AGE, and GSIZE have a negative and significant influence on firm performance. However, SIZE has a positive and significant impact on ROA. The post-estimation results show that the model is not mis-specified, which is

Table 8.3 Dynamic panel data regression estimates for group-affiliated firms

	Tobin's Q	ROA
AGE	−0.0068083(0.0083467)	−0.0044528*(0.0015685)
SIZE	0.3687163*(0.0648605)	0.0636842*(0.0154625)
GSIZE	−1.16e-06(1.12e-06)	−2.36e-06*(8.73e-07)
OPAC	0.0119743***(0.0069002)	0.0003893(0.0004865)
WEDG	0.0033615(0.0039272)	−0.0017075(0.0012126)
IFR	0.0521213(0.0664182)	−0.0035358(0.0088228)
CONS	−1.354649(0.5308828)	−0.1299247(0.1111182)
AR(1)	−2.4967***	−1.0327
AR(2)	−0.23816	−0.97291

Source Author's calculations

Note (i) Figures in parentheses are standard errors

(ii) * implies significant at 1% level (iii) ** implies significant at 5% level (iv) *** implies significant at 10% level

evident from insignificant AR(2) both in the cases when performance is measured by Tobin's Q and ROA.

Thus, dynamic panel data regression model fails to provide any significant insights about the positive influence of the factors considered in the model. In order to find out how these factors affect the firm performance and whether these factors at all can influence the firm performance at different levels, we apply panel quantile regression method and find that the results from the panel quantile regression method are somewhat different from the ones we got from the dynamic panel data regression method.

The model for panel quantile regression for our study is as follows:

$$\begin{aligned} QY'_{it}(\tau) =& \alpha'_1(\tau)Y'_{it1} + \beta'_1(\tau)GSIZE'_{it} + \beta'_2(\tau)GDIV'_{it} \\ &+ \beta'_3(\tau)OPAC'_{it} + \beta'_4(\tau)WEDG'_{it} + \beta'_5(\tau)IFR'_{it} \\ &+ \beta'_6(\tau)AGE_{it} + \beta'_7(\tau)SIZE'_{it} + \eta'_{\mathrm{i}} + \varepsilon'_{\mathrm{it}} \end{aligned} \tag{8.8}$$

where Y'_{it} indicates Tobin's Q and ROA in two different models (Tables 8.4 and 8.5).

It is clear from the results of quantile regressions that at most of the quantiles, factors responsible for positive performance of firms when performance is measured by Tobin's Q are past performance of the firm in terms of Tobin's Q, AGE and SIZE of the firms and opacity. These indicate that matured and bigger firms are expected to show better performance in comparison to newer and smaller firms. However, AGE has a significant impact on ROA at 0.40 and 0.80 quantiles.

On the other hand, when performance is measured by ROA, the variables that have positive impact on firm performance at most of the quantiles are past performance of the firm in terms of ROA, age, opacity and internal financial capital.

Table 8.4 Panel quantile regression results for affiliated firms when performance is measured by Tobin's Q

	10	20	0.30	0.40	0.50	0.60	0.70	0.80	0.90
TQ1	0.4690* (0.025)	0.61577* (0.0183)	0.70957* (0.0175)	0.79439* (0.0018)	0.8686* (0.0182)	0.96567* (0.023)	1.0853* (0.028)	1.1869* (0.0330)	1.398* (0.040)
AGE	0.00019 (0.000)	0.00018 (0.000)	0.00018 (0.000)	0.00025*** (0.000)	0.00026 (0.000)	0.0002 (0.000)	0.0002 (0.0002)	0.00084** (0.000)	0.0009 (0.001)
SIZE	0.0015 (0.002)	0.00060 (0.0018)	0.00070 (0.0018)	0.00172 (0.002)	0.00386** (0.002)	0.0043** (0.002)	0.0064** (0.003)	0.00967** (0.0047)	0.0061 (0.010)
GSIZE	−4.24e-08 (1.02e-07)	−2.50e-08 (7.28e-08)	−7.55e-08 (7.32e-08)	−1.24e-07(8.06e-08)	−1.36e-07 (9.20e-08)	−2.10e-07 (1.33e-07)	−2.14e-07 (2.37e-07)	2.33e-07 (3.48e-07)	4.85e-07 (4.38e-07)
GDIV	0.000341 (0.00193)	0.0003 (0.002)	0.000699 (0.002)	0.0009 (0.002)	0.00045 (0.002)	−0.00049 (0.0024)	0.007 (0.0032)	−0.0022 (0.005)	0.005 (0.011)
OPAC	0.00100* (0.000)	0.00104* (0.0003)	0.00128* (0.000)	0.00189* (0.0001)	0.00219* (0.000)	0.00296* (0.000)	0.0037* (0.000)	0.0055* (0.0014)	0.0084** (0.003)
WEDG	−0.00039 (0.000)	−0.00027 (0.00029)	−0.00148 (0.000)	−0.00006 (0.000)	−0.00010 (0.000)	−0.000128 (0.000)	0.0004 (0.000)	0.00029 (0.001)	−0.001 (0.001)
IFR	−0.000166 (0.000)	0.00006 (0.00056)	0.00018 (0.0005)	0.001452 (0.000)	0.000069 (0.000)	0.00014 (0.000)	−0.00026 (0.000)	−0.00078 (0.001)	0.00248 (0.0171)
CONS	0.508397* (0.028)	0.36930* (0.0238)	0.2737* (0.0226)	0.17900* (0.0236)	0.09694* (0.0214)	0.0068 (0.0286)	−0.1185 (0.0354)*	−0.000778* (0.0468)	−0.3145 (0.095)

Source Author's calculations

Note (i) Figures in parentheses are standard errors

(ii) * implies significant at 1% level (iii) ** implies significant at 5% level (iv) *** implies significant at 10% level

Table 8.5 Panel quantile regression results for affiliated firms when performance is measured by ROA

	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90
ROA1	0.76805* (0.0209)	0.829* (0.017)	0.8619* (0.0143)	0.8954* (0.0139)	0.91633* (0.015)	0.9273* (0.014)	0.92859* (0.0134)	0.94100* (0.0142)	0.9455* (0.016)
AGE	0.000017 (0.000)	0.000083 (0.000)	0.0007 (0.000)	0.000074 (0.000)	0.000060 (0.000)	0.000125** (0.000)	0.000128** (0.000)	0.00008 (0.000)	0.0001 (0.000)
SIZE	0.00758* (0.001)	0.0034* (0.0010)	0.0141** (0.0006)	0.000267 (0.000)	−0.000896 (0.000)	−0.00208* (0.001)	−0.00257* (0.000)	−0.0038* (0.001)	−0.00698* (0.001)
GSIZE	−1.07e-07* (3.15e-08)	−5.52e-08** (3.27e-08)	−2.75e-08 (2.06e-08)	−2.92e-08 (2.03e-08)	−1.85e-08 (1.70e-08)	−8.39e-09 (2.08e-08)	−1.19e-08 (2.51e-08)	1.11e-09 (2.77e-08)	4.40e-08 (6.18e-08)
GDIV	−0.0003 (0.002)	−0.00028 (0.001)	−0.00056 (0.001)	−0.000246 (0.001)	−0.0001659 (0.000)	−0.00055 (0.000)	3.62e-06 (0.000)	0.00108 (0.0012)	0.0012 (0.0017)
OPAC	0.00029** (0.000)	0.00017** (0.000)	0.000156** (0.000)	0.00021** (0.000)	0.00023** (0.000)	0.00029* (0.000)	0.00033* (0.000)	0.0003** (0.000)	0.00045** (0.000)
WEDG	−0.000735*** (0.004)	−0.00037 (0.0002)	−0.00008 (0.000)	−0.0000326 (0.000)	0.0000378 (0.000)	−0.0000766 (0.000)	−0.00016 (0.000)	−0.000 (0.000)	0.000047 (0.000)
IFR	0.00076* (0.000)	0.000637* (0.000)	0.000657* (0.000)	0.00055* (0.000)	0.00051* (0.000)	0.00044* (0.000)	0.000218** (0.000)	0.000055 (0.000)	−0.00003 (0.0016)
CONS	−0.09680* (0.0141)	−0.0472* (0.0097)	−0.0188* (0.0066)	−0.00370 (0.007)	0.0145** (0.007)	0.3277* (0.008)	0.0490 (0.008)*	0.748* (0.0104)	0.1265* (0.151)

Source Author's calculations

Note (i) Figures in parentheses are standard errors

(ii) * implies significant at 1% level (iii) ** implies significant at 5% level (iv) *** implies significant at 10% level

The results do not indicate much difference between the top- and bottom-performing firms with respect to the factors affecting firm performance. However, for the top-performing firms, size has a negative impact on performance whereas it has a positive impact on performance for the bottom-performing firms when performance is measured by ROA.

As for the group firm characteristics, the findings suggest that opacity has a positive and significant impact on firm performance irrespective of whether the performance is measured by Tobin's Q or ROA. This indicates that monitoring effect dominates the entrenchment effect. In India, corporate sector is dominated by concentrated ownership with the control in the hands of family owners. The main characteristic of business groups is the presence of controlling shareholders.

The results indicate that the agency problem is not a big threat for firm performance in presence of ownership opacity for the group-affiliated firms. Although ownership opacity might help them to extract private benefits mainly by expropriating the wealth of the minority shareholders or tunneling, the other advantages of being opaque outweigh the negative impact of opacity. According to the entrenchment hypothesis, as firms become increasingly opaque, the extraction of firm resources by the controlling shareholders will face less and less reprisal by the minority or outside shareholders. As a result, with the increase in opacity, firm performance decreases (La Porta, Lopez-de-Silanes, and Shleifer 2002). On the other hand, the monitoring hypothesis argues that effective monitoring by the controlling shareholders will give them an additional power to increase their monitoring mechanism which usually provides competitive as well as cost advantages to the firms. These advantages generate from the fact that the firms by staying opaque have to incur less amount of expenditure for disclosing information and also by being so, they prevent their rivals from acquiring valuable information about the firms (Anderson et al. 2009). This signifies a positive relationship between opacity and firm performance. Going by these arguments, it is clear from the results that entrenchment may be subdued by propping and effective monitoring by controlling shareholders.

Extending the argument of Anderson et al. (2003) with respect to founding families to Indian group firms (typically characterized by family control), we argue that controlling shareholders of the group may be in their own interests will try for long-run survival of the firm. Moreover, group family reputation is also associated with these firms; controlling shareholders will act as committed monitors and try to safeguard not only their own interests but also that of the outside shareholders (Anderson et al. 2009). Hence, entrenchment may be subdued by propping and effective monitoring by controlling shareholders.

However, Sarkar et al. (2008) point out that one of the symptoms of agency costs in listed firms is opportunistic 'earning management' by which the firms distort the actual financial performance with an objective to gain private benefits at the cost of minority shareholders. Hence, it is also possible that the positive relationship between opacity and firm performance arises due to the manipulation of accounting information, which does not truly reflect the fundamentals of the firms. The motivation of doing so obviously comes from the underlying desire of the controlling

shareholders to conceal different ways by which they expropriate the minority shareholders for acquiring and retaining private benefits. This phenomenon comes under the entrenchment hypothesis. If this is the case, then entrenchment effect dominates the monitoring effect.

On the other hand, if we look at the wedge variable, another group firm characteristic, we find that, it has a negative but insignificant impact on firm performance. However, only at 0.10 quantile, wedge has a negative and significant impact on performance measured by ROA. Hence, the findings do not support the studies of Claessens et al. (2002); La Porta et al. (2002); Barontini and Caprio (2006); Villalonga and Amit (2006). Thus, it cannot be said that controlling shareholders of the family-controlled firms use control-enhancing mechanisms to isolate control rights from cash flow rights for expropriating private benefits (DeAngelo and DeAngelo 1985; Johnson et al. 2000), which usually leads to negative performance of the firms.

For group-level characteristics, we find that group diversification does not have any significant impact on firm performance irrespective of whether performance is measured by Tobin's Q or ROA. This refutes the findings of Kali and Sarkar (2005) and indicates that in the post-reform period, the unrelated diversification by group-affiliated firms does not help in improving their performances. This refutes the type II agency theory.

On the other hand, when firm performance is measured by ROA, the presence of internal capital market has a positive and a significant impact on firm performance at all levels of quantiles. This suggests that even with the development of external market, the group firms still enjoy the benefits of internal market. Hence, it supports the internal capital market theory. But when firm performance is measured by Tobin's Q, we find the relationship between the presence of internal capital and firm performance to be insignificant for the firms at all the quantiles. Hence, the stock market performance does not depend on internal capital as such.

The findings suggest that none of the arguments explained before (in Sect. 8.1) in support of positive or negative relationship between group affiliation and firm performance are perfectly suitable to explain the better performance of the group-affiliated firms as against the stand-alone firms in Indian manufacturing sector. However, considering the positive association between group affiliation and firm performance, it is apparent that the agency problem perhaps does not persist. Further, with the improvement in the institutional environment of the country, financial disclosures of the firm have been somewhat made mandatory and the external financial market has also been developed. This indicates that group-affiliated firms may be transparent enough to acquire external at a lesser cost than that of the stand-alone firms. Hence, from the Resource Dependency Theory perspective, the reduction in uncertainty to obtain external resources has made the affiliated firms better performers than that of the stand-alone firms. However, even with the sea-change in the external environment of Indian economy, our findings show that the ownership opacity is still present in the group-affiliated firms and surprisingly, ownership opacity has a positive influence on firm performance. This indicates that even though agency problem apparently does not exist, it can also happen that if the controlling shareholders distort the financial information, then inspite of having a positive relationship between group affiliation

and firm performance, agency problem dominates. On the other hand, the profitability of the affiliated firms is still highly affected by the internal capital market. This suggests that in the post reform period, the affiliated firms are taking advantages of both the internal and external capital market. This signifies that findings of our study do not support the institutional void theory and transaction cost theory. Instead, our findings can be explained with the help of the resource-based view and the resource dependency theory. From the resource dependency theory perspective, as the external capital market develops, the affiliated firms try to establish a link with the external actors to acquire resources, which lead to the reduction in uncertainty of getting resources. This in turn helps in improved performance of firms. On the other hand, from the point of resource-based view, the firms at the same time are also dependent on its vast and unique internal resources which can be used for increasing its dynamic capabilities to address the rapidly changing environment. With the increase in their capabilities, the firms are expected to exhibit better performance.

8.6 Conclusion

This article has examined whether group-affiliated firms outperform the stand-alone firms in the post-reform period that spans from 2000–01 to 2012–13. Our analysis is based on 14,274 numbers of BSE-listed Indian manufacturing firms, out of which 6565 numbers are group-affiliated firms and 7709 number of stand-alone firms. By applying linear dynamic panel data regression model, we find that the performance of group-affiliated firms far excels the standalone firms. In order to find the factors responsible for better performance of group-affiliated firms as against the stand-alone firms, we use both dynamic panel data regression technique and panel quantile regression method and find that ownership opacity is one of the factors for better performance of group-affiliated firms irrespective of whether the performance is measured by Tobin's Q and ROA. However, when ROA is the performance measure, along with opacity, internal financial capital also plays a significant role for improved performance of group-affiliated firms. The findings suggest that with the change in the institutional environment of the economy, agency problem may persist. While institutional void is no longer valid in the post-reform period, the positive association between group affiliation and firm performance can be explained by resource-based view and resource dependency theory.

References

Aggarwal RK, Samwick AA (2003) Why do managers diversify their firms? Agency reconsidered. J Financ 58:71–118

Amsden AH, Hikino T (1994) Project execution capability, organizational know-how and conglomerate corporate growth in late industrialization. Ind Corp Change 3(1):111–147

Anderson TW, Hsiao C (1982) Formulation and estimation of dynamic-models using panel data. J Econom 18:47–82

Anderson RC, Duru A, Reeb D (2009) Founders, heirs, and corporate opacity in the United States. J Financ Econ 92(2):205–222

Arellano M, Bover O (1995) Another look at the instrumental variable estimation of error-components models. J Econom 68:29–51

Arellano M, Bond S (1991) Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. Rev Econ Stud 58:277–297

Barney J (1991) Firm resources and sustained competitive advantage. J Manage 17(1):99–120

Barontini R, Caprio L (2006) The effect of family control on firm value and performance: evidence from continental Europe. Eur Financ Manag 12(5):689–723

Berger PG, Ofek E (1995) Diversification's effect on firm value. J Financ Econ 37:39–65

Bertrand M, Mehta P, MullainathanS (2002) Ferreting out tunneling: an application to indian business groups. Q J Econ, 121–148

Bond SR (2002) Dynamic panel data models: a guide to micro data methods and practice. Port Econ J 1(2):141–162

Blundell R, Bond S (1998) Initial conditions and moment restrictions in dynamic panel data models. J Econom 87(1):115–143

Cainelli G, Iacobucci D (2011) Business groups and the boundaries of the firm. Manag Decis 49(9):1549–1573

Caves RE (1984) Economic analysis and the quest for competitive advantage. Am Econ Rev 74(May):127–132

Chang SJ (2006) Business groups in East Asia: post-crisis restructuring and new growth. Asia Pacific J Manag 23(4):407–417

Chatterjee S, Wernerfelt B (1991) The link between resources and type of diversification: theory and evidence. Strateg Manag J 12(1):33–48

Claessens S, Djankov S, Fan JPH et al (2002) Disentangling the incentive and entrenchment effects of large shareholdings. J Financ 57:2741–2772

Claessens S, Djankov S, Lang LHP (2000) The separation of ownership and control in East Asian Corporations. J Financ Econ 58(1–2):81–112

DeAngelo H, DeAngelo L (1985) Managerial ownership of voting rights: a study of public corporations with dual-classes of common stock. J Financ Econ 14(1):33–69

Denis DJ, Denis DK, Sarin A (1997) Agency problems, equity ownership, and corporate diversification. J Financ 52(1):135–160

Encarnation D (1989) Dislodging multi-nationals: India's comparative perspective. Cornell University Press, Ithaca

Galvao AF (2011) Quantile regression for dynamic panel data with fixed effects. J Econom 164(1):142–157

George R, Douma S, Kabir R (2008) Business groups and profit redistribution: a boon or bane for firms? J Bus Res 61(9):1004–1014

Grant RM (1991) The resource-based theory of competitive advantage: Implications for strategy formulation. Calif Manage Rev 33(3):114–135

Guillén MF (2003) Experience, imitation, and the sequence of foreign entry: wholly owned and joint-venture manufacturing by South Korean firms and business groups in China, 1987–1995. J Int Bus Stud 34(2):185–198

Hann RN, Ogneva M, Ozbas O (2013) Corporate diversification and the cost of capital. J Finance 68:1961–1999

Jensen M (1986) Agency costs of free cash flow, corporate finance, and takeovers. Am Econ Rev 76:323–329
Jensen M, Meckling W (1976) Theory of the firm: Managerial behavior, agency costs and ownership structure. J Financ Econ 3:305–360
Johnson S, La Porta R, Lopez-De-Silanes F et al. (2000) Tunneling. Am Econ Rev 90(2):22–27
Kali R, Sarkar J (2011) Diversification and tunneling: evidence from Indian business groups. J Comp Econ 39(3):349–367
Kali R, Sarkar J (2005) Diversification and tunneling: evidence from Indian business groups. J Comp Econ 39(3):349–367
Khanna T, Palepu K (2000) Is group affiliation profitable in emerging markets? An analysis of diversified Indian business groups. J Financ 55(2):867–892
Khanna T, Yafeh Y (2007) Business groups in emerging markets: paragons or parasites?. J Econ Lit 45(2):331–372
Koenker R (2004) Quantile regression for longitudinal data. J Multivar Anal 91:74–89. https://doi.org/10.1016/j.jmva.2004.05.006
La Porta R, Lopez-de-Silanes F, Shleifer A et al. (2002) Investor protection and corporate valuation. J Finance 57:1147–1170
Lang LHP, Stulz RM (1994) Tobin's Q, corporate diversification, and firm performance. J Polit Econ 102:1248–1280
Langlois RN (2013) Business groups and the natural state. J Econ Behav Organ 88:14–26
Martin JD, Sayrak A (2003) Corporate diversification and shareholder value: a survey of recent literature. J. Corp Financ 9:37–57
Matsusaka JG, Nanda V (2002) Internal capital markets and corporate refocusing.J. Financ Intermed 11:176–211
Meyer M, Milgrom P, John RJ (1992) Organizational prospects, influence costs, and ownership changes. J Econ Manag Strategy 1(1):9–35
Mishra A, Akbar M (2007) Empirical examination of diversification strategies in business groups: evidence from emerging markets. Int J Emerg Mark 2:22–38
Montgomery CA (1994) Corporate diversification. J Econ Perspect 8(3):163–178
Myers SC, Majluf NS (1984) Corporate financing and investment decisions when firms have information that investors do not have. J Financ Econ 13:187–221
Morck R, Yeung B (2003) Agency problems in large family business groups. Entrep Theory Pract 27(4):367–383
Nayyar PR (1993) Performance effects of information asymmetry and economies of scope in diversified service firms. Acad Manage J 36:28–57
North D (1990) Institutions, institutional change, and economic performance. Cambridge University Press, Cambridge
Pfeffer J, Salancik GR (2003) The external control of organizations: a resource dependence perspective. Stanford University Press, California
Holtz-Eakin D, Newey W, Rosen HS (1988) Estimating vector Autoregressions with panel data. Econometrica 56(6):1371–1395
Rajan R, Servaes H, Zingales L (2000) The cost of diversity: the diversification discount and inefficient investment. J Finance 55:35–60
Roodman D (2009) How to do xtabond2: an introduction to difference and system GMM in stata. Stata J 9:86–136
Sarkar J, Sarkar S (2008) Debt and corporate governance in emerging economies: evidence from India. Econ Transit 16(2):292–334
Sarkar J (2010) Business groups in India. In: Asli MC, Takashi H, James RL (ed), The Oxford handbook of business groups, Oxford University Press
Sarkar J, Sarkar S (2000) Large shareholder activism in corporate governance in developing countries: evidence from India. Int Rev Financ 1(3):161–194
Shin H, Stulz RM (1998) Are capital markets efficient?. Q J Econ 113:531–553

Shleifer A, Vishny R (1989) Management entrenchment: the case of manager specific investments. J Financ Econ 25:123–140
Singh DA, Gaur AS (2009) Business group affiliation, firm governance and firm performance: Evidence from China and India. Corp Gov Int Rev 17(4):411–425
Villalonga B, Raphael A (2006) How do family ownership, control and management affect firm value?. J Financ Econ 80(2):385–417
Wernerfelt B (1984) A resource-based view of the firm. Strateg Manag J 5:171–180
Williamson O (1967) Hierarchical control and optimum firm size. J Polit Econ 75(2):123–138
Yiu D, Bruton GD, Lu Y (2005) Understanding business group performance in an emerging economy: acquiring resources and capabilities in order to prosper. J Manag Stud 42(1):183–206

Chapter 9
Related Party Transactions and Stock Price Crash Risk: Evidence from India

Ekta Selarka and Subhra Choudhury

Abstract Related Party Transactions disclosures in Annual Reports have recently gained more attention of the Indian policymakers. This paper aims at finding out the effect of related party transactions disclosure on the stock price crash risk faced by the firms. Using a large sample of all the NSE listed firms for the period 2005–2012 this study provides evidence that related party disclosure is associated with a decrease in the stock price crash risk faced by the firms. This finding is consistent with the view that information asymmetry increases crash risk. In addition to this, the study finds that such decrease is observed more in the firms with higher risk.

9.1 Introduction

Corporate governance literature has emphasized the role of extent and quality of corporate disclosures in the context of protecting shareholder's interests. In this context, related party transactions (RPTs) have emerged as one of the recurring areas of concern in both developed as well as developing economies. These transactions are often diverse complex business transactions between a company and its key personnels, directors, or principal owners. As a result, not only they are considered difficult to audit but also abuse of such transactions can be detrimental to minority shareholder's wealth (Johnstone and Bedard 2004; OECD 2012). This is consistent with the conflict of interest hypothesis (Jensen and Meckling 1976). On the other hand, related party transactions that are carried out at "arm's length" can reduce transaction costs and further increase the profitability of the company thereby increasing the overall value to the shareholders. This is consistent with efficient contracting or efficient transactions hypothesis (Kohlbeck and Mayhew 2004; Gordon et al. 2004). These conflicting hypotheses suggest that effect of disclosing RPT is an empirical question that captures the tradeoff between a) management's incentive to report competitive transactions and thereby reduce the agency risk in share price and b)

E. Selarka (✉) · S. Choudhury
Madras School of Economics, Chennai, India
e-mail: ekta@mse.ac.in

A. Chakraborty and I. Chakraborty (eds.), *Indian Business Groups and other Corporations*, India Studies in Business and Economics,
https://doi.org/10.1007/978-981-99-5041-6_9

a source of entrenchment by management or insiders and increase the agency risk in share price. In this study, we investigate the relationship between disclosure of RPT and stock price crash risk. Our study aims to contribute to an emerging area of research examining RPTs that has evolved due to the role RPTs have played in a number of audit and accounting failures around the world (Erickson et al. 2000; Gordon et al. 2004; Shastri and Kahle 2003).

Theoretical models incorporating incomplete transparency predict that occasional (individual firm) stock price crashes occurs as accumulated negative firm-specific information suddenly becomes publicly available (Jin and Myres 2006). Empirical studies have found a link between information opacity crash risk (Hutton et al. 2009). Managers are motivated to withhold negative information due to a wide range of incentives, such as compensation contracts, career concerns, and empire building (Ball 2009; Kothari et al. 2009). Therefore, stock price crashes are likely to occur among firms with high agency risk as withholding, delaying or accumulating the disclosure of bad news is unsustainable for long periods and will eventually lead to significant stock price crashes when the true fundamentals unexpectedly reveal an enormous amount of negative information in the market (Bleck and Liu 2007; Callen and Fang 2013). Notwithstanding with measures to improve market efficiency and liquidity that accommodates the flow of information in the market, stock market regulators around the world have also focused upon higher information disclosure of publicly available information through regulated laws and highlighting voluntary best practices which can become norms in future course of time. In this context, agency perspective predicts positive effect of disclosure about RPTs in affecting stock price crash risk by reducing the information asymmetry associated with corporate transactions.

Studies have shown that firms in developed countries also use RPT as a means to transfer out income and assets for the benefit of those who control them (Johnson et al. 2000). Empirical studies from both developed and developing countries have found significant effects of corporate governance mechanisms on mitigating agency costs. With respect to stock price crash risk, a study by Andreou et al. (2016) shows insiders' ownership, accounting conservatism, board size and the presence of a corporate governance policy mitigate crash risk.

In the context of corporate governance in concentrated ownership structures conflict of interest between minority shareholders and majority shareholders can accentuate as these structures give opportunities of "tunneling" corporate resources. Concentrated ownership and business groups are norms in the emerging and transition countries (Claessens et al. 2002). Business group ownership structures in general have larger scope for RPTs due to access to the internal capital market. These businesses can further use their pyramidal structures to conduct related party transactions to inflate or deflate their profits in order to evade taxation, to manipulate their earnings either upward or downwards, to decrease shareholder return, or simply to maximize the individual benefit of the executive officers. Withholding RPT information increases information asymmetry in the market. This in turn adversely affects the transparency in fundamental the value of the firm and increases the crash risk,

as elaborated in the previous section. When this type of activity is undertaken by a large number of firms it will have cascading effect on the equity market as a whole.

To build our hypotheses that link agency risk with crash risk, we look at the empirical literature along the following dimensions. The first set of studies focuses on (1) the impact of RPTs on firm valuation, (2) association of RPTs with strategic corporate decisions that directly capture agency costs, and (3) agency perspective in explaining the crash risk. RPTs have found to negatively affect the company's operating performance measured by return on assets of Indian companies. Jian and Wong (2010) find evidence for propping of earnings through related party sales in Chinese SOEs. Cheung et al. (2009) document evidence on tunneling and propping through related party transactions associated with controlling owners. The authors also find that information disclosure is significantly less (more) with RPTs representing tunneling (propping). With respect to the firm valuation associated with RPTs, Kohlbeck and Mayhew (2010) find that firms disclosing RPTs have significantly lower market valuation. Using earnings management as a measure of opacity which is also associated with agency cost, Hutton et al. (2009a, b) find that opaque firms which reveal that less information are more prone to stock price crashes. Further, the market can comprehend information related to extraction of private benefits and react in the form of crash risk. For example, excess perks are positively correlated with crash risk in Chinese SOEs (Nianhang et al. 2014). The authors argue that to enjoy more perks, executives build up their empire by pretending to have valuable investment opportunities, which is, in turn, masked by presenting the firm's good performance. The aforementioned diversions of firm resources incentivize executives to withhold bad news for extended periods. Bad news hoarding eventually reaches a tipping point and leads to a stock price crash. However, strong external monitoring makes it harder for executives to withhold bad news from investors and, in turn, can mitigate the impact of excess perk consumption on crash risk.

Taking the evidence together, we hypothesize that the empirical nature of association between related party transactions and stock price crash risk allows us to investigate the direct link between the agency cost factored in and the price risk. Our study contributes to the existing literature on corporate decisions affecting the future stock price crash risk by focusing on RPTs which are perceived as to contribute to agency risk in share price due to intrinsic opacity and lack of control by shareholders especially in emerging markets with dominance of concentrated ownership structures.

Our study adds to understanding of the impact of disclosure effects of RPTs in an emerging market context where despite being a strong institutional framework in place, enforcement of regulation remains as a challenge. India as our country of study is a natural choice where one of the biggest accounting frauds came to light when insiders attempted to indulge into RPTs to cover manipulation of earnings.[1] This further led to the mandate on RPT disclosures enacted through Companies Act

[1] In 2008 board of Satyam Computers chaired by the promoter Mr. B. Ramalinga Raju put forward a proposal to buy a company Maytas, which was owned by relatives of the Satyam promoter. This deal was further called off due to resistance from the investors. Following the disapproval, on January 7, 2009 Mr. Raju resigned from the chairmanship and confessed about fudging the accounts of

2013. In addition to the disclosure, these RPTs should be approved by the board of directors. The link between information disclosure and stock price crash risk motivates us to investigate if the stock price crash risk faced by firms can be explained by RPT disclosure keeping all other things constant. Our results show that disclosure of RPTs is associated with reduction in stock price crash risk after controlling for other variables that affect stock price crash risk. Additionally, such effect is only present for firms with higher price risk in general.

This paper is organized as follows. The next section presents the institutional framework and laws governing such parties and transactions in India. Section 9.3 describes the data and methodologies that we use to analyze the empirical question. Section 9.4 presents the empirical findings and Sect. 9.5 concludes our study.

9.2 Related Party Transactions in India: The Institutional Context

Over the last decades, related party transactions have gained more importance in the Indian economy. There had been several amendments in the related regulations:

1. The Companies Act, 1956
2. Indian Accounting Standard 18
3. Clause 49 of the Listing Agreement
4. Companies Act, 2013.

9.2.1 The Companies Act, 1956

The Companies Act, 1956 has governed Indian companies. Prior to the amendment in 1999, it had provided limits on investment by a company in other corporate bodies, whether in the same group or outside the group (Sections 372 and 370). Similar limits were applied to inter-corporate loans as well as loans that could be advanced to companies in the same group. After a special resolution is passed in the general meeting, central government approval was required for loans exceeding this limit (Ramaiya, 1988). This law was amended and Section 372A was introduced. This provision now applies to include inter-corporate loans deposits, investments, guarantees, and securities in connection with loans to another public body corporate. Any transactions beyond the specified limits need approval by the annual general meeting through a special resolution. This does not apply for the loans given to any individual firm, trust, or mutual fund. It also mentions about penalty if this is violated. Section 299 of the Act requires the disclosure of interest by a director in a

the company of over Rs. 7800 crore. Profits, cash flows and income for the firm were inflated. To justify this, the company had to carry additional amount of resources and assets. To fill this gap the decision to buy Maytas was taken.

board meeting in case the director is interested in any contract that the company is proposing to enter into.

9.2.2 Indian Accounting Standard 18

The Indian Accounting Standard 18 (Ind AS 18) covers the disclosure requirement of RPTs. Detailed definition of related parties under Ind AS18 is given in Box 1 of Appendix. There is no specific format for reporting RPTs under AS18. It gives a provision for aggregating the transactions that are less than 10 percent of the monetary value of the total transactions of the same nature. The requirement of disclosure includes:

- Name of the related parties involved in transactions;
- Description of the relationship between the involved parties;
- Description of the nature of transactions between them;
- Volume of the transactions done either as an amount or as an appropriate proportion
- Any other necessary elements of related party transactions or an understanding of the financial statements; and
- Amount or appropriate proportions of outstanding items.

9.2.3 Kumar Mangalam Birla Committee Report and Clause 49

In early 1999 a committee was set up under the leadership of Mr. Kumar Mangalam Birla, which focused on promoting and raising the standards of good corporate governance in India. In the year 2000, stock market regulator, Securities and Exchange Board of India (SEBI) accepted the key recommendations of Birla committee and incorporated these into Clause 49 of the Listing Agreement of the Stock Exchanges. Clause 49 requires a company to (voluntarily) disclose materially significant related party transactions that may have potential conflict with the interests of company at large, this may include transactions of material nature, with the promoters, the directors or the management, subsidiaries of the company or relatives etc.

9.2.4 Companies Act, 2013

The Companies Act 2013, brought about some changes in provisions for related party transactions. However, most of the provisions under Section 188 of 2013 Act

are quite similar to the requirements under Sections 297 and 314 of the 1956 Act. Some of the important changes as in the 2013 Act include the following:

- Need for central government approval for loans exceeding the permissible limit was removed.
- It widened the list of transactions such as leasing of property of any kind, appointment of any agent for purchase and sale of goods, material, services or property.
- Cash at prevailing market price was replaced with 'arm's length transaction'.
- Related party transactions have to be included in the board's report along with justification for entering into such contracts and arrangements.

Other than these, The Income Tax Act 1961 also contains provisions related to transfer pricing issues on related party transactions.

International Accounting Standard, IAS 24, of IFRS was issued at 1st January 2012 which provides the international definition of Related Party transactions and lays down the norms for related party disclosures. It defines a related party transaction as "a transfer of resources, services or obligations between a reporting entity and a related party, regardless of whether a price is charged". Under IAS24, any entity involving in any related party transactions during periods covered by the financial statements is required to disclose about the nature of the related party relationship. At a minimum level, disclosures shall include the amount of transactions and outstanding balances inclusive of commitments, terms and conditions of the transactions, details of any guarantees received or given, provision of doubtful debts and the expenses with respect to doubtful debts respectively. Disclosures should be done separately for "the parent, entities with joint control or significant influence over the entity, subsidiaries, associates, joint ventures in which the entity is a venture, key management personnel of the entity or its parent and other related parties".

Finally, a peer comparison of countries with regulation of RPT disclosure shows that most of the countries like Belgium, France, Italy, Israel, Brazil, Russia, South Africa follow IFRS for their definition of Related Parties and disclosure norms. China diverges somewhat from the IFRS because of its different ownership structure. China does consider the transactions between state owned enterprises as Related Party Transactions. However, there are some minor differences across the countries. For example, Belgium applies IAS 24 rules on the consolidated accounts. The French legal system makes a distinction between "related party transactions" which are accounted for and reported according to IAS 24 standards within the context of consolidated company group accounts, and a specific approval process called "conventions réglementées" (literally this can be translated as "regulated agreements"). Brazil requires disclosure according to IAS 24 both in the consolidated and individual account. In South Africa, it has been expanded beyond IAS 24 to include related-party transactions with jointly controlled entities, and to include related-party transactions where both parties are controlled by the state. Other countries like Chile and Korea does not follow IAS 24. Chile's Companies Law states that a listed company can only undertake a Related Party Transaction (RPT) if the transaction complements the company's social interest, is conducted according to market practices, and is

disclosed to and approved by the majority of the board. Most of the countries have a threshold limit. Any related party transaction above that limit is considered to be material and it must be disclosed. At present, Indian Accounting Standards does not follow IFRS. However, with the Ind IAS 24, India is also trying to converge with the international norms.

9.3 Data, Hypotheses and Methodology

We draw our basic samples from 1757 firms listed on National Stock Exchange (NSE) between 2005 and 2012 from Prowess database maintained by the Center for Monitoring Indian Economy. Selection of 2005 as the first period of study is motivated by the fact that by this time corporate governance regulations were extended to all listed firms. Similarly, selection of 2012 as end period in our study is chosen as new Companies Act was enacted in 2013 followed by which there is a sharp increase in number of firms reporting RPTs. As voluntary disclosure of RPT is crucial to our study we stop at year 2012. Further, we exclude financial companies and observations information on ownership structure, stock prices and financial variables are not available. Our final sample includes 1478 companies over period of 2005–2012. Data on RPT is available for different types of related parties i.e. Subsidiaries, holding company, parties where control exists, Key personnel and their relatives, and others respectively. Under each type of related party the transactions are available across capital account payments and receipts, and total revenue income and expenditure. Table 9.1 shows the distribution of firms disclosing RPTs across our sample firms. It is evident that majority of firms engage into RPTs.

The testable hypotheses are defined as follows:

H1: Related Party Disclosures Decrease the Crash Risk Faced by the Companies

This prediction of negative relation is based on the fact that disclosure of related party transactions decreases the information asymmetry in the market, which is one

Table 9.1 Distribution of firms disclosing RPT over sample period

Fiscal year	No. of firms	Firms disclosing RPT (%)
2005	1201	1044 (0.87)
2006	1296	1161(0.89)
2007	1336	1239(0.93)
2008	1365	1285(0.94)
2009	1406	1297(0.92)
2010	1439	1334(0.93)
2011	1460	1369(0.94)
2012	1450	1374(0.95)

of the factor responsible for elevating the crash risk faced by a company and hence it decreases the crash risk faced by the company.

H2: Related Party Disclosures Decrease the Crash Risk for the Companies with Higher Crash Risk

The effect of RPT disclosure on risk may not be the same for all levels of risk. Acceptance of this hypothesis implies that companies with higher risk can decrease their risk by disclosing the related party transactions. Companies with low crash risk have low information asymmetry and high investor confidence. For such companies disclosure may not have any effect. However, for companies with high crash risk have high information asymmetry in general, disclosure of RPT reduces information asymmetry and decreases risk.

We use two measures of crash risk—negative conditional skewness (NCSKEW) and down-to-up volatility (DUVOL) respectively computed from firm-specific daily returns. Firm specific daily returns are estimated using the natural log of one plus residual returns, denoted by W from the following extended market model:

$$r_{j,t} = \alpha + \beta_{1,j} r_{m,t-2} + \beta_{2,j} r_{m,t-1} + \beta_{3,j} r_{m,t} + \beta_{4,j} r_{m,t+1} + \beta_{4,j} r_{m,t+2} + \varepsilon_{i,t}$$

where $r_{j,t}$ is stock j's daily return on trading day t, and $r_{m,t}$ is daily market return (NIFTY index) on trading day t. Two days of lag and lead are added to account for the effect of non-synchronous trading.

The Negative Conditional Return Skewness (NCSKEW): NCSKEW for a given firm in a fiscal year is calculated by taking the negative of the third moment of firm-specific daily returns for each sample year and dividing it by the standard deviation of firm-specific daily returns raised to the third power (Chen *et. al.* 2001).

Specifically, for each firm j in year t, we compute NCSKEW as

$$NCSKEW_{j,t} = -\frac{\left[n(n-1)^{\frac{3}{2}} \sum W_{1t}^3\right]}{\left[(n-1)(n-2)\left(\sum W_{1t}^2\right)^{\frac{3}{2}}\right]}$$

Here, n is the number of firm-specific return observations during year t.

The Down-to-up Volatility (DUVOL): For any stock jin year t we separate all the days with returns below the period mean ("down" days) from those with returns above the period mean ("up" days), and compute the standard deviation for each of these subsamples separately. We then take the log of the ratio of (the sample analog to) the standard deviation on the down days to (the sample analog to) the standard deviation on the up days. Thus we have

$$DUVOL_{j,t} = \log\left\{\frac{\left[(n_U - 1)\sum_{DOWN} R_{j,t}^2\right]}{\left[(n_d - 1)\sum_{UP} R_{j,t}^2\right]}\right\}$$

where R_{jt} represents the sequence of de-meaned daily returns to stock j during period t; n_U and n_d are number of days when the price moved up and down respectively. In both the cases a higher value indicates a greater crash risk.

Finally, we estimate the following equation:

$$\text{crash\_risk}_{it+1} = \beta_0 + \beta_1 RPT_t + \beta_k X_{kit} + \varepsilon_{it} \tag{9.1}$$

where crash_risk is measured in terms of NSKEW and DUVOL, RPT is a dummy variable that takes a value of 1 if the company has reported RPT under any category, zero otherwise. Vector X is a set of firm-specific control variables. Specifically control variables include standard deviation of weekly returns (SIGMA), average weekly returns (RET), log of market capitalization (SIZE), long term debt to total assets (LEV), return on asset (ROA), promoter shareholding (PROM) and market to book value ratio (MBVR). We also include group dummy that equals one if the firm belongs to business group and zero otherwise. Finally, all the regression specifications include industry dummy variables constructed from two-digit National Industrial Classification (NIC) to account for industry specific business cycles and year dummies to account for time effects.

For robustness, we also estimate a logistic regression to see how the amount of RPT disclosed affects the probability of facing a crash risk as:

$$\log(odds\_crash\_risk_{it+1}) = \beta_0 + \beta_1 \log(RPT_t) + \beta_k X_{kit} + \varepsilon_{it}$$

For **H2** we run quantile regressions for the Eq. (9.1) at different quantiles.

9.4 Empirical Results

Figure 9.1 shows crash price risk of all the NSE listed firms across years and Fig. 9.2 shows the same according to the ownership categories. In 2008 crash risk faced by the firms increased. From Fig. 9.2 it can be seen that the foreign firms listed in NSE were more affected by the crisis.

Table 9.2 presents the descriptive statistic for all the variables. The mean value for NCSKEW is −0.48 and for DUVOL is −0.32. This suggests that the sample studied

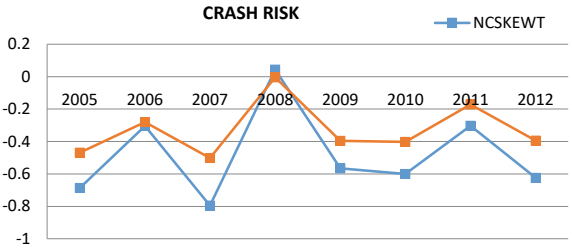

Fig. 9.1 Crash risk over years

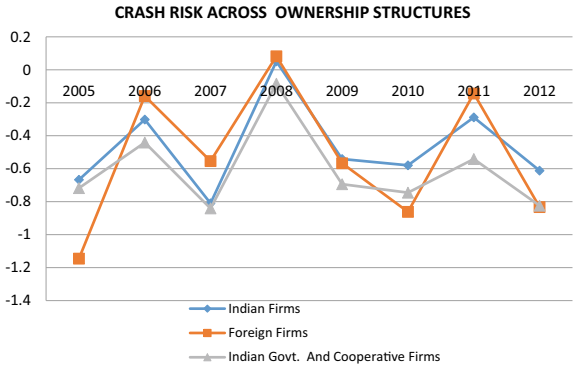

Fig. 9.2 Crash risk over years for different ownership structures

is not crash prone on an average and our analysis is not drawn on firms facing crash risk in general. On an average 85% of our sample firms report at least one RPT. Initial observation shows that transactions by RP except key personnels and relative account for 51% of the RPT disclosures where type of RP is a subsidiary. Second major category of RPT is where RP is "key personnels and relatives" which accounts for 36% of RPTs. With respect to the type of RPT, RP expenditures account for 34% of RPTs, RP sales accounting for 15%, RP current receivables accounting for 18% and RP loans accounting for 10% respectively.

Table 9.3 shows the correlation coefficients for all variables. Both the measures of risk, NCSKEW and DUVOL are highly correlated, with a correlation coefficient of 0.86. RPT is negatively related to both the crash risks.

H1 predicts that RPT disclosure is negatively related to future stock price crash risk because it reduces information asymmetry in the market. Tables 9.4, 9.5 and 9.6

Table 9.2 Descriptive statistics for all variables

Variables	Mean	S.D	5 percent	25 percent	Median	75 percent	95 percent
Risk Measures							
NCSKEW	−0.478	1.025	−1.746	−0.940	−0.459	-0.074	0.594
DUVOL	−0.324	0.427	−0.939	−0.588	−0.331	-0.084	0.295
RPT	0.85	0.35	0	1	1	1	1
Control Variables							
RET	0.000	0.005	−0.007	−0.002	0.000	0.002	0.005
SIGMA	0.035	0.012	0.019	0.028	0.034	0.041	0.053
ROA	0.910	0.898	0.062	0.384	0.790	1.228	2.188
LEV	0.430	1.690	0.010	0.144	0.315	0.474	0.794
SIZE	7.789	2.134	4.598	6.283	7.610	9.195	11.556
PROM	51.78	17.87	20.25	40.34	52.59	64.8	78.16
MBVR	2.252	15.88	0.118	0.665	1.304	2.627	7.346

Table 9.3 Correlation coefficients

	DUVOL	NCSKEW	RPT	RET	SIGMA	ROA	LEV	SIZE	PROM	MBVR
DUVOL	1									
NCSKEW	0.8553	1								
RPT	−0.0075	−0.0137	1							
RET	0.1743	0.1401	0.009	1						
SIGMA	−0.0774	−0.0362	−0.1677	−0.0042	1					
ROA	−0.0341	−0.0213	0.0327	0.0665	−0.0316	1				
LEV	0.0259	0.02	−0.0339	−0.0145	0.0742	−0.06	1			
SIZE	0.0804	0.0512	0.2499	−0.1251	−0.4935	−0.0791	−0.1173	1		
PROM	−0.0368	−0.0324	0.1151	0.0375	−0.079	0.1185	−0.07	0.1571	1	
MBVR	−0.0024	−0.0035	0.0357	0.0033	−0.0423	0.0285	−0.0134	0.1041	0.0365	1

present the multivariate regression analyses for testing H1, with the full set of control variables. In each of these tables Model 1 uses NCSKEW as a risk measure, model 2 uses DUVOL and model 3 uses a cross measure of both NCSKEW and DUVOL. Model 3 considers a firm to be risky if and only if it is risky by both the measures. Tables 9.4 and 9.5 use the pooled regression method with industry and year dummies. To alleviate concern about potential cross-sectional dependence in the data, we report z-values using robust standard errors corrected for industry clustering.

Table 9.4 reports that the coefficient of RPT is −0.084 and −0.034 respectively. This implies that on average, with other things remaining constant, for firms disclosing RPT crash risk is lower than those not disclosing RPT by 0.084 (for NCSKEW) and 0.034 (DUVOL).

Table 9.4 Effects of RPT disclosure on stock price crash risk (pooled)

	$NCSKEW_{T+1}$	$DUVOL_{T+1}$
RPT Measures		
RPT_T	−0.084***	−0.034**
	(−3.810)	(−2.350)
Control Variables		
RET_T	40.424***	21.641***
	(8.490)	(−3.81)
$SIGMA_T$	3.070***	1.397***
	(3.010)	(−3.27)
ROA_T	−0.005	−0.005
	(−0.200)	(−1.070)
LEV_T	0.058***	0.029**
	(2.850)	(−2.22)
$SIZE_T$	0.044***	0.023***
	(12.670)	−17.57
$PROM_T$	−0.002***	−0.001***
	(−3.910)	(−4.310)
$MBVR_T$	−0.001	0
	(−1.150)	(−1.260)
Intercept	−1.093***	−0.665***
	(−16.740)	(−28.020)
Group dummy	Yes	YES
Industry dummy	Yes	YES
Year dummy	Yes	YES
R2	0.097	0.19

Note Here *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Here a pooled OLS model has been used

Table 9.5 Effects of RPT disclosure on stock price crash risk (pooled logit)

	$NCSKEW_{T+1}$	$DUVOL_{T+1}$	BOTH $NCSKEW_T$ and $DUVOL_T$
RPT Measures			
RPT_T	−0.033*	−0.045***	−0.047***
	(−1.870)	(−4.820)	(−5.700)
Control Variables			
RET_T	65.394***	53.798***	69.252***
	(13.960)	(−6.7)	(−14.16)
$SIGMA_T$	5.114*	5.371*	4.142
	(1.670)	(−1.72)	(−1.28)
ROA_T	−0.133***	−0.056*	−0.125***
	(−6.420)	(−1.630)	(−4.090)
LEV_T	0.170***	0.069	0.084*
	(2.960)	(−1.27)	(−1.79)
$SIZE_T$	0.152***	0.132***	0.156***
	(20.200)	(−10.21)	(−13.1)
$PROM_T$	−0.004***	−0.005***	−0.005***
	(−3.660)	(−4.020)	(−4.190)
$MBVR_T$	0.000	0	0
	(0.000)	(−0.150)	(−0.250)
Intercept	−3.463***	−3.598***	−3.893***
	(−18.020)	(−14.780)	(−14.280)
Group dummy	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes
Year dummy	Yes	Yes	Yes
Pseudo-R2	0.097	0.118	0.109
Marginal effect of RPT_{t-1}	*−0.0048**	*−0.0057****	*−0.0051****
(at means)	*(−1.83)*	*(−4.61)*	*(−5.15)*

Note Here *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively

Finally, Table 9.6 presents the results of the effects of RPT on stock price crash risk (Logit model in a panel data frame work).

Tables 9.5 and 9.6 test the primary hypotheses using logistic regression. Table 9.5 uses a pooled regression where the coefficients of RPT_t are −0.033, −0.045 and −0.047 for models 1, 2 and 3 respectively. This implies that disclosure of RPT is negatively related to stock price crash risk.

In the above regression setup we included year dummy and industry dummy variables to control for year and industry heterogeneity. However individual firm heterogeneity was not captured in the above model. So next in Table 9.6, we used the same regression in a panel data frame work. Under this setup also the results were

Table 9.6 Effects of RPT on stock price crash risk (panel logit)

	$NCSKEW_{T+1}$	$DUVOL_{T+1}$	BOTH $NCSKEW_{T+1}$ and $DUVOL_{T+1}$
RPT Measures			
RPT_T	−0.036**	−0.051***	−0.052***
	(0.016)	(0.017)	(0.018)
Control Variables			
RET_T	86.574***	82.011***	91.045***
	(7.784)	(8.066)	(8.554)
$SIGMA_T$	−16.956***	−22.137***	−19.020***
	(3.246)	(3.479)	(3.684)
ROA_T	−0.133**	−0.077	−0.133**
	(0.053)	(0.053)	(0.058)
LEV_T	0.211***	0.095*	0.101**
	(0.069)	(0.049)	(0.049)
$SIZE_T$	0.141***	0.119***	0.146***
	(0.018)	(0.019)	(0.020)
$PROM_T$	−0.006***	−0.007***	−0.007***
	(0.002)	(0.002)	(0.002)
$MBVR_T$	0.000	0.000	0.000
	(0.002)	(0.002)	(0.002)
Intercept	−1.569***	−1.341***	−1.823***
	(0.239)	(0.246)	(0.260)
Group dummy	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes

Note Here *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively

similar. Here the coefficients of RPT_{t-1} are −0.036, −0.051 and −0.052 respectively. This implies that disclosure of RPT is negatively related to stock price crash risk. The marginal effect of RPT_{t-1} on NCSKEW, DUVOL and Both NCSKEW and DUVOL are −3.59%, −5.12% and −5.2% respectively. All the Marginal effects are significant. This implies that for every percentage increase in the amount of RPT disclosed the probability of a firm facing a stock price crash decreases by the above percentages.

Given that on an average 20.9% (by NCSKEW measure) and 18.4% (by DUVOL measure) of listed firms in India face crash risk. These findings provide suggestive evidence that an association between crash risk and RPT disclosure is important for the economy as a whole.

The coefficients of the control variables are generally consistent with the findings of prior studies. $PROM_t$ is negatively related to crash risk. This is consistent with the efficient monitoring hypothesis which implies that higher control rights with

controlling shareholders reduces the crash risk due to their incentives to monitor the management. $SIGMA_t$, RET_t, $SIZE_t$, LEV_t have positive impact on the crash risk and ROA_t is negatively related. $MBVR_t$ is insignificant in all the cases.

H2 predicts that RPT disclosure reduces stock price crash risk for the high risk companies. Effect of RPT disclosure may not have the same effect for all the firms. Companies where crash risk is very high indicates that information asymmetry is very high which implies that for such companies RPT disclosure reduces the information asymmetry in the market and hence reduces stock price crash risk. On the other hand, companies with lower crash risk have lower information asymmetry and therefore have higher investors' confidence. For such companies disclosure of RPT may not have any significant effect.

Table 9.7 presents the multivariate regression analyses for testing H2, with the full set of control variables. We use a quantile regression for this purpose. We estimate the relationship between RPT disclosure and crash risk at 5 percent, 10 percent, 25 percent, 50 percent, 75 percent, 90 percent and 95 percent quantiles of crash risk respectively. Industry and year dummies have been included to account for year and industry heterogeneity which may contribute to the crash risk of the stock irrespective of disclosure practices. RPT measure is a dummy variable which takes the value 1 if the company discloses RPT else it is 0. To assign firms in crash risk quantiles, DUVOL has been used as a measure of stock price crash risk. Regression coefficient for RPT variable was significant for 50% (−0.025), 75% (−0.045), 90% (−0.048) and 95% (−0.074) quantiles respectively. It is insignificant for the quantiles below 50%. This shows that PRT disclosure does not have the same effect on crash risk for all levels of risk. RPT disclosure reduces crash risk for the companies with very high crash risk. Also, it can be noted that the absolute value of the coefficient increases from 50 percent quantile to 95 percent quantile. This implies that the impact of RPT disclosure on crash increases with the risk level of the company.

9.5 Conclusion

This study investigates the effect of related party disclosure on the stock price crash risk using a sample of Indian firms during a period 2005–2012. Given the concentrated ownership structure which leads to higher information asymmetry our study contributes to the literature by examining the role of information disclosure of corporate transactions. Our findings show that related party disclosure decreases by the crash risk faced by the companies. The results obtained are robust to the use of different crash risk measures. The results are also robust to the different models and approaches used for the study. Overall our findings are consistent with the asymmetric information aspect of RPT disclosure. RPT disclosure reduces the information asymmetry in the market about a stock and thus reduces its crash risk.

Our analysis also shows that RPT disclosure reduces the crash risk for the companies with very high crash risk and has no significant effect fir the companies with low risk. The effect is greater for the higher risk companies.

Table 9.7 Effects of RPT on stock price crash risk (Quantile regression)

	95 Quantile	90 Quantile	75 Quantile	50 Quantile	25 Quantile	10 Quantile	5 Quantile
RPT Measures							
RPT_T	−0.074***	−0.048**	−0.045***	−0.025**	−0.016	−0.021	0.009
	(−2.860)	(−2.400)	(−3.060)	(−1.990)	(−1.340)	(−1.230)	(0.360)
Control Variables							
RET_T	20.159***	15.893***	13.273***	13.637***	11.892***	10.772***	5.694***
	(3.580)	(5.100)	(7.890)	(11.070)	(11.410)	(7.740)	(2.680)
$SIGMA_T$	−0.691	1.368	2.105***	2.115***	1.501***	2.038***	2.132***
	(−0.480)	(1.490)	(3.570)	(4.470)	(3.320)	(2.990)	(2.720)
ROA_T	−0.009	−0.006	−0.005	−0.008	−0.004	0.001	−0.006
	(-0.610)	(-0.530)	(-0.640)	(-1.150)	(-0.590)	(0.150)	(-0.500)
LEV_T	0.096***	0.071***	0.043***	0.013**	0.020***	0.021***	0.028***
	(9.040)	(8.550)	(6.170)	(2.180)	(2.950)	(3.650)	(3.600)
$SIZE_T$	0.016***	0.018***	0.024***	0.028***	0.029***	0.030***	0.018***
	(2.540)	(3.910)	(7.560)	(11.460)	(13.390)	(9.990)	(4.510)
$PROM_T$	−0.001*	−0.001	−0.001***	−0.001***	−0.001***	−0.001***	−0.001***
	(−1.760)	(−1.300)	(−3.100)	(−4.710)	(−4.290)	(−3.620)	(−2.880)
$MBVR_T$	0.000*	0.000	0.000	0.000	0.000**	0.000***	−0.001**
	(1.710)	(1.420)	(0.010)	(−1.100)	(−2.100)	(−3.110)	(−2.260)

(continued)

Table 9.7 (continued)

	95 Quantile	90 Quantile	75 Quantile	50 Quantile	25 Quantile	10 Quantile	5 Quantile
Intercept	−0.032	−0.321***	−0.539***	−0.719***	−0.889***	−1.048***	−1.073***
	(−0.360)	(−5.110)	(−12.520)	(−19.890)	(−25.000)	(−20.300)	(−16.380)
Group dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo-R2	0.080	0.089	0.111	0.127	0.129	0.119	0.111

Note Here *, **, and *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively

The findings of our study can be used to justify the current regulatory requirements in Indian corporate sector that leads to reduce the overall crash risk of the stock market of the economy by emphasizing on mandatory disclosure of related party transactions and by imposing heavy penalty in case the companies do not abide by the disclosure norms. As the sample period used for the study was before the implementation of the Companies Act, 2013, which has given greater importance on mandatory disclosure of related party transactions, our findings provide a pre-Act status of effect of mandatory disclosures of RPT on the crash risk.

Appendix

Box 1: Related Parties Under the Indian AS18

ndian AS 18 defines related parties as including:

(a) *enterprises that directly, or indirectly through one or more intermediaries, control, or are controlled by, or are under common control with, the reporting enterprise (this includes holding companies, subsidiaries and fellow subsidiaries);*
(b) *associates and joint ventures of the reporting enterprise and the investing party or venturer in respect of which the reporting enterprise is an associate or a joint venture;*
(c) *individuals owning, directly or indirectly, an interest in the voting power of the reporting enterprise that gives them control or significant influence over the enterprise, and relatives of any such individual;*
(d) *key management personnel and relatives of such personnel; and*
(e) *enterprises over which any person described in (c) or (d) is able to exercise significant influence. This includes enterprises owned by directors or major shareholders of the reporting enterprise and enterprises that have a member of key management in common with the reporting enterprise.*

Indian AS 18 explicitly excludes the following parties from related party status:

(a) *two companies simply because they have a director in common, notwithstanding paragraph 3(d) or (e) above (unless the director is able to affect the policies of both companies in their mutual dealings);*
(b) *a single customer, supplier, franchiser, distributor, or general agent with whom an enterprise transacts a significant volume of business merely by virtue of the resulting economic dependence; and*

(c) *the parties listed below, in the course of their normal dealings with an enterprise by virtue only of those dealings (although they may circumscribe the freedom of action of the enterprise or participate in its decision-making process):*

(i) *providers of finance;*
(ii) *trade unions;*
(iii) *public utilities;*
(iv) *government departments and government agencies including government sponsored bodies.*

Box 2: Related Parties Under the Ind As24

Related party is a person or entity that is related to the entity that is preparing its financial statements (in this standard referred to as the 'reporting entity').

(a) *A person or a close member of that person's family is related to a reporting entity if that person:*

(i) *has control or joint control over the reporting entity;*
(ii) *has significant influence over the reporting entity; or*
(iii) *is a member of the key management personnel of the reporting entity or of a parent of the reporting entity.*

(b) *An entity is related to a reporting entity if any of the following conditions applies:*

(i) *The entity and the reporting entity are members of the same group (which means that each parent, subsidiary and fellow subsidiary is related to the others).*
(ii) *One entity is an associate or joint venture of the other entity (or an associate or joint venture of a member of a group of which the other entity is a member).*
(iii) *Both entities are joint ventures of the same third party.*
(iv) *(iv)One entity is a joint venture of a third entity and the other entity is an associate of the third entity.*
(v) *The entity is a post-employment benefit plan for the benefit of employees of either the reporting entity or an entity related to the reporting entity. If the reporting entity is itself such a plan, the sponsoring employers are also related to the reporting entity.*
(vi) *The entity is controlled or jointly controlled by a person identified in (a).*

(vii) *A person identified in (a)(i) has significant influence over the entity or is a member of the key management personnel of the entity (or of a parent of the entity).*

References

Ball R (2009) Market and political/regulatory perspectives on the recent accounting scandals. J Accounting Res 47:277–323

Bertrand M, Mehta P, Mullainathan S (2002) Ferreting out tunneling: an application to Indian business groups. Quart J Econ 117(1):121–148

Black BS, De Carvalho AG, Gorga É (2010) Corporate governance in Brazil. Emerg Mark Rev 11(1): 21–38

Black BS, Jang H, Kim W (2006) Does corporate governance affect firm value? Evidence from Korea. J Law, Econ Organisation 22(2): 366–413

Bleck A, Liu X (2007) Market transparency and the accounting regime. J Account Res 45(2):229–256

Callen JL, Fang X (2013) Institutional investor stability and crash risk: Monitoring versus short-termism?. J Bank Finance 37(8):3047–3063

Cheung YL, Jing L, Lu T, Rau PR, Stouraitis A (2009) Tunneling and propping up: an analysis of related party transactions by Chinese listed companies. Pacific-Basin Finance J 17(3):372–393

Claessens S, Djankov S, Fan JP, Lang LH (2002) Disentangling the incentive and entrenchment effects of large shareholdings. J Finance 57(6):2741–2771

Claessens S, Fan JPH, Lang LHP (2006) The benefits and costs of group affiliation: evidence from East Asia. Emerg Mark Rev 7(1):1–26

Erickson M, Mayhew BW, Felix WL (2000) Why do audits fail? Evidence from Lincoln savings and loan. J Account Res 38(1):165–194

Gordon EA, Henry E, Palia D (2004) Related party transactions and corporate governance. In Corporate governance (pp. 1–27). Emerald Group Publishing Limited

Holmstrom B (1979) Moral hazard and observability. The Bell J Econ 10:74–91

Holmstrom B (1992) Contracts and market for executives: comment in contract economics. In: Weign L, Wijkander H (eds) Blackwell Publishers

Hutton AP, Marcus AJ, Tehranian H (2009a) Opaque financial reports, R2, and crash risk". J Finance Econ 94:67–86

Kim JB, Li Y, Zhang L (2010) Corporate tax avoidance and stock price crash risk: firm-level analysis. J Financial Econ 100(3):639–662

Jensen MC, Meckling WH (1976) Theory of the firm: managerial behavior, agency costs and ownership structure. J Financ Econ 3(October):305–360

Jin L, Myers CS (2006) R^2 around the world: new theory and new tests. J Financ Econ 79:257–292

Johnson S, Porta RL, Lopez-de-Silanes F, Shleifer A (2000) Tunneling. Am Econ Rev 90(2):22–27

Johnstone KM, Bedard JC (2004) Audit firm portfolio management decisions. J Account Res 42(4):659–690

Hutton PA, Marcus A, Tehranian H (2009b) Opaque financial reports, R^2, and crash risk". J Financ Econ 94(1):67–86

Kim J-B, Li Y, Zhang L (2011) Does accounting conservatism reduce stock price crash risk? Firm-level evidence, Working Paper, Downloadable from http://www.researchgate.net/profile/Liandong_Zhang/publication/228231570_Accounting_Conservatism_and_Stock_Price_Crash_Risk_Firm-Level_Evidence/links/00b7d52283be8f1d2b000000.pdf

Kohlbeck MJ, Mayhew BW (2004) Agency costs, contracting, and related party transactions. Contracting, and related party transactions (December 31, 2004)
Kohlbeck M, Mayhew B (2010) Valuation of firms that disclose related party transactions. J Account Public Policy 29(2):115–137
Kothari SP, Shu S, Wysocki PD (2009) Do managers withhold bad news? J Account Res 47:241–276
Morck R, Yeung B (2004) Special issues relating to corporate governance and family control. World Bank Policy Research Working Paper 3406
National Treasury, Republic of South Africa: Accounting Manual for Departments. Related Party Disclosures
Nianhang X, Xiaorong L, Qingbo Y, Chan K (2014) Excess perks and stock price crash risk: evidence from China. J Corp Finan 25:419–434
Roe M (1994) Strong managers, weak owners: the political roots of American corporate finance. Princeton University Press, Princeton
Related Party Transactions and Minority Shareholder Rights, OECD, (2012)
Ricardo Escobar, Partner, Carey y Cia, Chile, (2001), Corporate Governance in Chile: New Developments, OECD
Sarkar J (2013) Ownership and corporate governance in Indian firms, Corporate governance: an emerging scenario, national stock exchange (eds) Chapter 9
Shastri K, Kahle KM (2003) Executive loans. Available at SSRN:423447
Srinivasan P (2013) An analysis of related-party transactions in India. NSE Working Paper Series

Chapter 10
Minsky's Financial Instability Hypothesis: A Theoretical Engagement in the Indian Context

Rohit Azad

Stability leads to instability.
Hyman Minsky

Abstract This chapter looks at a macro picture of the corporate investment and the role of finance from the lens of Hyman Minsky. India experienced its best ever growth performance during the 2000s but it also ended up with highly leveraged large corporate firms. These firms essentially financed their investment through the commercial banks. As a result, the high growth phase ended with a banking sector stressed by non-performing assets. On the face of it, this looks like what Minsky had said about the booms ending with a financially fragile system but can the Indian case fit that description? Serious macro-theoretical objections have been raised about Minsky's financial instability hypothesis because it conflates the micro with the macro. While this criticism is valid, I argue that if investment is concentrated in the hands of a few business houses and the credit side of it in a few large banks, a leverage crisis at a micro level can have systemic issues, which is what seems to have happened in the case of India. It is in exploring the role of this concentration, both on the lenders and the borrowers' side, that this chapter fits the overarching theme of this volume—to explore the role of concentration in business, corporate governance and their relationship with the political class in India.

R. Azad (✉)
Jawaharlal Nehru University, New Delhi, India
e-mail: rohit@jnu.ac.in

A. Chakraborty and I. Chakraborty (eds.), *Indian Business Groups and other Corporations*, India Studies in Business and Economics,
https://doi.org/10.1007/978-981-99-5041-6_10

10.1 Introduction

The Indian corporate and the banking sectors have been under severe financial stress with the non-performing assets (NPAs) swelling for the public and the private sector banks alike although the trend started with the former, which has of late caught on with the latter as well. It is a matter of concern because it represents the financial health of an economy even as it dries the liquidity up in the economy since banks become wary of extending loans even to reasonable project which under normal circumstances would have qualified for credit by the same lending agencies. Such a squeeze on liquidity thwarts investment. It is, therefore, a matter of great concern to understand why this has happened and Minsky's financial instability hypothesis comes in handy for that since his work was focused on precisely this aspect of capitalism. He had argued that corporate finance has an inbuilt tendency to generate upswings followed by downswings in the economy. To break out of this endogeneity, policy is required to create fetters to the upswings riding high on a precariously ever-aged corporate sector.

The purpose of this chapter is to look at Minsky's work in the context of the Indian corporate sector. In light of that, the following statement summarizing the effects of the Financial Instability Hypothesis (FIH) of (Minsky 1975, p. 110) makes him amenable to a rigorous empirical enquiry:

> [D]uring a boom the ratio of debt-financing to investment increases: this is borne out by the available data on corporate debt...

But before I go into the Indian corporate sector, let's see what the theoretical framework was through which Minsky arrived at this conclusion. Minsky had argued that investment of a firm is determined by the demand and supply price of capital.

The former is a price resulting from *expected* yields per unit of investment discounted by a rate of interest commensurate with the lifetime of the project. So, if a project has an expected life time of 10 years, the relevant rate of discount would be a 10-year bond rate of interest. Since a firm doesn't have access to infinite finance beyond its own capital, it has to start borrowing from lending agencies. But once it starts doing that, a borrower's risk kicks in which is not something written on loan contracts but rather something which weighs heavily on the minds of the capitalists. Since interest payments have a primary claim over *ex post* profits of a firm, a threat of failure of an enterprise would mean not just a loss of own capital but also a heavy loan burden. As the ratio of debt to own fund rises, the borrower's risk rises further to cover for this margin of safety. As a result of rising borrower's risk, the net demand price of investment, which is the difference between the demand price and borrower's risk, falls as investment rises (see the upper arm in Fig. 10.1). Supply price is that at which the project can be newly built. Yet again because of access to finite internal funds, capitalists have to turn to debt finance to fund constructing their projects. Unlike the notional borrower's risk, however, here there is a risk premium that the lenders write into the loan contracts as the leverage rises to cover their bases against failure of the proposed projects. So, the total supply price of investment, which is

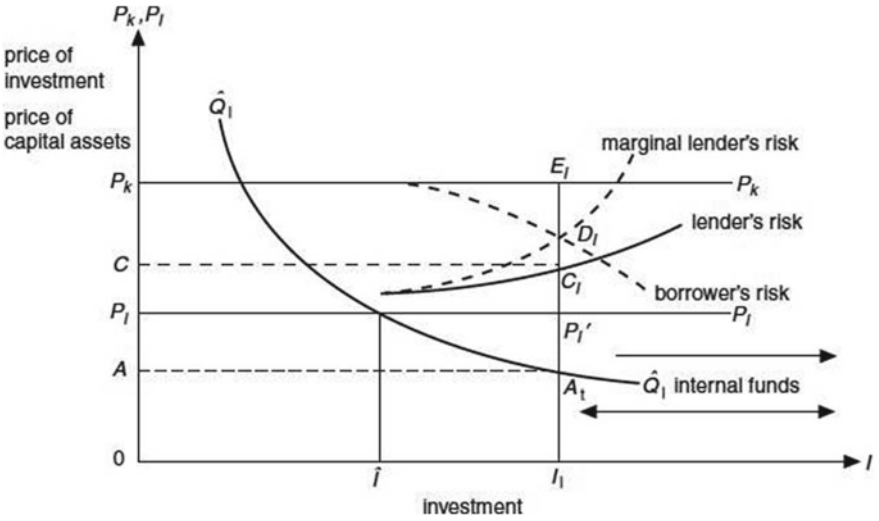

Fig. 10.1 Minsky's scissor diagram Source: Fig. 5.4 from Minsky (1975)

the sum of the supply price and lender's risk, rises with leverage of a firm (see the lower arm in Fig. 10.1).

The demand price and the supply price between them determine the level of investment for a firm. Lower the risk premium, higher would be the investment. Minsky argued further that a stable macroeconomic environment gives rise to conditions that generate confidence and, hence, lowering of guards both by the capitalists and the rentiers. In other words, both the borrower's and the lender's risk declines during a tranquil economic state. This lowering of the risk premium increases investment, thereby, further fueling an already buoyant economic condition. But this very process means higher leverage for the financial system. Over the course of the boom, firms that were hedged (profits higher than both interest and principal debt commitments) move to a speculative condition (profits covering just the interest part of the debt) and eventually to a ponzi state (where neither interest nor the principal part is covered by profits).

A key component of his theory is what determines the point (let's call it a kink) where the two curves start rising (falling) for the supply (demand) price because if that point itself is dependent on the level of investment, then it is a classic case of chicken-and-egg of whether investment determines credit or credit determines investment. But what determines the kink? It is given by that point where the *expected* internal funds are exhausted for a given supply price. But how can these funds be assumed to be constant since investment generates profits, and, hence, internal funds. If higher investment leads to shifting of the kinks to the right, how can the level of investment be determined by the kink itself? This is by far the most scathing critique of Minsky's FIH (Lavoie and Seccareccia 2001).

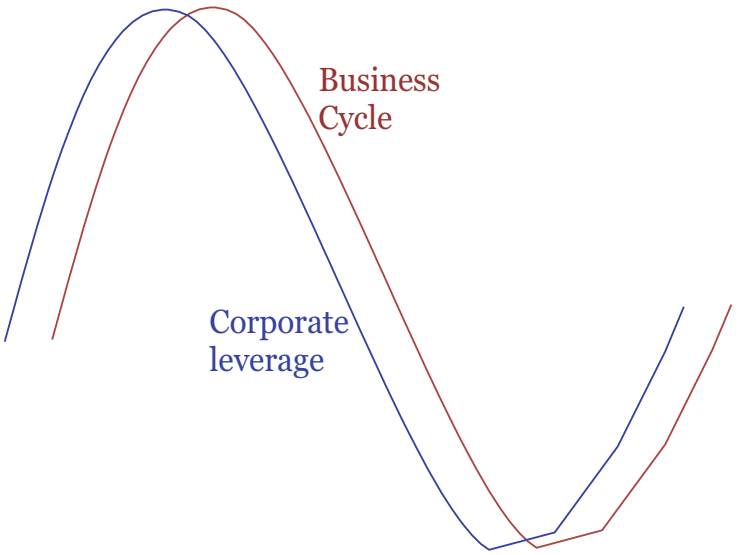

Fig. 10.2 Corporate leverage during a business cycle a la Minsky Source: Author's illustration

One way in which Minsky can be defended could be that the investment of one industry doesn't necessarily get realized as profits in the same industry, in which case the kinks may be independent of the level of investment in a particular industry. But even if this was true, this can surely not hold for the economy as a whole. For all the industries put together, the investments will show up as profits somewhere or the other, so, even if a subset of industries may have a rising leverage (whose investment has not got converted into profits *within*), the rest of the industries will *ipso facto* compensate for such a rise, thereby, leaving the average leverage of the corporate sector as a whole the same. So, the statement above is circumspect and has indeed been tested for different countries and the evidence has been found wanting in most cases. Was Minsky then wrong in concluding that corporate leverage is cyclical in nature?

I would like to test Minsky's predicted cyclicality of leverage for the Indian corporate sector for the period 2000–2015 in the next section followed by taking a relook, if required, at Minsky's FIH in the section following that.

10.2 Stylized Facts for the Indian Corporate Sector on FIH

To test the hypothesis of Minsky (1981, 1983, 2016), I take a look at financial fragility (defined as inverse interest coverage ratio) and the debt-capital ratio as two widely accepted markers of financial fragility of the sector (Fig. 10.3). Financial fragility is measured here as the ratio between interest owed to profits earned of the sector

as a whole. Higher the ratio the more fragile the sector is because it shows that the companies (as a whole) are not even able to cover the interest owed to the lenders. The average ratios presented here are for the entire corporate sector (as covered in the Prowess database). By taking these two ratios, we are able to cover both the flow (interest and profits) and stock (outstanding debt and equity) measures of the corporate sector into account.

Does the corporate sector (as a whole) get more leveraged as the economy booms? The second chart in the figure shows that it's the opposite, i.e. as the economy booms, the debt-equity ratio of the corporate sector as a whole *falls*.[1] The correlation coefficient with respect to GDP growth for both financial fragility and leverage is strongly negative, quite the opposite of what Minsky predicted. This result should not be surprising because this is the macroeconomic fallacy in Minsky's argument. While it may be true that leverage is rising for *certain* corporations during the boom, it cannot by definition rise for the corporate sector as a whole because both the numerator and denominator of the leverage ratio rises at the macroeconomic level.

Looking at Fig. 10.3, one could easily say that the picture couldn't have been more conclusive against Minsky's FIH. Financial fragility and business cycle move in the opposite direction so, a booming economy goes with a less fragile economy and vice versa. The answer is simple – while the interest owed by the corporate sector rises during a boom but so does the profit. It is only when the boom comes to an end for reasons which may have little to do with finance that the profits start dwindling while the interest payment commitments from the past remain unchanged that the system becomes more fragile.

Negative correlation between fragility or leverage and economic activity tells us only this much and not about causality but it is possible to delve deeper by looking at the leverage figures at a more disaggregated level. Perhaps the macroeconomic picture is camouflaging what could be happening behind the curtains. For e.g., declining leverage at an average does not mean that this would hold true across different business sectors. If the average picture is also the picture across sectors, then such a system does not necessarily pose a serious financial problem. But what happens if certain sectors that have a high total debt have increasing leverage even as the average leverage falls for the corporate sector as a whole.

In what follows, I take the top five industries (at two-digit level) of the Indian economy in terms of their total debt. Those industries (their total debt) are electricity, gas, steam and air conditioning supply (18.8); manufacture of basic metals (10.3), manufacture of coke and refined petroleum products (7.9); telecommunications (6.2); manufacture of chemicals and chemical products (5.7). Between them, they constitute almost half (48.9%) the total debt. Let's look at the leverage structure of these industries. Is their individual leverage trajectory the same as that of the economy or they divergent?

In Fig. 10.4, we can see while three out of these five industries follow the same pattern as the overall average whereas two follow a different trajectory. This has

[1] Since 2008 happens to be an outlier in terms of GDP growth rate, it has not been shown in the figure.

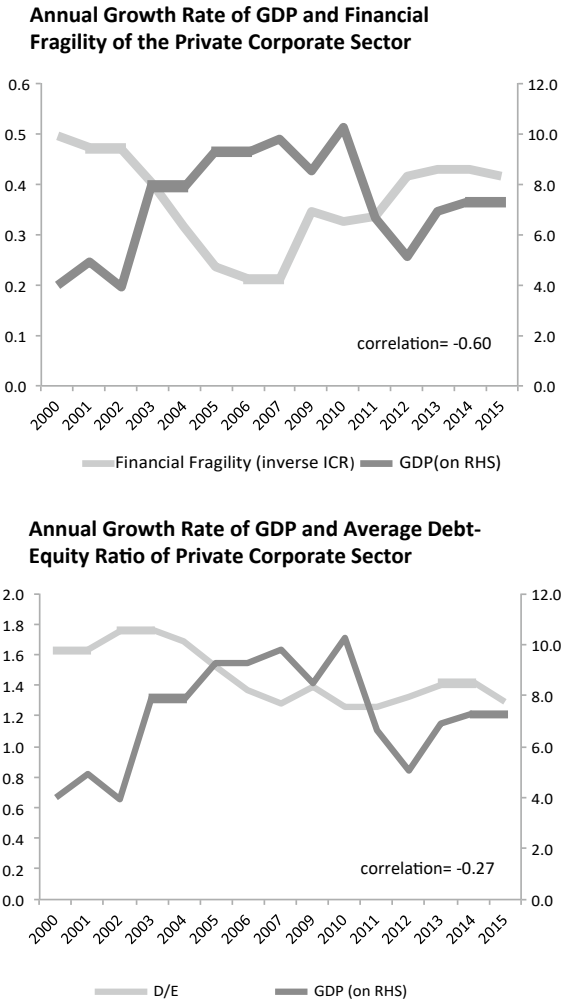

Fig. 10.3 Whatever happened to Minsky's FIH Source: Author's calculation based on the RBI (for the GDP growth rate) and the Prowess database (for the financial ratios)

a significant implication. If the patterns of leverage had been the same across the high debt industries, then one could perhaps say that leverage just follows the overall macroeconomic story and, hence, the relationship between the two is mere correlation with not necessarily a causality one and definitely not the one that Minsky was talking about. But divergent patterns of leverage show that even if the economy is booming some industries are getting more leveraged instead of getting deleveraged since their profits (and value of equity) are not rising (may even be declining) as fast as their debt commitments.

Even if on the surface things may look unMinskyan, deep down the Minskyan process is on during the second half of this period. In a typical way, this shows that the parts are not merely a fraction of the whole. Even if the macroeconomic picture may

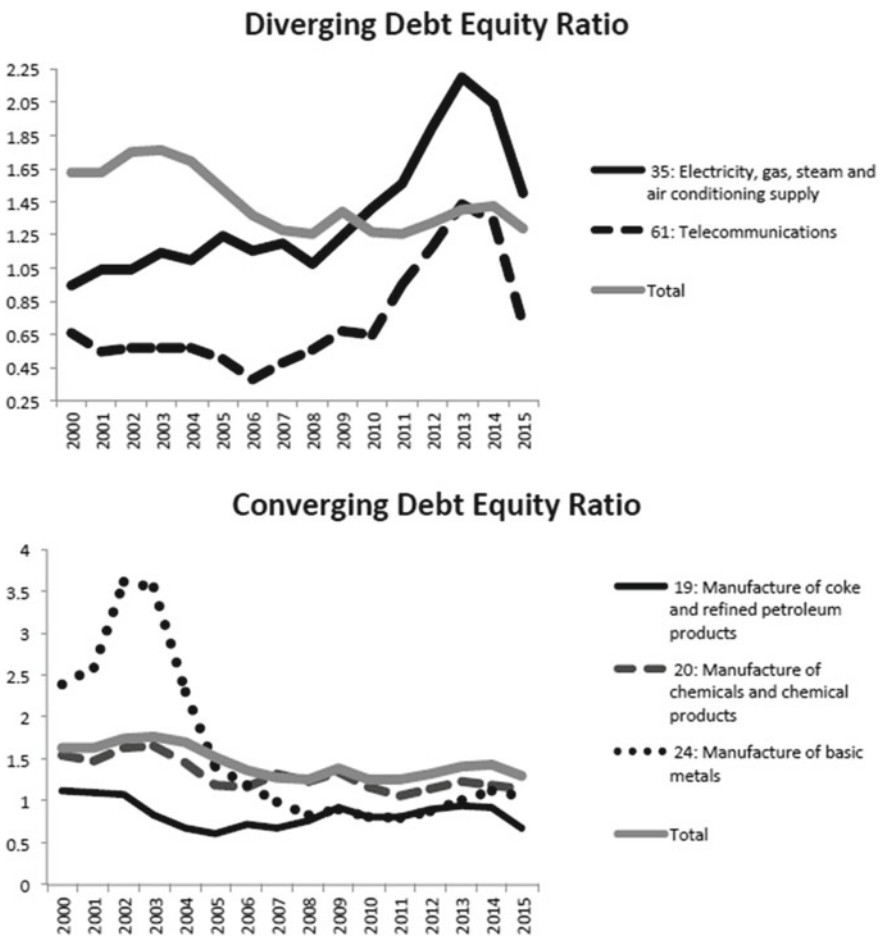

Fig. 10.4 Different patterns of leveraging across industries

not be alarming, the micropicture is alarming enough, particularly so if the diverging industries constitute a large part of the total debt. And of the two, the power sector happens to have the highest total debt. What implication could this have?

Such rising leverage in a few industries could create a contagion effect for the lending institutions and hence just looking at the macroeconomic picture could be misleading. This happens to be the case if we look at the sectoral breakup of stressed advances across the scheduled commercial banks (SCBs). RBI divides the SCBs into three categories: public sector, private sector, and foreign banks. These two divergent industries show on the top when it comes to their share in stressed advances. Their share in stressed advances is almost double their share in total advances for the SCBs as whole but a more disaggregated picture reveals something more.

Table 10.1 Sectoral breakup of stressed advances

Sub-sector	Share in	PSBs	Private banks	Foreign banks	All SCBs
Infrastructure (of which)	Advances	17.6	8.4	6.4	15.0
	Stressed advances	30.9	18.2	32.8	29.8
Power generation	Advances	10.1	3.8	1.1	8.3
	Stressed advances	17.3	7.3	0	16.1
Telecom	Advances	1.7	0.9	3.2	1.6
	Stressed advances	1.8	3.1	19.7	2.2

Source RBI, Financial Stability Report, June 2015

Within the three categories of banks if one looks at power generation, implications of its high leverage and financial fragility are showing up more for the public sector banks than for foreign-owned banks (see Table 10.1). On the other hand, for telecommunications, picture is the opposite. It is obvious that the contagion effects of higher leverage will affect the banking system only to the extent that their credit is exposed to these sectors. So, even with a perfectly normal macroeconomic picture of not so high leverage, there could be certain sectors with precarious financial conditions for which certain lending institutions have greater exposure. Despite the overall banking condition being normal and despite the macroeconomic condition being normal one could have a Minskyan instability building up underneath in certain sectors and through them to those banks which are exposed to these.

This process can surely affect the macroeconomic conditions. Compare two situations. Situation 1 in which micro and macro conditions of leverage are the same. In such a situation, Minsky's hypothesis is plain wrong. Situation 2 in which micro (obviously only in certain sectors) diverges from macro. Minsky is back with a vengeance. Concentration of bad debt both from the borrowers' side and the lenders' side makes the system susceptible to a financial crisis. Even though the overall banking system may not seem under threat, a few highly leveraged industries and a few large banks with high non-performing assets can create a general state of credit squeeze which can choke the system. I believe this is what the Indian economy is witnessing today.

10.3 Reinterpreting Minsky

In light of the preceding discussion, one needs to reformulate the Minskyan story of financial fragility. A simple macroeconomic relationship can help show the fallacy in Minsky. For simplicity, we assume that all wages are consumed and all profits saved. Investment is financed partly through retained earnings of the firms and partly through debt. But the same act of investment also *ipso facto* generates aggregate demand, and hence, profits. This *macroeconomic* equilibrium tells us that higher

debt taken to finance investment will necessarily generate profits *pari passu* so a divergence between the two is a macroeconomic impossibility. That is not to say that macroeconomic systems do not become financially fragile but that fragility cannot arise out of the specific route that Minsky had imagined.

One should, however, not take this conclusion too far. What this macroeconomic relationship tells us is that since investment generates an equivalent amount of profits (under the simplifying assumptions we made), debt financing cannot be a problem for the corporate sector as a whole. But such a harmonious relationship between leverage and profits need not exist at the level of the industries. This relationship could break down at the industrial level if the investment of industry A, say predominantly driven by debt, generates more profits in industry B. This would increase the leverage in A with perhaps no countervailing decline in lever-age in B if this industry is primarily internally financed. From the lender's side, if a subset of banks is exposed more to sector A, they will face serious financial conditions even though the banking sector *as a whole* may not be.

Let me elaborate on this. Going back to Minsky's famous scissor diagram, the shape of the demand price of capital schedule is drawn independent of the nature of competition in the industry whereas the latter should surely have an effect on the demand price. A horizontal demand price gives the impression as if the firms have an unlimited market and the only limiting factor to their investment is their access to capital.

A horizontal demand price of capital may be true for industries, which have *not yet* matured into established oligopolies, i.e. industries in which large firms are still competing to establish their market shares? This would give us the usual Minskyan demand price schedule. The flat continuous portion of the MEI depicts the possibilities of expanding a firm's share at the cost of its competitors in the same industry (see industry A in Fig. 10.5). Minsky's Q_AQ_A curve has been drawn based on the retained earning of industry A in the previous year.

If, however, an industry (Industry B in Fig. 10.5) is functioning strictly under conditions of *established* oligopolies, where it is near impossible to expand the market *share* of a firm through price cutting, the limit to investment of a firm is set by its expectations about the rate at which the industry itself expands (a proxy of which could be firm's past capacity utilization). Under such conditions, the demand price of capital should be a vertical schedule at the level corresponding to expectations about demand (see Industry B in Fig. 10.5). Minsky's Q_BQ_B curve has been drawn based on the retained earning of industry B in the previous year. As can be seen, for such industries, the rate of interest or the amount of credit available will have no influence on the investment level. Irrespective of where the Q-curve cuts the supply price curve, the level of investment is given by the vertical position of the MEI curve. Such industries are demand-constrained and not credit constrained. In the specific case drawn here, investment in industry B is financed entirely through retained earnings since the Q_BQ_B curve cuts the supply price Ps^B to the right of the vertical demand price curve Pd^B.

The scenario discussed above can be visualized through these two industries. As a result of booming conditions in the economy, firms in both industry A and B make

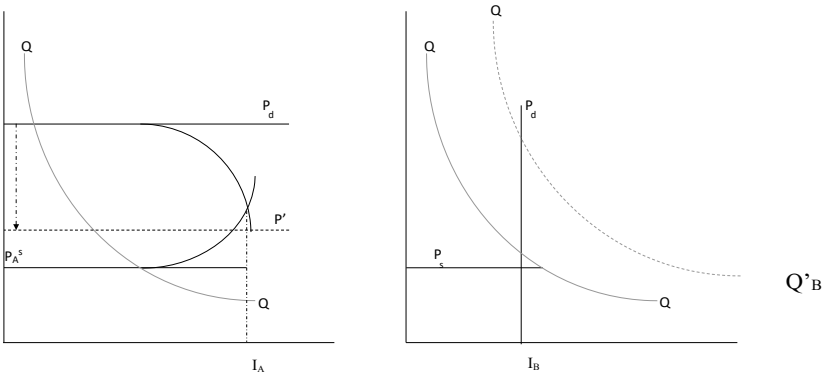

Fig. 10.5 Minsky's instability hypothesis at a disaggregated level

investments. To begin with investment, industry A is financed partly internally and part through debt whereas in B it's financed entirely through retained earnings. This investment generates an equivalent amount of profit, which should shift the internal funds curve QQ outward. This would have happened in both the industries if the macro and micro conditions were the same. But we are interested in a scenario when they are not. Without loss of generality, let's say that investment in plants in industry A accrue largely to B, which produces material used for A, which pushes the Q_BQ_B curve outward in the next period. Assuming profits in industry A remain the same as they were earlier Q_AQ_A curve stays put. It is not that difficult to imagine such a situation. Let's say industry A is Power, which has a huge gestational lag because of which it can't generate any profits within just yet. Such a situation could arise purely on account of miscalculation in industry A or perhaps even with collusion of the corporations and the lending agencies. All or any of this would lead to a fall in the demand price *post facto*. If the fall is to P'^{A}_{d}, which is lower than the interest commitments of this industry, this industry would have moved from a hedged position to speculative.

It is here that the regulating authorities need to intervene but in conditions of macro buoyancy, such micro-level fragilities may go overlooked or, worse still, aggravated. How? Minsky's endogenous credit boom could come into play, only this time at the industry level. Banks being confident about the macroeconomic condition in general and in their pursuit of profits may let their guards down by relaxing credit norms or even taking a price cut in the expectation of more than compensating the price loss in terms of gain in quantity of loans advanced. From the borrower's side, this one time fall in profitability may not affect their long-term projection of the demand price and they may also become less prudent in terms of increasing their leverage by lowering borrower's risk. Lowering of both the lender's and borrower's risk as a result of macroeconomic buoyancy can, however, create a micro-level financial fragility over the same period of time.

This opening up of the scissor increases the leverage in industry A over time. But after all this investment is generating profits in industry B. Shouldn't that just cancel out this rise in leverage in A? There is an asymmetry here. While the leverage of A rises, there is no (or a relatively smaller) counterpart in B because it was not (or only marginally) leveraged in the first place, as shown here. At the level of industry B, there's a windfall since not only does it get its own profits, it also gets the profits arising out of the investment process in industry A, so its internal funds curve Q_BQ_B shifts outward. But such an outward shift has little or no effect on the leverage of this industry because it was not constrained by finance to begin with.

At any given point in time, there will be mature industries, where demand (vertical MEI) sets the limit to invest with no role of finance, as well a nascent industries, where demand (by influencing the MEI) as well as finance constraint (through borrower's and lender's risk) together set the limit to investment that the firms would like to undertake.

The reason why financial fragility of industry A is not getting canceled by the cushion provided by higher profits in industry B is because while A's lack of profitability hampers its ability to honor its interest commitments to the lending institutions, the corresponding rise in profits of B doesn't show up in the balance sheet of the lending institutions since B's investment is not limited by finance and hence its relative independence from these institutions. This would not have been the case had both the industries been credit constrained in the same way. In such a situation even if the profitability in A was missing, the rise in leverage of A would have been equally compensating for by the fall in leverage of B and hence would not have threatened the financial viability of the lending institutions.

Moreover, with the simultaneous existence of credit constrained as well as demand-constrained industries, if bad debt, instead of being spread across different lending institutions, is concentrated in just a few, financial fragility takes an altogether different dimension. If a large part of power generation NPAs is concentrated in two to three banks, it is obvious that not only does it create a precarious situation for these banks, it also creates conditions for credit squeeze for otherwise creditworthy investment projects. The scare forces these banks, and in wake of it to all the other banks as well, to be wary of lending. This chokes the credit-dependent industries, which in turn, through the multiplier, affects the other demand-constrained industries as well. So, this creates an endogenous cycle of financial instability. This distinction of industries in these two groups will help us also isolate the cases of exogenous financial fragility generated by sudden decline in profitability of enterprise as a result of demand or supply shocks, from those endogenously generated as a result of the functioning of the financial architecture. Since such shocks cannot be anticipated, taming the first kind of business cycle is a rather difficult task and regulating authorities can only play a limited role.

To conclude, Minsky's business cycle was of the endogenous variety but as shown above it suffers from a serious macroeconomic fallacy which makes his argument invalid. To put it rather strongly, stability cannot create instability at a macro level since stability creates more stability. But stability, under certain circumstances, can camouflage instability beneath. The role of the regulating authority is to keep a tab on

the extent of instability building up underneath and intervene at appropriate moments to avoid knee-jerk reactions of credit squeeze, which would worsen the matters by adding an exogenous shock to an otherwise endogenously created downturn.

References

Lavoie M, Seccareccia M (2001) Minsky's financial fragility hypothesis: a missing macroeconomic link. In: Bellofiore R, Ferri P (eds) Financial fragility and investment in the capitalist economy: the economic legacy of Hyman Minsky, 2, pp 76–96

Minsky HP (1975) John Maynard Keynes. Columbia University Press, New York

Minsky HP (1981) Financial markets and economic instability, 1965–1980. Neb J Econ Bus 20(4):5–16

Minsky HP (1983) Stabilizing an unstable economy. McGraw-Hill Education

Minsky HP (2016) Can"it"happen again?: Essays on instability and finance. Routledge. 2016 Edition