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

Ansgar Richter & Indrani Chakraborty

February 2015
Promoter Ownership and Performance in Publicly Listed Firms in India: Does Group Affiliation Matter?

Ansgar Richter¹, Indrani Chakraborty²

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 360 publicly quoted firms with promoter ownership in India during the 2006-2013 period. We find that in group-affiliated firms, the level of promoter ownership is positively associated with capital market performance, whereas in stand-alone firms there is a U-shaped relationship between promoter ownership and capital market performance. There are only minor performance differences between group-affiliated and stand-alone firms, once other performance determinants are controlled for. Our findings cast doubt on the idea that group affiliation in promoter-owned firms allows promoters to extract value for themselves at the expense of outside shareholders.

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, Mehta and Mullainathan, 2002; Chong and Lopez-De-Silanes,

1. Chair and Professor, University of Liverpool Management School
2. Visiting Fellow, University of Liverpool Management School and Professor, Institute of Development Studies Kolkata
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).

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, Djankov, Fan and Lang, 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, 2003). 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, Wolfenzon and Yeung, 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, Hubbard and Palia, 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, Mehta and Mullainathan, 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 2006 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 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.

**REVIEW AND HYPOTHESES**

**The Role of Promoter Ownership in Indian Firms**

According to the seminal paper by La Porta, Lopez-De-Silanes, and Shleifer (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 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, 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 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. However, *both* group-affiliated and 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. Many promoter-owned firms in India have grown so rapidly in recent decades and to such a scale that filling all top management positions with family members would be difficult.

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.

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 behavior (Holmstrom and Milgrom, 1991; Cable and Fitzroy, 1980b). 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 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, Shleifer and Vishny (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, Hillier and McColgan, 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, 2000; 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.

**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, Nanda, and Seru (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 family members play a larger role in the management of the group than is the case in stand-alone firms (Holderness and Sheehan, 1988; Denis and Denis, 1994). The involvement of members of the promoter family may further contribute to the alignment of interest between owners and managers (Lemmon and Lins, 2003; Han and Suk, 1998). Furthermore, the active involvement of family members in group-affiliated firms may be beneficial in terms of the long time horizon with respect to which investment and other strategic decisions are taken (James, 1999), as families often seek to keep control across generations. Moreover, due to the longer time horizon of the family members, they are more likely to cooperate and make decisions that maximize firm value in the long-run (Walsh and Seward, 1990; James, 1999; Anderson and Reeb, 2003). The longer time horizon of group-affiliated firms may also induce them to invest in a manner that maximizes the value of the firm, and therefore benefits minority shareholders (James, 1999; McVey and Draho, 2005).

Furthermore, in group-affiliated firms family ties and reputation may limit managerial self-dealing when family members run the company and hence lead to firm survival (Denis and Denis, 1994). Also, the establishment of long-term relationships between the family and other stakeholders (e.g., customers, suppliers and capital providers) may reduce transaction costs (Anderson and Reeb, 2003; McVey and Draho, 2005). The reputation concern of the group-affiliated firms further allows them to have a lower cost of debt financing and thus reduce the conflicts of interests
between shareholders and bondholders (Anderson, Mansi and Reeb, 2003).

At the same time, it is important not to overstate these potential benefits of family involvement in group-affiliated firms. Similar to stand-alone firms, group-affiliated firms hire managers from outside the family, too. Group-affiliated firms tend to be considerably larger than stand-alone firms (see the comparison in Table 3 below with respect to our own sample), thus they require more, rather than less, outside management than stand-alone firms. Chua, Chrisman and Sharma (2003) argue that, in the absence of familial ties, agency problems with non-family managers are more likely because the emotional and psychological bases for reciprocal altruism tend to be weaker. However, if a manager is from within a family, this situation may entail other problems. For example, family managers may be less competent than outsiders as they come from a smaller selection pool (Bukhart et. al., 2003; Volpin, 2002). Using a Bayesian approach, the study by Joern et. al. (2010) suggests that whereas family ownership may be associated with superior performance, family management may erode performance.

Moreover, the greater family involvement in the management of group-affiliated firms as compared to stand-alone firms is likely to exacerbate entrenchment effects (Morck et. al., 2005). Research suggests that agency problems caused by entrenchment of management in family-owned firms may be more severe than those in non-family firms (Gomez- Mejia, Nunez-Nickel and Gutierrez, 2001; McVey and Draho, 2005). Prior literature also suggests that, in group-affiliated firms the family owner, having a significant stake in the company, will ensure that management serves the family interests instead of pursuing the value maximisation of the company (DeAngelo and De Angelo, 2000). Hence, the management in group-affiliated firms will enjoy private and personal benefits at the cost of value maximisation.

Furthermore, in group-affiliated firms a particular kind of agency problem arises due to the conflicts between controlling shareholders and minority shareholders. Controlling shareholders may expropriate minority shareholders to extract private benefits
for themselves (Morck and Yeung, 2004). One way that controlling shareholders expropriate minority shareholder wealth is by tunnelling through non-arm’s length, related-party and self-dealing transactions (Shleifer and Vishny, 1997). The pyramidal structures of group-affiliated firms, along with internal markets for capital and labor and related-party transactions, may facilitate the expropriation of minority shareholders through distribution of group profits across affiliates. These firms also tend to hold excessive cash on their balance sheets, allowing the family to exploit it to their private benefit instead of investing or returning profits to outside investors (Shleifer and Vishny, 1997). Anderson and Reeb (2003) argue that whereas minority shareholders would invest according to market value rules that maximize shareholders’ wealth, owner-managers in group-affiliated firms may pursue other objectives that differ from value-maximization objectives. As a consequence, the interests of the minority shareholders will be adversely affected. These expropriation practices of the controlling shareholders over minority shareholders in group-affiliated firms may ultimately reduce firm profitability (DeAngelo and DeAngelo, 2000; Morck et. al., 2000; Santana et. al. 2007). Following the argument of Cronqvist and Nilsson (2003), high levels of family ownership in group-affiliated firms may be associated with less efficient investment decisions leading to a reduction in the market value of the company which will have harmful effects on minority shareholders. In the particular context of Indian firms, the evidence provided by Bertrand, Mehta and Mullainathan (2002) suggests that group affiliation may reduce firm value, as group-affiliated firms are subject to the tunnelling behavior sketched above. We thus propose the following hypothesis:

**Hypothesis 2:** Ceteris paribus, group-affiliated firms have lower performance than stand-alone firms.

**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, Hubbard and Palia (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 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.

DATA AND METHODS

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). The database includes all Indian firms listed on the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) during the 2006-2013 period. The total number of firms included in the PROWESS database is 5327. We begin our analysis from 2006 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.

We excluded firms which operate in the financial sector (banks, insurance companies and investment trust), reducing the size of the database to 3076 firms. Furthermore, we eliminated those firms for which information on shareholding patterns and other variables were missing for at least one year of the eight-year period investigated here. Our final sample is a balanced panel involving 2880 firm-year observations on 360 firms. Of these, there
are 238 group-affiliated firms and 122 stand-alone firms. For a comparison between the firms in the sample and the entire population of firms, see Table 1.

**Variables**

**Performance:** As firm performance constitutes a multidimensional phenomenon (Shen and Cannella, 2002a; Richard et al., 2009), we used both 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. Operating return on assets (RoA) reflects operational firm performance and is independent of short-term accounting policy manipulation (Dowdell and Krishnan, 2004; Geiger and North, 2006; Geiger, North and O’Connell, 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 as 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).

---

3. 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).
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: In our analysis, we included the following control variables as prior literature suggested 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, Hubbard and Palia, 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 prior year, in order to control for the effects of a firm’s growth on its performance (Short and Keasey, 1999; Hermalin and Weisbach, 19991; 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 repayments (Gross 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 regressions (Pindado et al, 2008; Selarka, 2005; Arosa et al., 2010).

**Analytical approach**

In order to reduce endogeneity concerns, we use dynamic panel data (DPD) models (Wintaki 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:

\[
PERF_{it} = PERF_{it-1} + \beta PROMOWN_{it} + \delta X_{it} + \alpha_i + \varepsilon_{it} \quad (1)
\]

Where firm \(i = 1, \ldots, N\) and year \(t = 1, \ldots, T\).

In this model \(X_{it}\) are the control variables, \(\alpha_i\) are the firm fixed effects, and the error term \(\varepsilon_{it}\) has zero mean constant variance and is uncorrelated across both time and firms. For estimation purposes, we have to remove the firm fixed effects \(\alpha_{it}\) from equation (1) by first differencing. Thus we obtain:

\[
PERF_{it} - PERF_{it-1} = \gamma (PERF_{it-1} - PERF_{it-2}) + \beta (PROMOWN_{it} - PROMOWN_{it-1}) + \delta (X_{it} - X_{it-1}) + (\varepsilon_{it} - \varepsilon_{it-1}) \quad (2)
\]

Alternatively,

\[
\Delta PERF_{it} = \gamma \Delta PERF_{it-1} + \beta \Delta PROMOWN_{it} + \delta \Delta X_{it} + \Delta \varepsilon_{it} \quad (3)
\]

In equation (3), the variable \(\Delta PERF_{it-1}\) is correlated with \(\Delta PERF_{it}\) due to the dynamic nature of the equation. To solve this problem Anderson and Hsiao (1982) proposed to use \(\Delta PERF_{it-2}\) or \(\Delta PERF_{it-3}\) as instruments for \(\Delta PERF_{it}\). 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 a method that exploits all possible instruments. Using the Generalized Method of Moments (GMM) they obtained estimates using the moment conditions generated by lagged levels of the dependent variable ($\text{PERF}_{it-2}$, $\text{PERF}_{it-2}$, ..., $\Delta\text{PERF}_{it}$) with $\Delta\text{PERF}_{it}$. These are called difference GMM estimators. Furthermore, Arellano-Bover / Blundell-Bond developed another estimator which augments Arellano-Bond by making an additional assumption that first differences of instrumental variables are uncorrelated with the fixed effects. This allows 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 linear DPD method based on the Arellano and Bond (1991) and the Arellano and Bover / Blundell-Bond (1995, 1998) estimators as well as a system GMM method.

RESULTS

Descriptive Statistics

We provide summary statistics regarding the proportion of promoter ownership over the 2006-2013 period in Table 2. 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 decreased from 8.78 percent in 2006 to 5.12 percent in 2013, whereas the maximum percentage of their equity holding (98.19 percent) remained unchanged. Overall, we do not find an indication that, over the eight year period investigated here, promoters tend to decrease their ownership stakes, which could be expected given the growth of these firms.

Table 3 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 higher 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 stand-alone firms are expected to outperform group-affiliated firms. Surprisingly, the two types of firms have approximately the same levels of promoter ownership.

Table 4 presents the correlations between the variables in this study. Promoter ownership is positively correlated with Tobin’s q and negatively correlated with ROA. It is positively correlated with growth and age and negatively correlated with size, leverage and research and development expenditures. None of the correlations among the independent variables raises multicollinearity concerns.

**Regression Results**

We tested our hypotheses first in the context of a system GMM approach, using the entire sample of firms. Table 5 provides 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 $F$-statistics. 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.

In the baseline model 1.1 with Tobin’s q as dependent variable, the coefficients for all control variables are statistically significant. We then tested our Hypothesis 1 by including the linear, the quadratic and the cubic terms of the PROMOWN variable in models 1.2, 1.3 and 1.4 respectively. We find the linear term of the PROMOWN variable in model 1.2 to be positive and significant. In model 1.3, where we include the quadratic variable of PROMOWN, the $F$-value of the model decreases slightly. Overall, the results suggest that promoter ownership has a positive effect on Tobin’s q, in line with Hypothesis 1. In contrast, 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 5).
In order to provide a more differentiated understanding of promoter ownership as an antecedent of firm performance, we implement our analysis in a linear DPD model, splitting the sample between group-affiliated and stand-alone firms. Results of the linear DPD regressions for group-affiliated firms are presented in Table 6. All models have good model fit, as indicated by the Wald chi-square statistics. In the baseline model 1.1 with Tobin’s q as dependent variable, the coefficients for all control variables are statistically significant. R&D expenditures are positively related to Tobin’s q, whereas all other control variables are negatively related to capital market performance. In baseline model 2.1 where ROA is the dependent variable, only firm size and research and development expenditures have significant (and positive) effects on performance.

In models 1.2 and 2.2, we added the linear term of promoter ownership (PROMOWN), our central independent variable of interest. In model 1.2, the coefficient for this variable is statistically significant and positive, and its inclusion increases the model fit considerably. We then added both the quadratic and the cubic term of PROMOWN in models 1.3 and 1.4. In both cases, the coefficient on these variables are statistically significant, however, model fit decreases as compared to the “best” model 1.2. In linear DPD models, Wald statistics should be used to decide on the selection of the optimal model (Candelon et. al., 2012). Model 1.2 thus constitutes the best representation of the determinants of Tobin’s q in group-affiliated firms. Therefore, we conclude that promoter ownership has positive and linear effects on capital market performance.

In contrast, when ROA is used as the performance variable, model 2.1 which does not contain promoter ownership has higher Wald chi-square statistics than any of the models 2.2, 2.3 and 2.4 that include the linear, quadratic or cubic terms of the PROMOWN variable. Therefore, promoter ownership does not help to predict ROA in group-affiliated firms.

We then proceeded to analyze the performance effects of promoter ownership in stand-alone firms. To this end, we ran the DPD regressions reported in Table 7. In the controls-only model
(1.1) with Tobin’s q as the dependent variable, firm size and leverage has negative effects, and growth has positive effects. We then included the linear, quadric and cubic values of the promoter ownership variable in models 1.2, 1.3 and 1.4 respectively. The coefficient on these variables are significant in model 1.2 and 1.3. The model with the highest Wald chi square statistic is model 1.3. In that model, the linear term of PROMOWN variable has a negative coefficient, and its quadratic term has a positive coefficient. These findings show that Tobin’s q is a U-shaped function of promoter ownership in stand-alone firms. The relationship is depicted in Figure 1. The inflexion point for Tobin’s q is at 37.62% of promoter ownership.

In model 2.1, where ROA is the dependent variable, two of the controls are statistically significant, namely SIZE and R&D. When promoter ownership is included in model 2.2, the coefficient on PROMOWN is negative and significant, however, 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 PROMOWN, 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 5 – 7 suggest that promoter ownership enhances capital market performance in group-affiliated firms, in line with Hypothesis 1. In stand-alone firms, the relationship between promoter ownership and capital market performance is U-shaped. However, we do not find support for Hypothesis 1 when ROA is used as the dependent variable. Accounting performance does not appear to be affected by variations in the level of promoter ownership across firms.

For the test of Hypothesis 2 regarding performance differentials between stand-alone and group-affiliated firms, we return to our system GMM regression (Table 5), which includes a dummy variable for group affiliation (DGROUP). When Tobin’s q is used as dependent variable, we do not find this variable to be statistically significant. Thus, after controlling for other factors, group-affiliated firms show the same level of capital-markets performance as stand-alone firms, in contrast to Hypothesis 2. When ROA is
used as dependent variable, however, the dummy variable denoting group affiliation is negative and statistically significant in models 2.1, 2.3 and 2.4, albeit at low significance levels. These results provide tentative support for Hypothesis 2. After controlling for other factors, such as differences in scale, leverage and others, group-affiliated firms appear to have slightly lower accounting returns than stand-alone firms.

**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 2006 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 the level of promoter ownership has a positive effect on firm performance. We find some support for this hypothesis in that the level of promoter ownership has a positive, linear effect on Tobin’s q in group-affiliated firms (Table 6). These results are consistent with the ones by Khanna and Palepu (2000b), who estimated a random effects model for group-affiliated firms in India. The argument for such a relationship follows from our review of the theoretical literature (Anderson and Reeb, 2003; James, 1999; Walsh and Seward, 1990): According to this literature, there is a substantial presence of family owners in group-affiliated firms, and at least some of the managers are usually from within the promoter family. Therefore, the managers have longer investment horizons in group-affiliated firms relative to the managers of stand-alone firms.

However, the results (Table 7) suggest that promoter ownership–capital market performance relationship in stand-alone firms appears to be a U-shaped one. For these firms, the marginal effects of insider ownership on Tobin’s q first decrease up to a
level of 37.6% of promoter ownership, in order to then increase again. Our finding supports the earlier results by Selarka (2005) who also found a similar U-shaped relationship in a cross-sectional regression framework.

It may be noted here that, for group-affiliated firms, the percentage of firms having less than or equal to 37.6% of promoter ownership is relatively small (namely 17.6%). Hence, the positive relationship between promoter ownership and firm performance in group-affiliated firms starts beyond the inflexion point in stand-alone firms. Hence, for promoter ownership greater than 37.6%, the relationship between promoter ownership and capital market performance for both types of firms are similar to an upward rising curve.

Furthermore, Hypothesis 1 is not supported when using ROA as the dependent variable. This result may be due to the fact that promoters may have less involvement in and pay less attention to the day-to-day operations of the firms, which is reflected by measures of operational performance such as ROA. Rather, promoters tend focus to more on the long-run return, which is reflected by measures of capital market valuation. A similar observation – albeit in a different context – was made by Reddy et al. (2013).

According to Hypothesis 2 we expected group-affiliated firms to have lower performance than stand-alone firms, due to the greater opportunities for tunnelling behavior in the former type of firms. In contrast to this hypothesis, the results show that group-affiliated firms have approximately same level of capital markets performance as stand-alone firms. The analysis using ROA as the dependent variable, however, provides some (weak) support for Hypothesis 2. The development of capital markets in post-reform India has greatly reduced financing constraints for both group-affiliated and stand-alone firms. Moreover, group-affiliated firms have the advantage of stronger internal capital market which might lead to similar levels of performance for group-affiliated and stand-alone firms. Another potential explanatory route might relate to the high degree of diversification of group-affiliated firms (Bamiatzi et al., 2014; Carney et al., 2008).
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.

Third, our sample consists of 360 firms out of the total population of 3076 listed non-financial firms. Furthermore, we balanced the panel by excluding firms that were not stock-market quoted for the entire 2006-2013 period investigated here (e.g. those that went public during that period of time). Balanced panels have advantages over unbalanced ones, however, the omission of firms for which no complete information for the entire time period is available reduces the sample size and induces a potential survival bias. More importantly, balancing the sample has the disadvantage that the sample is not fully representative of the population into which we are trying to generalize (see Table 1). Therefore, future work should
involve even larger samples that more fully reflect the nature of the phenomenon we are interested in.

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 (Wintocki, Linck and Netter, 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.

Acknowledgement:

We gratefully acknowledge the comments and suggestions by Andrew Popp, Giorgioni Gianluigi, Huadong Yang and Nick Papageorgiadis at the Writing Workshop held at the University of Liverpool Management School.

REFERENCES


CMIE (2014). PROWESS database. Published by the Centre for Monitoring Indian Economimy.


### TABLE 1

Test of the Representativeness of the Sample

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sample (S)</th>
<th>Population (P)</th>
<th>S - P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. dev.</td>
<td>Mean</td>
</tr>
<tr>
<td>Tobin's q</td>
<td>919.819</td>
<td>1449.124</td>
<td>3258.032</td>
</tr>
<tr>
<td>ROA</td>
<td>0.054</td>
<td>0.132</td>
<td>105498.7</td>
</tr>
<tr>
<td>PROMOWN</td>
<td>51.05</td>
<td>45.40</td>
<td>15.32</td>
</tr>
<tr>
<td>GROWTH</td>
<td>16.70</td>
<td>114.6</td>
<td>33.27</td>
</tr>
<tr>
<td>LEVERAGE</td>
<td>0.316</td>
<td>0.949</td>
<td>1714.2</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>0.3025</td>
<td>0.381</td>
<td>164.1</td>
</tr>
<tr>
<td>AGE</td>
<td>37</td>
<td>45</td>
<td>0.0002</td>
</tr>
</tbody>
</table>

Note: S-P: Difference between the means of variables in sample firms and population. N=360 for sample firms. N=3076 for population of firms. **p<0.01

Tobin's q and SIZE are reported in million Indian Rupees. ROA, PROMOWN, GROWTH, LEV and R&D are percentages. AGE is reported in years.
<table>
<thead>
<tr>
<th>Promoter ownership (%)</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>50.02</td>
<td>49.88</td>
<td>50.13</td>
<td>51.19</td>
<td>51.24</td>
<td>51.38</td>
<td>51.90</td>
<td>52.22</td>
</tr>
<tr>
<td>Std. dev.</td>
<td>15.27</td>
<td>15.17</td>
<td>15.06</td>
<td>14.95</td>
<td>15.28</td>
<td>15.44</td>
<td>15.40</td>
<td>15.36</td>
</tr>
<tr>
<td>Minimum</td>
<td>8.78</td>
<td>8.73</td>
<td>8.85</td>
<td>5.30</td>
<td>5.30</td>
<td>5.30</td>
<td>5.30</td>
<td>5.12</td>
</tr>
<tr>
<td>Maximum</td>
<td>98.19</td>
<td>98.19</td>
<td>98.19</td>
<td>98.19</td>
<td>98.19</td>
<td>98.19</td>
<td>98.19</td>
<td>98.19</td>
</tr>
</tbody>
</table>

$N=2880$
### TABLE 3

Summary Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group 1: Group-affiliated firms</th>
<th>Group 2: Stand-alone firms</th>
<th>G1-G2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. dev.</td>
<td>Min</td>
</tr>
<tr>
<td>Tobin’s q</td>
<td>1002.5</td>
<td>1586.7</td>
<td>18.169</td>
</tr>
<tr>
<td>ROA</td>
<td>0.058</td>
<td>129031</td>
<td>-0.680</td>
</tr>
<tr>
<td>PROMOWN</td>
<td>51.15</td>
<td>14.29</td>
<td>10.67</td>
</tr>
<tr>
<td>SIZE</td>
<td>29.0</td>
<td>154.5</td>
<td>0.083</td>
</tr>
<tr>
<td>GROWTH</td>
<td>16.29</td>
<td>30.98</td>
<td>-89.64</td>
</tr>
<tr>
<td>LEVERAGE</td>
<td>0.307</td>
<td>0.228</td>
<td>0</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>0.35</td>
<td>0.20</td>
<td>0</td>
</tr>
<tr>
<td>AGE</td>
<td>40</td>
<td>19.52</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: G1-G2: Difference between the means of variables in group-affiliated firms and stand-alone firms. 
N=1904 for group-affiliated firms. N=976 for stand-alone firms. ** p<0.01
Tobin’s q and SIZE are reported in million Indian Rupees. ROA, PROMOWN, GROWTH, LEV and R&D are reported in percentages. AGE is reported in years.
<table>
<thead>
<tr>
<th></th>
<th>Tobin’s q</th>
<th>ROA</th>
<th>PROMOWN</th>
<th>SIZE</th>
<th>GRTH</th>
<th>LEV</th>
<th>R&amp;D</th>
<th>AGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobin’s q</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>0.039</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROMOWN</td>
<td>0.079</td>
<td>-0.096</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIZE</td>
<td>0.232</td>
<td>0.236</td>
<td>-0.116</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GROWTH</td>
<td>0.132</td>
<td>0.007</td>
<td>0.021</td>
<td>0.091</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>-0.321</td>
<td>-0.032</td>
<td>-0.087</td>
<td>-0.110</td>
<td>-0.033</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R&amp;D</td>
<td>0.166</td>
<td>0.323</td>
<td>-0.096</td>
<td>0.310</td>
<td>0.003</td>
<td>-0.089</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>-0.094</td>
<td>0.026</td>
<td>0.008</td>
<td>0.170</td>
<td>-0.075</td>
<td>-0.093</td>
<td>0.030</td>
<td>1.00</td>
</tr>
</tbody>
</table>

N=2880. Note: None of the correlations is statistically significant.
<table>
<thead>
<tr>
<th>Variables</th>
<th>1. Tobin's q</th>
<th>2. ROA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Constant</td>
<td>1513566**</td>
<td>1031646**</td>
</tr>
<tr>
<td></td>
<td>(205265.5)</td>
<td>(228239.3)</td>
</tr>
<tr>
<td>PROMOWN</td>
<td>7985.5**</td>
<td>-51886.8**</td>
</tr>
<tr>
<td></td>
<td>(1619.2)</td>
<td>(7828.8)</td>
</tr>
<tr>
<td>PROMOWN²</td>
<td>589.4</td>
<td>49.48</td>
</tr>
<tr>
<td></td>
<td>(375.43)</td>
<td>(468.5)</td>
</tr>
<tr>
<td>PROMOWN³</td>
<td>3.537</td>
<td></td>
</tr>
</tbody>
</table>

| SIZE      | 162333.6**  | 172144.8** | 179380.7** | 179877** | 10600.8** | 10892.9** | 10795.5** | 10835.9** |
|           | (17141.1)   | (17336.6)  | (17182.7)  | (17186.8) | (1291.6)  | (1311.7)  | (1313.3)  | (1313.6)  |
| GROWTH    | 4091.1**    | 3983.4**   | 4053.9**   | 4050.2**  | -31.62    | -32.78    | -33.74    | -34.05    |
|           | (742.6)     | (741.2)    | (733.6)    | (733.6)   | (55.92)   | (56.04)   | (56.04)   | (56.04)   |
| LEVEVE    | -1809978**  | -1759962** | -1774066** | -1769568** | 332.4     | 4316.5    | 4505.3    | 4881.6    |
|           | (101738.2)  | (102079.6) | (101102.5) | (7663.6)  | (7720.3)  | (7220.2)  | (7325.1)  | (7325.1)  |
| RAGE      | 184.8**     | 197.2**    | 166.004**  | 166.5**   | 43.21**   | 43.30**   | 43.73**   | 43.77**   |
|           | (38.69)     | (38.67)    | (38.48)    | (38.48)   | (2.91)    | (2.92)    | (2.939)   | (2.939)   |
| AGE       | -424479.3** | -428133.3** | -425457** | -428794.4** | -953.6    | -932.9    | -970.9    | -1247.5   |
|           | (48499.5)   | (48385.3)  | (47887.3)  | (47969.6) | (3653.1)  | (3659.3)  | (3659.9)  | (3665.01) |
| DGROUP    | 25028.7     | 9393.8     | 54077.4    | 54737.5   | -8147.2†  | -8477.6   | -9084.5*  | -9026.9*  |
|           | (57546.4)   | (57549.4)  | (57241.7)  | (57240.8) | (4337.4)  | (4355.4)  | (4376.9)  | (4376.6)  |
| F-value   | 107.09**    | 95.71**    | 93.13**    | 82.95**   | 68.67**   | 58.97**   | 51.85**   | 46.28**   |

N=2880. † p<0.1; * p<0.05; ** p<0.01; *** p<0.001
<table>
<thead>
<tr>
<th>Variables</th>
<th>1. Tobin's q</th>
<th>2. ROA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Constant</td>
<td>2.77e+07</td>
<td>-677708.8</td>
</tr>
<tr>
<td></td>
<td>(3969729)**</td>
<td>(591354.2)**</td>
</tr>
<tr>
<td>PROMOWN</td>
<td>11427.6</td>
<td>-1717637</td>
</tr>
<tr>
<td></td>
<td>(4719.5)*</td>
<td>(514375.8)**</td>
</tr>
<tr>
<td>PROMOWN²</td>
<td>18267.2</td>
<td>-158253.6</td>
</tr>
<tr>
<td></td>
<td>(4729.94)**</td>
<td>(49493.7)**</td>
</tr>
<tr>
<td>PROMOWN³</td>
<td>1109.4</td>
<td>1109.4</td>
</tr>
<tr>
<td>SIZE</td>
<td>-1023754</td>
<td>37505.7</td>
</tr>
<tr>
<td></td>
<td>(442143.1)*</td>
<td>(32814.6)</td>
</tr>
<tr>
<td>GROWTH</td>
<td>41508.09</td>
<td>-13.51</td>
</tr>
<tr>
<td></td>
<td>(8775.7)**</td>
<td>(411.5)</td>
</tr>
<tr>
<td>LEV</td>
<td>-1.07e+07</td>
<td>-100865.2</td>
</tr>
<tr>
<td></td>
<td>(1529480)**</td>
<td>(125103.8)</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>1362.2</td>
<td>517.2</td>
</tr>
<tr>
<td></td>
<td>(562.2)*</td>
<td>(53.03)**</td>
</tr>
<tr>
<td>AGE</td>
<td>-3543641</td>
<td>-78537.4</td>
</tr>
<tr>
<td></td>
<td>(1258640)**</td>
<td>(90055.4)**</td>
</tr>
<tr>
<td>Wald Chi²</td>
<td>1638.9**</td>
<td>2339.1**</td>
</tr>
</tbody>
</table>

N=1904. † p<0.1; * p<0.05; ** p<0.01; *** p<0.001
<table>
<thead>
<tr>
<th>Variables</th>
<th>1. Tobin’s q</th>
<th>2. ROA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.</td>
<td>2.</td>
</tr>
<tr>
<td>Constant</td>
<td>1.27e+07</td>
<td>1.17e+07</td>
</tr>
<tr>
<td></td>
<td>(2303846)**</td>
<td>(2033649)**</td>
</tr>
<tr>
<td>PROMOWN</td>
<td>4.1223.1</td>
<td>-13.4951.3</td>
</tr>
<tr>
<td></td>
<td>(9977.9)**</td>
<td>(44035.6)**</td>
</tr>
<tr>
<td>PROMOWN²</td>
<td>1793.2</td>
<td>-15.581.9</td>
</tr>
<tr>
<td></td>
<td>(437.04)**</td>
<td>(8279.6)†</td>
</tr>
<tr>
<td>PROMOWN³</td>
<td>100.9</td>
<td>-49.50†</td>
</tr>
<tr>
<td>SIZE</td>
<td>-8.38689</td>
<td>-137253.6</td>
</tr>
<tr>
<td></td>
<td>(279431)**</td>
<td>(300142.1)</td>
</tr>
<tr>
<td>GROWTH</td>
<td>12813.5</td>
<td>10062.4</td>
</tr>
<tr>
<td></td>
<td>(3213.08)**</td>
<td>(2903.1)</td>
</tr>
<tr>
<td>LEV</td>
<td>-8502809</td>
<td>-6243647</td>
</tr>
<tr>
<td></td>
<td>(1167393)**</td>
<td>(1138364)**</td>
</tr>
<tr>
<td>R &amp; D</td>
<td>-23.51</td>
<td>53.93</td>
</tr>
<tr>
<td></td>
<td>(195.95)</td>
<td>(172.4)</td>
</tr>
<tr>
<td>AGE</td>
<td>-945216.3</td>
<td>-3000583</td>
</tr>
<tr>
<td></td>
<td>(646944.6)**</td>
<td>(763784.5)**</td>
</tr>
<tr>
<td>Wald Chi²</td>
<td>127.4**</td>
<td>204.8**</td>
</tr>
</tbody>
</table>

N=976. † p<0.1; * p<0.05; ** p<0.01; *** p<0.001
FIGURE 1

Relationship Between Promoter Ownership and Tobin’s q in Stand-Alone Firms
15. Education for Child Labour in West Bengal by Uttam


18. Female Work Participation and Gender Differential in Earning in West Bengal by Indrani Chakraborty and Achin Chakraborty, April 2009.


20. MDG-Based Poverty Reduction Strategy for West Bengal by Achin Chakraborty, October 2009.


27. Employment and Growth under Capitalism: Some Critical Issues with Special Reference to India by Subhanil Chowdhury, July 2011.


37. *Medical Education and Emergence of Women Medics in Colonial Bengal* by Sujata Mukherjee, August 2012.


44. **Exploring Post-Sterilization Regret in an Underdeveloped Region of Rural West Bengal** by Saswata Ghosh, April 2014.

### SPECIAL LECTURES


### WORKING PAPERS

1. **Primary Education among Low Income Muslims in Kolkata: Slum Dwellers of Park Circus** by Zakir Husain, July 2004.
4. **Maternal Anthropometry and Birth Outcome Among Bengalis in Kolkata** by Samiran Bisai, April 2009.
5. **Transfer of Technology and Production of Steel in India, An interview of Anil Chandra Banerjee** by Amiya Kumar Bagchi, December 2013.


11. *Eastern India in the Late Nineteenth Century, Part II: 1880s-1890s* eds. Amiya Kumar Bagchi and Arun Bandopadhyay, New Delhi, Manohar and Indian Council of Historical Research, 2011.


