WHO CONTROLS THE INDIAN ECONOMY: THE ROLE OF FAMILIES AND COMMUNITIES IN THE INDIAN ECONOMY 2001, 2005 and 2009

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ABSTRACT

Research on the concentration of corporate control frequently highlights the role of a few families, who control large swaths of their economies. The prominent role of certain communities is also evoked in these discussions, but the extent of their influence is unclear. Public and scholarly debate is also divided on the meaning of this kinship-based control; whether it reflects entrenchment or entrepreneurship. This paper examines questions about the extent and meaning of family and community control in the context of India. The results show that three trading communities (the Marwaris, Gujaratis and Parsis) play a disproportionate role in the control and ownership of Indian publicly traded firms. However, their role is skewed towards smaller, younger, and lower market share firms, and there is significant turnover in the identity of the largest firm over time. The results are similar for family control and ownership. Overall, the results do not support the entrenchment perspective, and instead supports the view that these social groups are the primary vehicle for raising funds among smaller, younger, and low market share firms. However, neither do the results support the view that Indian firms are rapidly embracing a managerial model with diffuse shareholdings.

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"While radical strategic, operational, and financial transformation is a given for any corporation that hopes to survive the trauma of competing in the post-liberalization marketplace, India's business houses have yet another agenda for change: rewriting the role of the family" (Business Today 2017).

"Often able to take a longer term, more strategic approach, family managed businesses are the 'unsung heroes' of the Indian economy, according to Adi Godrej, Chairman, Godrej Group. Godrej said that more than 95 per cent of registered companies in India and Latin America are family run enterprises" (Hindu Business Line 2017).

"The Marwari business model [characterized by] the raw drive and venturous spirit, kinship and community ties, [is] a valuable resource pool not available to every aspiring tycoon" (Business Line 2013).

"Why Gujaratis may be the most successful people in business in the world? People from the Gujarat state of India have had the savvy and drive to find unheralded success" (Star Tribune, 2015).

"Union Finance Minister Arun Jaitley today said the country was trying to outpace others to emerge as the fastest growing economy amidst adversarial global conditions, but needs more business leaders from the Parsi community to achieve the tall objective" (NDTV 2015).

"Stop thinking of Indian business in terms of communities. The community approach has been overworked and overdrawn." – Interview transcript in the Times of India with Dwijendra Tripathi, co-author of the Oxford History of Contemporary Indian Business.

"Economic Fall and Rise of the Tamil Nadu Chettiyar Community. Since the decline of Chettiars in business, many are taking up salaried jobs" (DBSJayaraj.com, 2012).

Questions about who controls organizations, and whether certain social groups dominate economic activity are matters of public debate and concern. The above quotes from India reflect the tensions and confusion surrounding this issue, with the first news article discussing the rapid professionalization of family businesses while the second asserts the continued dominance of families in the Indian economy. The next three articles alternatively laud the entrepreneurial acumen of the Marwari community, the Gujarati community, and the Parsi community and assert their crucial role in understanding the Indian economy; while the last two quotes claim that these traditional communities are no longer relevant in the context of modern Indian organizations.

Scholarly discussion on the issue mimics the lack of consensus seen in the public arena. Theory and research in corporate finance shows that concentrated corporate ownership (usually by family members) reflects entrenchment (Morck, Wolfenzon, & Yeung, 2005), and is associated with weak minority shareholder protection (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998), lower capital market development, and lower economic growth (La Porta, Lopez-de-Silanes, & Shleifer, 1999). In contrast, sociological theory asserts that all economic activity is embedded within social networks (Granovetter, 1985). An even more positive view is that kinship ties are a key engine for entrepreneurship, especially in markets where external capital, supply and labor markets are weak (Khanna & Palepu, 2005). Clearly, questions about the extent and meaning of kinship-based corporate control are important especially for emerging markets. I examine these questions in the context of India, one of the largest economies in the world.

Existing indirect evidence in the Indian context suggests that there is widespread expropriation of minority investors due to concentrated control (Bertrand, Mehta, & Mullainathan, 2000). However, more recent studies question this finding (Siegel & Choudhury, 2012). In addition, despite much anecdotal and ethnographic focus on communities (Hardgrove, 2004; Saha, 2003), there is no systematic economy-wide study that maps the extent of control and ownership by ethnic-religious communities such as the Marwaris or Parsis. Therefore, my first objective in this paper is to answer some very basic questions: What is the extent of family and community control of Indian firms? Post-liberalization, is this role increasing or decreasing over time? Is this role limited to the older and more traditional industries? Do different communities (example, Marwaris versus Gujaratis and Parsis) differ in the extent of corporate control?

Next, I tease out whether kinship-based control in India primarily reflects entrenchment or entrepreneurship. Both perspectives assert that kinship plays a significant

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role in corporate control but have very different views on what this type of control means for the health and growth of the economy, and also differ in their predictions about how community and family control will be spread across firms of different sizes, ages, market shares, and the extent to which their identities change over time. For instance, if the entrenchment argument holds, then we are likely to find that there is very little churn across time in the identity of the largest businesses in India. In contrast, if the entrepreneurship-explanation holds, then, even if the largest businesses are community and family controlled, we should find significant churn in the identity of these firms and owners over time. An entrenchment view also predicts that kinship-based control will be higher (or at least as high) among the larger, older, and high market-share firms.

The dearth of studies testing these predictions is at least partly due to the practical difficulty of reliably assessing the role of kinship in corporate control across thousands of firms, and hundreds of thousands of directors and owners. Community is particularly hard to assess given the practical difficulty of asking directors and owners across time to self-identify their community affiliations, given the legal and normative pressures towards professionalization and concerns regarding control of the firm by a few family or community members. I rely on a four-step process of manual and algorithmic classifications to identify family and community affiliation, with additional checks at each stage. I use the full-population of publicly traded firms across three time-periods 2001, 2005 and 2009. The data comes from Prowess CMIE, and is used by prior scholarly work on India (Bertrand et al., 2000; Khanna & Palepu, 1999).

The analysis shows that 42% of Indian directors and owners have at least one family member among the directors and owners in the same firm, and 44% of directors and owners belong to one of three trading communities (Marwaris, Gujaratis, and Parsis, which together represent less than 7% of the Indian population). The other 9 communities represent less than

0.01% of the directors and owners in the economy. In terms of percentage of shareholding, family controls 23% of shares of publicly traded Indian firms, while the Marwari, Gujarati and Parsi communities control 14% of shares of publicly traded firms. When compared to prior research across countries, the results show that the percentage of family firms in India is substantial, much higher than in the U.S., but comparable to other East Asian countries. Further, the results show that firms with a greater family (or community) control tend to be smaller, younger, and with lower market-share. Finally, I find significant change in the identity of the largest firms in the economy over time. Taken together, these findings indicate that family and community control in Indian corporates is substantial, but their control is spread across the economy and in time, in a pattern that is more in line with theory that suggests that these kinship ties are primarily a vehicle for entrepreneurship (not entrenchment).

My results also reveal several surprising aspects of family and community control, which require further investigation by future research. I find wide differences between different trading communities: Out of the twelve recognized trading communities in India, nine have disappeared from the economic arena of publicly traded corporations, and the remaining three differ systematically in terms of their spread across firms. These are intriguing findings, and open up new areas of investigation into the causes and consequences of the differences between different communities.

Substantively, the study answers an important question for policy makers involved in reducing the role of murky kinship-based ties, and shareholders concerned about the role of concentrated family or community control. My findings are largely in line with the entrepreneurial view of kinship-based corporate control, but the results also raise concerns about why entrepreneurship in India is disproportionately driven by families and a few communities (which together represent a very small percentage of the population).

Families and communities: Debates and Gaps

The assumption that firms are owned by small diffuse shareholders and are run by hired managers provides the impetus for management research (Berle & Means, 1932). However, there is great cross-country variation in the extent to which corporate shareholdings are widely dispersed. Except for the U.S. and U.K., the largest firms in Western developed countries are characterized by concentrated family ownership (La Porta et al., 1999). Concentration of ownership is negatively related to minority-investor protection (La Porta et al., 1998). This is both because the presence of large concentrated owners makes it harder to establish and implement laws protecting minority investors and also because small diversified shareholders are unlikely to invest if their rights are not protected (Claessens & Yurtoglu, 2013). Concentrated owners can use vehicles like the pyramidal business group to tunnel funds towards themselves to the detriment of minority investors (Bertrand et al., 2000). They might also use political connections to shape laws and enforcement in ways that limit new entry (Morck & Yeung, 2004). The presence of concentrated owners connected by kinship ties, can also contribute to a perception of murkiness and a lack of confidence in the information reported by firms, which keeps small investors away. If small investors do not play a role in the capital markets, then capital markets remain weak, and businesses, especially entrepreneurs and small businesses, have no option but to rely on family and kinship ties for capital. A reliance on family for investment restricts entrepreneurship to those with existing family wealth, leading to a less dynamic economy. Therefore, there is a vicious cycle of entrenchment according to this perspective.

In contrast to this corporate finance and governance perspective, economic sociology makes the fundamental point that *all* economic transactions are embedded within social ties (Granovetter, 1985). Whether it is *quanxi* in China or *inhwa* in Korea, scholars have time and again reiterated the importance of social ties in directing economic behavior (Granovetter,

1985; Uzzi, 1996). Kinship ties are a very visible exemplar of this argument (Granovetter, 2005). This perspective views social ties, including kinship ties, as ubiquitous, largely benign, and helping increase trust and ease transactions between businesses. This conceptualization asserts the ubiquity of social ties in economic activity across countries (example, Hamilton, 1996; Hamilton & Biggart, 1988; Ingram & Lifschitz, 2005; Keister, 2001). Community ties are especially interesting from this perspective, and scholars document their crucial role in easing businesses transactions and ensuring trust. For instance, Coleman (1988) describes the Jewish community's role in the diamond trading industry, and the norms that speed the transaction of high-value diamonds without the use of cumbersome insurance and legal documents. Trading communities in India display similar norms with members extending trust, know-how and capital to each other (Timberg, 1978). Historical accounts describe how the Marwaris developed the earliest booking methods, with written records going back to 600 B.C. These innovations helped them spread within India and across the continent before the invention of a formal banking system.

Other theories go even further in asserting the positive entrepreneurial role of kinship-based economic control and propose that these social relations are a necessary mechanism for entrepreneurs to survive in environments where capital, labor, and supply markets are not well developed (Hillmann & Aven, 2011; Khanna & Palepu, 2005). For instance, the community ties spanning continents helped the Chettiars to thrive and establish businesses in extremely inhospitable and foreign conditions (Rudner, 1989). Similarly, even when uprooted into a new land, these communities support entrepreneurial activity – example, the Gujarati immigrant community in California (Kalnins & Chung, 2006), the Korean immigrant community in Los Angeles (Light & Bonacich, 1991), and the ethnic Chinese community in the South-East Asian region (Carney & Gedajlovic, 2002). This entrepreneurial role is also borne out by research focusing on new ventures and small businesses, which shows that

kinship ties are usually the first and perhaps only source of capital for young firms and small firms. Also, among younger and smaller firms, kinship ties appear to increase the competitive advantage of firms (Villalonga & Amit, 2010).

Clearly, family and community play an important role, and in the next section, I investigate the extent of family and community control in the Indian context.

Family and community: Extent and change over time and industry

Existing research suggests that, on average about 50% (or slightly more) of firms in an economy are family controlled, although there are wide variations across countries (Claessens & Yurtoglu, 2013: pg 10). For instance, La porta et al. (1999) use data on the ownership patterns of the 20 largest corporations in 27 wealthy economies in 1995, and find that 30% of these are family controlled. Faccio and Lang (2002) find that 44.29% of firms in 13 western European countries (Austria, Belgium, Finland, France, Germany, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland, and the UK) are family controlled. Anderson and Reeb (2003) in a study of the 250 largest firms in the U.S. in 1992 find that 54% of these firms were family. Claessens et al. (2000: Table 6 pg 103) find that, on average across nine East Asian countries (Hong Kong, Indonesia, Japan, South Korea, Malaysia, the Philippines, Singapore, Taiwan, and Thailand) 53% of the largest firms were controlled by a family[1].

These available estimates of family ownership do not address increase or decrease in family control over time. Carney and Child (2013) are the only exception. They compare 9 East Asian countries across time, and find that there is a significant reduction in family ownership only in those countries that experienced major political turmoil. In India, in the past two and a half decades, there has been no drastic political change as the ones described

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[1] Veliyath and Ramaswamy (2000) is the only study, to my knowledge, that estimates the percentage of family owned firms in India. They find that 122 of the 250 largest firms in India (50%) were family firms. However, they use the median family ownership as the cut-off to distinguish family and non-family firms, and this design choice drives their finding.

by Carney and Child (2013). However, the economy has grown steadily and it is not clear if family owners will further solidify their role in the growing economy, becoming the first to take advantage of new opportunities (Manikandan & Ramachandran, 2015; Pradhan, 2007) or whether, as the economy grows and capital markets develop, kinship-based ownership will be replaced by diffuse ownership (Khanna & Palepu, 2000a).

Scholars who focus on family businesses have a more fine-grained view of change over time, and suggest that even if families decrease their involvement in one dimension (example, more outside directors and fewer family directors), they will maintain family control of the firm using some other dimension (example, greater family shareholdings). In India, given the legal and normative push to professionalize, it is unclear whether family control is decreasing, and if so, on what dimensions.

Reliable estimates of the extent of community control are also rare, although scholars agree that the study of economic power in India is "unreal if divorced from the study of communities" (Gadgil, 1951: pg 29). Timberg (1978) suggests that Marwaris might account for up to a quarter of Indians on the Forbes list. Available research on communities is ethnographic and focuses on specific communities in certain geographical regions and/or industries (for instance, the Jewish diamond trading community in New York and Jerusalem (Richman, 2006)). Whether family and community control are systematically focused on certain industries is also unclear. Some scholars (Arora, Arunachalam, Asundi, & Fernandes, 2001; Arora & Athreye, 2002) suggest that the newer industries in India (like software and pharmaceuticals) are aimed at a global market, and are driven by a new class of entrepreneur without the typical family or community connections. In contrast, Khanna and Palepu (2005: pg. 300-301) claim that the old family businesses have played a key role even in the newer software and services industry. Given the lack of systematic evidence on these issues, my first objective in this paper is to answer some basic questions:

Question 1: What is the extent of family and community control in Indian corporates?

Question 2: Is this increasing or decreasing post-liberalization?

Question 3: Is family and community control limited to the older and traditional industries?

Question 4: Do different communities differ in the extent of corporate control?

Family and community: Entrenchment or entrepreneurship

The entrenchment and entrepreneurship perspectives both agree that kinship based corporate control is significant, but differ in their predictions about how kinship-based control will be spread across firms of different ages, sizes, market shares, and their identities over time. In this section, I investigate the relative validity of these two perspectives by testing the extent to which these differing predictions hold in the Indian data.

Firm Age The corporate finance view holds that, if capital markets are strong, then as the firm grows older, shares will get diluted (Black & Gilson, 1998; Claessens et al., 2000), founders and founding families' ownership will reduce, and outside professionals will take over the management of the firm (Willard, Krueger, & Feeser, 1992). This suggests a life-cycle view where firms start with concentrated ownership (usually by the founder or founding family) but ultimately become widely held. Consistent with this view, Foley and Greenwood (2009) find that in countries with strong investor protection, companies become widely held over time after IPO, and concurrently, as the founding family's shares get diluted, the founding CEO gets replaced by an outside CEO (Wasserman, 2003).

However, Claessens et al. (2000) in a study of 9 East Asian countries find that older companies are as likely to have concentrated family ownership as younger companies. They interpret this finding as support for the entrenchment view since, keeping family control even

as shareholdings get diluted requires maintaining family control over the board, pyramidal business groups, cross-ownership, or shares with differential voting rights. All of these mechanisms are associated with weak minority shareholder protection, and weak capital markets.

In India, it is unclear whether we will find similar results as Claessens et al. (2000). Prior research shows that, compared to other countries, India is above average when it comes to laws protecting minority-investor, but below average when it comes to enforcement of these laws (La Porta et al., 1998). Given the lack of systematic evidence on this question, I ask the following question.

Question 5: Is family and community control in India greater (or as great) in older firms compared to younger firms?

Firm Size Using a similar logic for size as for age, corporate finance scholars expect that family control is higher among smaller firms compared to larger firms (Claessens et al., 2000; Faccio & Lang, 2002; La Porta et al., 1999). As the size of the firm increases, small investors are more likely to feel confident about the company's prospects and to invest. Claessens et al. (2000) finds that, except for Hong Kong, in all other countries, concentration of control was more likely in small companies. Of course, this might also be because one can maintain control in a very large company even with a very small shareholding if all the other shareholders are even more diffuse, or because family firms do not want to scale. However, if one finds the opposite - that concentration of control in large companies is higher or equal to that in small companies (as is the case in Hong Kong), then that is interpreted as evidence for the entrenchment view. I test this prediction in the Indian case by asking the following question:

Question 6: Is family and community control in India greater (or as great) in larger firms compared to smaller firms?

Market share The presence of concentrated family or community shareholders deters new entry, hence maintaining market share and dominating the industries they operate in. This can occur because family/community owners use political ties to shape laws and enforcement in their favor, hence deterring new entrants and maintaining high market share in the industries they operate in. For instance, crony capitalism involves certain businesses getting exclusive importing or exporting rights, access to technology or patents developed by the space and research arms of the government, protection from foreign competition for extended periods, procurement of large government contracts, and monopoly power in certain local markets. The contrasting entrepreneurial view predicts the opposite – that family/community firms have unique capabilities that are particularly helpful for new entrants (Villalonga & Amit, 2010), and so these firms should be associated with lower market share.

Question 7: Is family and community control in India greater (or as great) among higher market share firms compared to lower-market share firms?

Identity over time Khanna and Palepu (2005) argue that "at least some Indian families – the concentrated owners in question – have consistently tried to use their business group structures to launch new ventures. In the process, they have either failed – hence the turnover in identity – or reinvented themselves." They find significant turnover in the identity of the top 50 family businesses in India over the years 1939, 1969, and 1997. They interpret this finding as evidence for the entrepreneurial role of family. However, their findings are, at least

partly, predicated on the changing regimes and loyalties during the periods they study. Post-liberalization and the dismantling of the *license raj[2]*, the explicit control of the state in corporate activity has reduced. Hence the uncertainties are more market-based (rather than based on the government in power) and a significant churn in the identities of the largest firms in the post-liberalization period is a better indicator of economic dynamism. Hence, I ask the following question:

Question 8: In the post-liberalization period in India, is there significant churn in the identity of the largest firms in the economy?

Data and Methods

Prowess CMIE (Center for Monitoring the Indian Economy) is a reliable source of annual report and stock-market data, and has been used by prior research on India (Khanna & Palepu, 2000b; Manikandan & Ramachandran, 2015). Prowess compiles this data from the National and Bombay Stock Exchange (BSE). I constructed the dataset for three time periods (2001, 2005 and 2009) due to the practical difficulty of dealing with economy-wide data for multiple time periods. The last names of directors and owners sometimes appear slightly differently over time and across companies, and hence required extensive cleaning. Although some of this could be automated, I still found multiple errors after automated cleaning, and hence had to resort to manually checking approx. 60,000 owner and director names for *each year* (Appendix A summarizes the cleaning procedure used). The choice of 2001, 2005, and 2009 was because 2001 was the first year for which shareholding data was available and

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[2] The license raj is a term used to describe the regulations and bureaucracy involved in starting a business in India pre-liberalization. At the time, India was a planned economy, and the original purpose of this system was to ensure that the State could match production with demand.

2009 was the last year for which this data was available at the time this project started; 2005 was the chosen since it was the midpoint between 2001 and 2009.

Last Name Analysis

Indian law requires companies to report their board of directors, and the names of shareholders who own 1% or greater shares in the firm. Firms are also required to categorize these shareholders as "promoters" and "persons acting in concert". Indian "promoters" refer to owner-managers involved in firm founding and/or in raising capital for the firm. "Persons acting in concert" includes individuals that coordinate to vote as a block.   Other shareholder categories include Indian public (passive individual shareholders), foreign shareholders, financial institutions and corporate shareholders. The first two categories ("Indian promoters" and "persons acting in concert") are used to identify *owners*. The last names of the directors and owners are used to identify whether they belong to a family or to any of the traditional trading communities. There is some overlap between the list of directors and owners, and if the same name appears on both the director and owner list, then I include the name only once.

The use of last names to assess members' community and family affiliation follows the typical design in family business research (Gomez-Mejia, Nunez-Nickel, & Gutierrez, 2001), in ethnographic research on communities (Iyer, 1999b; Russell, 1916; Timberg, 1978), and in management research on community entrepreneurship (Kalnins & Chung, 2006). However, one important issue in identifying community affiliation in India is that there are multiple intersections of religion, caste, language, and region, and also intermarriages across communities and diffusion over time; this has resulted in some names that are typical to more than one traditional trading community. I mark these names as "multiple" to indicate that these individuals might belong to any one of the trading communities.

Prior historical and ethnographic research on Indian communities leads me to identify the following traditional trading communities in India: Marwari (Hardgrove, 2004; Russell, 1916; Timberg, 1978), Gujarati (Gillion, 1968; Pandit, 1957), Parsi (Kennedy Jr, 1962), Chettiar (Rudner, 1989), Arora, Bhatia, Bohra, Jain, Khatri, Khoja, Sindhi, Naidu and Reddy communities (Iyer, 1999a; Lamb, 1958). I identify the typical community last names for these communities using (a) information published by the Anthropological society of India (India, 1992), (b) prior research (Gillion, 1968; Kennedy Jr, 1962; Rudner, 1989; Timberg, 1978), and (c) directories provided by community associations. The list of typical last names is then verified using discussions with community leaders and with discussions with experts in the Indian Anthropological Society. However, ultimately, my analysis indicated that only three communities (Marwaris, Parsis and Gujaratis) had a greater than 0.01% representation among directors and owners. Hence, in the tables and analyses, I present results only for these three trading communities for ease of presentation and interpretation; the results do not change in any way by including all the traditional trading communities.

Measuring family and community control and ownership

To measure family control, scholars recommend the use of several different measures (e.g. Chrisman, Chua, & Litz, 2004), the use of continuous rather than dichotomous measures (Chrisman, Chua, & Sharma, 2005: pg 557), and multiple robustness checks. I follow the above recommendations and create the following continuous measures: (a) *Family_Dir and Community_Dir; and (b) Family_Percent and Community_Percent*. Also, I conduct several robustness checks for the measures of family and community control and shareholding, which I list in the next section.

Following prior research, *Family_Dir* and *Community_Dir* incorporates both shareholding and board of directorships. For instance, Claessens et al. (2000) find that family

firms (based on ownership) also appoint family members as directors, as a secondary way of ensuring family control of the firm. Similarly, Anderson and Reeb (2003) use "the fractional equity ownership of the founding family" (OR) the presence of family members on the board of directors to identify the firm." Following this prior research, I create a measure *Family_Dir* which is a count of the directors and owners of the firm who share the same last name, scaled by the total number of directors and owners of the firm. Similarly, *Marwari_Dir*, *Parsi_Dir*, and *Gujarati_Dir* are a count of the directors and owners of the firm whose last names are typical of each of these communities, scaled by the total number of directors and owners of the firm. *Community_Dir* is a count of directors and owners of the firm whose last names are typical of any of the three traditional trading communities, scaled by the total number of directors and owners of the firm. This last count includes last names that are categorized as "multiple" and are typical of more than one of these three communities.

The second measure relies only on shareholding data. *Family_Percent* is the percent of shareholdings of the firm held by owners who share the same last name. *Community_Percent* is the percent shareholdings of the firm held by owners whose last names are typical of any of the three major trading communities, Marwaris, Parsis and Gujaratis (including last names that are categorized as "multiple" and are typical of more than one of these three communities).

Robustness checks Confirming the Measures of Family and Community Control

A research assistant was hired to go over company websites, books on company history, and news reports, and manually code the community and family affiliation of 500 firms. The manual method was compared with the categorization arrived at using last-names, mismatches were analyzed and errors were corrected in our last-name directory. Next, I ran all the analyses only for these 500-odd firms for which the community and family affiliation

was checked manually. This check was done to confirm that the algorithmic method is not somehow skewing the results towards certain types of firms, and I found that the results are similar across both methods. The results for this and all subsequent robustness checks are available upon request.

Next, I aggregated the last names of directors and owners of firms belonging to the same business group, and then assigned a particular family and community categorization to each business group based on the most frequently appearing last name. This aggregation is required only for the purposes of checking with expert evaluators, and is not needed in any of the subsequent analysis or tables. I then sent the list of the largest 25 business groups along with the family and community categorization to two experts. To my relief, the experts disagreed only in 3 cases, and in all three cases the last-name-method had assigned the firms' community affiliation as "multiple" while the experts assigned them a specific community name. The manual and expert verification helps establish the validity of the last-name method. Moreover, it gives us a reliable method to study economy-wide family and community role: Often news reports, company websites and histories do not exist for small firms, and the last-name based algorithmic method provides a way to assess family and community control independent of firms' size and age.

The measure (*Family)Community_Dir* captures directorships and ownership, while the measure (*Family)Communty_Percent* captures ownership percentage. I reran the analysis by recreating the variable (*Family)Community_Dir* using only directorships, and the conclusions remain the same. In addition, *(Family)Community_Dir* are measured as ratio of the number of (family)community directors and owners over the total number of directors and owners. I also rerun the analysis by measuring *(Family)Community_Dir* as the count of the (family)community directors and owners, using a poisson model, and controlling for the

total number of directors and owners. There is no difference in the conclusions using these alternative specifications.

One interesting concern regarding the use of last names is that directors from certain regions might not have last names. In my data, I found 653 firms where at least two of the directors/owners do not have a last name. I addressed this issue by rerunning the analysis after (a) treating these directors and owners as family members, and (b) dropping these firms. Results do not change in either case.

Another significant limitation of the measure used to assess family control and ownership is that it underestimates the extent of family involvement in cases of succession where there is only one heir. The Tata Group is a very prominent example of this problem. Most people would consider the Tata Group a family business, and most scholars would agree that succession is a key characteristic of family firms (Zellweger, 2017; Zellweger, Nason, & Nordqvist, 2012). However, given that the only heir is Ratan Tata, the measure of family control and ownership used in this study identifies the Tata Group firms as having no family involvement (see Table 6 column 7 shows the measure of *Family_Dir* for the largest firms in the economy and includes several Tata Group firms). Ideally, such cases can be correctly handled using primary survey data on succession (keeping in mind that such surveys have some disadvantages such as cost, time, and the accuracy of self-reports on sensitive topics like family ownership and succession). Prior economy-wide research has usually ignored this issue by assuming that cases of single-heir succession are randomly distributed in the population of firms, and hence will not systematically bias results. To confirm this assumption, I ran several robustness checks. First, the issue of single-heirs is especially characteristic of the Parsi community due to extremely low birth rates in this community, and I rerun the analysis after excluding Parsi community firms. Second, I rerun the analysis restricting the set to firms where succession is unlikely i.e. firms<40 years old. I

also rerun the analysis using 30 and 35 years as the cut-off. The results do not change in any of these analyses, and provides evidence that the conclusions are not systematically biased due to the single-heir measurement issue.

Another significant limitation of the last-name based measure is that family members might own shares in the firm via private holding companies but the last-name based measure does not include these private holding companies in its measure of family ownership and control. This is an especially problematic issue since larger firms are more likely to use these holding companies, leading to incorrect conclusions about the relationship between firm size and family control. I address this issue by rerunning the analysis after assuming that all "Indian promoters" and "persons acting in concert" (including private holding companies listed in this category) are family members. The results do not change.

Final concern regarding the community and family-control measure is whether family is simply a subset of community. Conceptually, this concern is unwarranted since the word "community" (as used here) refers only to specific trading communities (specific ethnic-religious-regional groups like the Marwaris or Parsis that have historically operated in the economic arena). These trading communities represent a very small percentage of the Indian population, and family firms need not necessarily belong to these communities. In addition, empirically, I find a significant proportion of firms (14%) in the dataset that are family firms but the family does not belong to any of the three trading communities[3]. In another 14% of firms, the directors and owners belong to a trading community, but there is no family

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[3] This robustness check required a categorization of firms as family, non-family, community and non-community. This requires dichotomizing the continuous measures *Family_Dir* and *_Percent* (and *Community_Dir* and *_Percent)*. I used cut-offs consistent with Anderson and Reeb (2003) for family: If two people on the owner-director list share the same last name, that firm is categorized as a family firm. For community, I used the least stringent possible cut-off: If one person on the owners-director list has a last name typical of a trading community, that firm is categorized as a community firm. In spite of this very lenient cut-off, I found a substantial portion of family firms which did not have community affiliation. In addition, as suggested by an anonymous reviewer, I also reran this same analysis using 10%, 20% and 25% shareholding as the cut-off, and I still found that a significant proportion of firms are family and not community. Note that dichotomizing the variables *Family_Dir* and *_Percent* (and *Community_Dir* and *_Percent*) is not needed for any of the subsequent tables and analyses.

connection between the directors and owners. Therefore, the concern that family is simply a subset of community is not warranted conceptually or empirically.

Table 6 columns 7 and 8 provide the values for *(Family)Community_Dir* for the largest firms in the economy (by Total Assets) in 2001, and suggest a high degree of face validity for these measures. For instance, the companies in Table 6 with the lowest values on *Family_Dir* are L&T[4] and ITC (both professionally run groups), and the companies with the highest values on *Family_Dir*, in order, are Reliance (Ambani family), JSW Steel (Jindal family), Hindalco (Birla family) and Grasim Industries (Birla family). Similarly, L&T and ITC have the lowest values on *Community_Dir* (although these values are not zero, hence reiterating the point that Marwari, Parsi, and Gujarati directors sit on the boards of many companies, including non-family firms).

Variables capturing firm-level characteristics

Firm *Size* is measured using the log of total assets. *Age* is the number of years since the firm's founding year. *Market_Share* is the ratio of a firm's sales by the total sales in the industry. In India, the new software and technology services industry is usually distinguished from the older and more capital intensive manufacturing, consumer, chemical, and industrial goods industries, and these newer firms are described as operating on a more professional basis (Arora et al., 2001; Khanna & Palepu, 2004). *New_Industry* is coded 1 if the firm primarily operates in the software, pharmaceuticals and technology services sector. Business group affiliation is sometimes associated with family and community control (Bertrand, Johnson, Samphantharak, & Schoar, 2008)[5], and consistent with prior research, I use a dummy

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[4] As an interesting aside, L&T had a value of 0.1 on family_dir in 2001 (this changes to 0 in 2005 and 2009). Further investigation showed that in 2001, the Ambanis staged a takeover attempt of L&T, which L&T successfully thwarted, and this is reflected in L&T's shareholding pattern in 2001, 2005 and 2009.

[5] Conceptually and substantively business groups and family ownership are distinct firm-level characteristics: A family business need not adopt a business group form (characterized by multiple legally independent firms operating as a group) and a business group need not be family owned or controlled. For example, the L&T group and the ITC group are business

variable, *Business_Group,* to identify if a firm belongs to a business group (Khanna & Palepu, 2000b). Year2005 and Year2009 are dummy variables marked "1" for years 2005 and 2009 respectively. *Foreign_Shareholding* and *Institutional_Shareholding* are the percentage of foreign (or institutional) shareholders among the list of firms' shareholders owning greater than 1% shares in the firm, and categorized as "foreign" or "institutional" shareholders in the firm's annual report. Finally, firm performance might be associated with the family or community control, and I capture firm performance using *Tobin'sQ.* Tobin's Q captures both accounting and market performance, and provides an assessment of current performance and expectations of future performance and growth (Lang & Stulz, 1994).

Analytical Technique and Results

Tables 1-4 describe the data, showing the extent and spread of family and community control across different years, industries, communities, and size, age, and market share quartiles. Next, I provide Spearman's correlations (with t-tests to assess significance) between kinship control and firm-level variables such as age, size, industry, market share, and time (Table 5). Finally, given that the association between each variable should be assessed independent of the other variables, I also present the results of multiple regression (Tables 7-8). The number of time period observations per panel is much larger than the number of panels. Fixed effects estimators in such cases may be inconsistent (Hsiao, 2014, cf. Manikandan and Ramachandran 2004). In addition, two key variables (business group and industry) are time-invariant and a panel random effects model is needed to assess their effects. Therefore, in line with prior research using the same data (Khanna & Palepu, 2000b; Manikandan &

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groups but are not family owned. Similarly Nilkamal Industries is a family firm but does not follow the multi-entity form of a business group. Indeed, recent research indicates a negative correlation between family ownership and adoption of the business group organizational form (Gomez-Mejia, Makri, & Kintana, 2010; Mani & Durand, 2018), because of the risk of losing family control in this kind of a multi-entity form. In this paper, consistent with prior research, I treat these concepts as distinct and control for whether or not the firm is affiliated with a business group.

Ramachandran, 2014), I use a panel random effects model with robust standard errors. Below I present the results for questions 1-8 in turn.

Results for Question 1: The extent of family and community control in Indian corporates

Table 1 shows that out of the 64570 directors and owners in our dataset across the three years, 42% have last names indicating that they are family directors and owners. In addition, 44% have last names that indicate that they belong to one of the three traditional trading communities, which represents a disproportionate portion of economic activity when compared to the percentage of these communities in the general population (for example, Parsis represent 0.006% of the Indian population, Gujaratis 4.9%, Marwaris 0.079%[6]). With regards to percentage of shareholding, 14% of shares are owned by community members while 23% of shares are owned by family members.

To get estimates of the percentage of firms that are "family firms", the continuous measures of family control and shareholding have to be dichotomized to distinguish family and non-family firms, and I use the same cut-offs used by prior research. First, Andersen and Reeb (2003: pg. 1310) identify family firms using a "dummy variable that equals one when founding families hold shares in the firm OR when founding family members are present on the board of directors." Their sample consists of the largest 250 firms in the U.S. in 1992 and they find that 54% of these are family firms. To be as similar as possible to Andersen and Reeb, I also use the largest 250 firms in the India data, and categorize firms as "family" if two or more directors and owners of a firm share the same last name. Using these criteria, I find that 71% of the largest firms in India are family firms. Second, Carney and Child (2013:

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6 These figures of the total population proportion of the three communities were taken from the Indian census 2001 and from the "People of India Survey." In the case of Parsis, the data was not available from either of these sources, and hence was taken from the Wikipedia entry about this community.

pg. 505) use a much more narrow definition of family firms, and identify a family firm based on whether percentage shareholdings held by the family exceed 10% or 20%. Their sample consists of the largest 200 firms in nine East Asian countries. To be as similar as possible to Carney and Child, I also use cut-offs 10% and 20% for the largest 200 firms in India in 2009 (the closest year to Carney and Child's 2008 data). Using the 10% cut-off, I find that 45% of the largest 200 Indian firms are family firms (compared to 46.1% reported by Carney and Child) and using the 20% cut-off, I find that 35% of the largest 200 Indian firms are family firms (compared to the 37.7% reported by Carney and Child)[7]. Overall, the Indian data indicate that the extent of family control and ownership in India is substantial, higher than in the U.S., but comparable to other East Asian countries. There are no comparisons in other countries for community control and ownership, but the Indian data indicate that community plays a substantial role in the economy, far disproportionate to their population. Note that the above dichotomization and restriction in sample sizes was done here only for the purposes of comparing with prior studies, and all of the subsequent tables and analyses use continuous measures and the full data.

Results for Question 2: Role of family and community control over time

Table 1 further breaks down the above numbers by year. Table 1 shows that the percentage of community and family directors and owners dips slightly over time (45% of directors in 2001 belong to a community while 44% belong to a traditional community in 2009; 45% of directors in 2001 belong to the same family and this percentage is 41% in 2009). However, the percentage of shareholding by community members has increased from 13% to 15% in the period 2001-2009, and similarly, the percentage of shareholding by family members has

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[7] Note that the exact percentage of firms identified as "family firms" is very sensitive to the cut-off used. However, there is a monotonic increase in the percentage of family firms in the economy as the cut-offs are decreased (and the same is likely to hold in other countries). Therefore, the conclusion that the percentage of family firms in India is comparable to that in other Asian countries and greater than in the U.S. is unlikely to change by changing the cut-offs.

also increased from 20 to 26% in the same period. Table 5 Panel B Spearman's correlations show a significant negative correlation between *Family_Dir* and *Time* (a variable coded 1 for 2001, 2 for 2005, and 3 for 2009) and a significant positive correlation between *Family_Percent* and *Time* (cells marked in blue). Multivariate regressions in Tables 7 and 8 support similar conclusions: Even after controlling for other variables, Year2005 and Year2009 dummies have a negative and significant coefficient when the dependent variable is *Family_Dir*, and a positive and significant coefficient when the dependent variables are *Family_Percent* and C*ommunity_Percent*. Overall, the evidence in India does not indicate a clear reduction in family and community control during 2001-2009, and indeed, is increasing in terms of percentage shareholding.

Results for Question 3: Family and community control in the traditional industries

Both in terms of control and ownership, community and family-involvement is skewed towards traditional industries. Table 2 shows that 45% of directors and owners in traditional industries belong to a traditional trading community, while 36% of directors and owners in the new industries belong to a trading community. Similar skew for family directors and owners, and using percentage of shareholdings. Table 5 shows significant and negative correlations between *New_Industry* and *Community_ and Family_Dir,* and *New_Industry* and *Community_ and Family_Percent.* Table 7-8 multiple regressions also show the same results. These results show that family and community control and shareholding in India is skewed towards more traditional industries.

Results for Question 4: Differences across communities.

The data indicate significant differences across communities. Out of the twelve identified trading communities in India, 9 have less than 0.01% representation among directors and

owners of publicly traded firms. Table 3 shows that the three communities that have greater than 0.01% representation among directors and owners are the Marwaris (24% of all directors-owners and 8% of all shareholdings), Gujaratis (6% of directors-owners and 2% of shareholdings), and Parsis (2% of directors-owners and 0% of shareholdings). Gujarati participation among directors and owners is only slightly greater (6%) than their proportion in the overall Indian population (4.9%), while Marwari and Parsi representation among directors and owners is more than 300 times their population proportions.

Table 7, Columns 5-8 further investigate the association between particular communities and firm-level characteristics. Marwaris are more associated with smaller, younger, and traditional industry firms. Interestingly, Parsis behave quite differently from Marwaris – they are older, and have higher market share. Given that Parsis are few in absolute numbers, I re-run this analysis after dropping the Tata Group firms in case the Parsi effect is driven by the Tata Group. Column 8 shows that the age differences in how Parsis operate remains the same even when Tata group firms are dropped from the dataset. Overall, there appear to be significant differences across communities in the kind of firms and industries they operate in.

Results for Questions 5-7: The spread of community and family control across firm sizes, ages and market shares.

Table 4 Panel A shows that 52% of directors and owners of the smallest firms (by total assets) are community directors, while 39% of director and owners of the largest firms belong to one of the three traditional trading communities. Similar findings for family firms, and using percentage of shareholdings. Table 4 Panel B shows that family and community control is greater among the youngest firms: For example, 46% of director-owners of the youngest firms belong to a community, while 41% of director-owners of the oldest firms belong to a

traditional trading community. Table 4 Panel C also shows that family and community play a greater role in firms with lower market share; example 48% of director and owners in the lowest market-share firms belong to a community versus 41% among the highest-market share firms. Table 5 Spearman correlations (cells marked green) show a negative and significant association between *Family_Dir* and *_Percent* (and *Community_Dir* and *_Percent*), and firm age, size and market share. Table 7 and 8 are also largely in line with these findings: Firms with greater community (family) control tend to be smaller, younger and have lower market share. Control variables are in line with prior research.

Results for Question 8: The identity of the largest firms in the economy over time

Table 6 shows that out of the 10 largest companies publicly traded firms in 2001, 6 continue to be on the list in 2009. New firms like Bharti-Airtel and Wipro have replaced firms like Tata Power, ITC and Grasim Industries. I further use the Wilcoxon Signed-Rank test to investigate whether there is significant change in the rank-order of the largest 25 firms between 2001 and 2009. Results show that the null hypothesis (that there is no significant change in ranks of the largest firms across time) should be rejected ($z = -2.543$; $\text{Prob} > |z| = 0.0110$). Similar conclusion if I use the largest 50 firms, or if I test whether or not a firm remains in the top-25 and top-50 list (rather than whether the rank-order of firms change). These results indicate that there is significant churn in the identity of the largest firms over time. I also conduct an additional test by rerunning the analysis for firms in new industries versus firms in traditional industries. I find significant churn in both types of industries indicating that the effect of competitive dynamics across industries.

Discussion and Conclusions

Family firms represent a substantial proportion of Indian firms, and in this, India is comparable to East Asian countries. With regards to the role of community, there is no

research in other countries to provide a basis for comparison, but it is clear that their role is far out of proportion to their percentages in the Indian population. These results point to the important role played by traditional trading communities in the Indian economy and suggest the need for greater focus on this meso-level of community. Compared to their impact, there is little or no systematic study of these communities, and this paper is, to the best of my knowledge, the first attempt to systematically estimate their economy-wide role over time.

These results are substantively and theoretically important. For instance, prior research in other Asian countries has found a positive relationship between firm size/age and family control, and this finding is interpreted as evidence of weak shareholder protection and weak capital markets, calling for policy intervention. In India, I find the opposite relationship (older/larger firms are less likely to display strong kinship-based control), and this is good news for the Indian economy (or rather, to be more accurate, it is the absence of bad news). In the same vein, in India, I also find a negative relationship between market share and kinship-based control, hence questioning the entrenchment view that communities and family businesses use ties to the government to maintain an unfair dominant position in the industry. Finally, I find significant churn in the largest firms in the economy, again questioning the entrenchment view of a few families/communities maintaining their position in the economy over time. These findings are consistent with available prior research in India which found significant churn among the largest firms in the economy in 1937, 1969 and 1997, and stands in contrast to conclusions in some other Asian countries (Claessens et al., 2000).

Further this research contributes by testing the contradictory assumptions regarding the meaning of concentrated kinship-based control. Corporate finance and economics scholars assume that significant and stable kinship-based control represents fundamental problems in the economy. In contrast, embeddedness scholars assume that kinship-based control is normal and even desirable as a vehicle for entrepreneurship. There are clear

differences in the substantive implications of these two views, and yet research on these two theoretical perspectives has largely developed in isolation. I test the validity of the two perspectives by testing some of their contrasting predictions. The results are largely in line with the entrepreneurship view, and question the overarching focus in current policy on entrenchment issues. For instance, new laws have strengthened reporting requirements regarding 'related party transactions' (Indian Accounting Standards 2005) and mandate stringent penalties for companies and directors that do not comply (Companies Act 2013). Although these types of law are important, my study suggests the need for equal attention towards developing a stronger entrepreneurial ecosystem, where entrepreneurs can access resources, networks, and know-how beyond their personal kinship networks.

The findings also suggest great variation across communities, with 9 trading communities playing an insignificant role in the Indian economy while one community, the Marwaris, represents 24% of all directors. Similarly, when I run the analysis for each separate community, I find that the negative and significant relationship between *Community_Dir* and firm size, age, and market share is driven primarily by the Marwaris. Indeed, Parsi control and ownership seems to be associated with older firms. Clearly, these communities are not the same, and given their role in the economy (44% of directors and owners belong to these three communities), much more investigation is needed to compare how they operate, and their effects on corporate governance, performance, and firm survival. While there is research on other types of shareholders (institutional shareholders, foreign shareholders and family shareholders), very little scholarly attention has focused on community shareholders, and this paper makes a compelling case for much greater attention to communities and the differences between them.

Prior research on family control is largely point-in-time and the only exception (Carney and Child 2007) shows that family control reduces only in those economies that

experienced significant political change. Prior theory also suggests that, as economies grow and develop, the role of kinship in corporate control will reduce (Khanna and Palepu 2000). In India, I do not find clear evidence for a decreasing family role; indeed, percentage of family and community shareholdings are increasing over time. Family business scholars have a more fine-grained view and find that even when family control appears to be reducing, it is because families find other ways to retain control (example, introducing more outside independent directors and simultaneously increasing ownership stakes) (Usdiken 2012). My results in India are in line with this family business research: The number of family directors and owners is decreasing but the percentage ownership is increasing. Overall and in contrast to theories that predict the eventual demise of kinship-based control, I do not find any clear evidence, in the period 2001-2009, that the role of community and family is decreasing over time.

Methodologically, this study provides a time-consuming but doable method to assess family and community using secondary data sources and the last names of directors and owners, making it possible to track their role over time and across economies. However, future research should keep in mind the significant limitations of the last-name based method. First, the last-name based measure underestimates kinship-based control and ownership in cases where (a) there is only one heir, and (b) members do not hold direct shares in the company, but indirectly own shares in the company through private holding companies. Multiple robustness checks and sensitivity analysis might help test the robustness of conclusions to these measurement issues, but future research using the last-name based method should use this method with care and thoughtfulness, keeping this significant limitation in mind.

This study has several other limitations. First, it does not allow for causal claims. Example, it is unclear from this study whether community firms are disproportionately

skewed towards smaller and younger firms because these entrepreneurs are more likely to found companies or because they are more likely to survive and go public? The second limitation is that the study is focused on a single country at a certain period in history, and cannot generalize to other countries and time-periods. Third, the data revealed several interesting aspects of this phenomenon that are beyond the scope of the present study and demand much more focused attention: (a) Why are Marwaris so dominant while other communities like the Chettiars seem to have disappeared; (b) What is the distinction, similarity and interaction between family and community, and how do family firms whose leaders belong to a trading community differ from family firms whose leaders do not; and (c) How do families and communities maintain control over the firm as they grow and age (for instance, reducing board memberships while increasing percentage shareholdings).

Despite these limitations, this study is a valuable contribution to scholarly debates about kinship-based control, and opens up intriguing new lines of research into the intersections of family, community, and firm-level characteristics. India is a fast-growing economy, but it is also an ancient culture, and larger tensions regarding kinship, community, and western values are being played out everywhere including in the arena of firm control and ownership. This study contributes to our understanding of this important economy.

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TABLES

Table 1: Extent of family and community control and shareholding over time

Year	No of Firms	All Directors and Owners	Community Directors and Owners[1]	Family Directors and Owners[2]	No of Firms for which shareholding data is available	Community Shareholding[3]	Family Shareholding[4]
2001	1,834	14,126	45%	45%	1,216	13%	20%
2005	2,486	24,567	44%	40%	1,374	14%	23%
2009	2,462	25,877	44%	41%	1,728	15%	26%
Total	**6,782**	**64,570**	**44%**	**42%**	**4,318**	**14%**	**23%**

[1]Percentage of directors and owners of the firm (of all directors and owners in that year) whose last names are typical of any of the three traditional trading communities (including last names categorized as "multiple", which are typical of more than one community).

[2]Percentage of directors and owners of the firm (of all directors and owners in that year) who share the same last name.

[3]Average percentage shareholdings of firms (across firms in that year) held by owners whose last names are typical of any of the three traditional trading communities (including last names categorized as "multiple", which are typical of more than one community).

[4]Average percentage shareholdings of firms (across firms in that year) held by owners who share the same last name.

Table 2: Extent of family and community control and shareholding by industry

	No of firms	All Directors and Owners	Community Directors and Owners[1]	Family Directors and Owners[2]	No of Firms for which shareholding data is available	Community Shareholding[3]	Family Shareholding[4]
Traditional Industries: Manufacturing, chemical, industrial and others	5,894	56533	45%	42%	3718	15%	24%
New Industry: Software, pharmaceuticals and technology services	888	8037	36%	37%	600	11%	20%
	6,782	64,570	44%	42%	4318	14%	23%

[1]Percentage of directors and owners of the firm (of all directors and owners in that industry) whose last names are typical of any of the three traditional trading communities (including last names categorized as "multiple", which are typical of more than one community).

[2]Percentage of directors and owners of the firm (of all directors and owners in that industry) who share the same last name.

[3]Average percentage shareholdings of firms (across firms in that industry) held by owners whose last names are typical of any of the three traditional trading communities (including last names categorized as "multiple", which are typical of more than one community).

[4]Average percentage shareholdings of firms (across firms in that industry) held by owners who share the same last name.

Table 3: Extent of community control across different communities

Year	No of Firms	All directors and owners	Marwari directors and owners[1]	Gujarati directors and owners[1]	Parsi directors and owners[1]	"Multiple" directors and owners[2]	No of Firms for which shareholding data is available	Marwari Shareholding[3]	Gujarati Shareholding[3]	Parsi Shareholding[3]	"Multiple" Shareholding[4]
2001	1,834	14,126	23%	7%	2%	12%	1,216	7%	2%	0%	4%
2005	2,486	24,567	24%	6%	2%	11%	1,374	8%	2%	1%	4%
2009	2,462	25,877	24%	6%	2%	12%	1,728	8%	2%	1%	4%
Total	6,782	64,570	24%	6%	2%	12%	4,318	8%	2%	0%	4%

1Percentage of directors and owners of the firm (of all directors and owners in that year) whose last names are typical of the Marwari/Gujarati/Parsi communities respectively.

2Percentage of directors and owners of the firm (of all directors and owners in that year) whose last names are categorized as "multiple", and which are typical of more than one of the three communities.

3Average percentage shareholdings of firms (across firms in that year) held by owners whose last names are typical of the Marwari/Gujarati/Parsi communities respectively.

4Average percentage of shareholdings of firms (across firms in that year) held by owners whose last names are categorized as "multiple", and which are typical of more than one of these three communities.

Table 4: Extent of community and family control and shareholding across firm sizes, ages and market shares

Panel A: Distribution of community and family control and shareholding by size							
Size-Bracket[5]	No of Firms	All Directors and Owners	Community Directors and Owners[1]	Family Directors and Owners[2]	No of Firms for which shareholding data is available	Community Shareholding[3]	Family Shareholding[4]
Small	1,618	11778	52%	52%	1,131	16%	23%
Medium	2,460	22855	47%	47%	1,719	16%	25%
Large	2,704	29937	39%	33%	1,468	12%	21%
	6,782	64570	44%	42%	4,318	14%	23%
Panel B: Distribution of community and family control and shareholding by age							
Age-Bracket[5]	No of firms	All Directors and Owners	Community Directors and Owners[1]	Family Directors and Owners[2]	No of Firms for which shareholding data is available	Community Shareholding[3]	Family Shareholding[4]
Young	2,072	18425	46%	45%	1,404	15%	23%
Medium	2,402	22399	46%	45%	1,610	15%	24%
Old	2,308	23746	41%	37%	1,304	13%	22%
	6,782	64570	44%	42%	4,318	14%	23%
Panel C: Distribution of community and family control and shareholding by market share							
Market-Share Bracket[5]	No of firms	All Directors and Owners	Community Directors and Owners[1]	Family Directors and Owners[2]	No of Firms for which shareholding data is available	Community Shareholding[3]	Family Shareholding[4]
Small	2,164	16648	48%	48%	1,460	15%	24%
Medium	2,276	22594	45%	45%	1,587	16%	24%
Large	2,342	25328	41%	35%	1,271	13%	22%
	6,782	64570	44%	42%	4,318	14%	23%

[1]Percentage of directors and owners of the firm (of all directors and owners in that size/age/market-share bracket) whose last names are typical of any of the three traditional trading communities (including last names categorized as "multiple", which are typical of more than one community).

[2]Percentage of directors and owners of the firm (of all directors and owners in that size/age/market-share bracket) who share the same last name.

[3]Average percentage shareholdings of firms (across firms in that size/age/market-share bracket) held by owners whose last names are typical of any of the three traditional trading communities (including last names categorized as "multiple", which are typical of more than one community).

[4]Average percentage shareholdings of firms (across firms in that size/age/market-share bracket) held by owners who share the same last name.

[5]Large, and medium categories represent the top 33.3% centile and top 66.6% centile of firms by total assets. Similar method to categorize age and market-share brackets using age and market share respectively.

Table 5: Descriptives and Correlations

Variable	Time	Community _Dir	Family _Dir	Community _Percent	Family _Percent	Age	Size	Market _Share	Business _ Group	New _Industry	Foreign _Share..	Insti. _Share..	Tobin'sQ
Obs	6,782	6,782	6,782	4,318	4,318	6,782	6,782	6,782	6,782	6,782	5,885	5,885	5,817
Mean	2.09	0.44	0.41	14.41	23.2	30.83	6.44	0.03	0.34	0.13	5.69	6.38	0.51
Std. Dev.	0.79	0.35	0.3	19.58	19.8	17.75	2.06	0.07	0.47	0.34	13.82	11.65	1.08
Min	1	0	0	0	0	3	-2	0	0	0	0	0	-4
Max	3	1	1	99	99	148	15	1	1	1	94	85	7
Time	1												
Community_Dir	-0.0047	1											
Family_Dir	-0.0519***	0.3592***	1										
Community_Per.	0.0199	0.8147***	0.3552***	1									
Family_Percent	0.1250***	0.1591***	0.5083***	0.3901***	1								
Age	-0.0338***	-0.0415***	-0.1258***	-0.0441***	-0.0518***	1							
Size	0.1729***	-0.1380***	-0.2844***	-0.1065***	-0.0554***	0.2597***	1						
Market_Share	-0.0225	-0.0955***	-0.1859***	-0.0521***	-0.0300	0.2633***	0.7471***	1					
Business_Group	-0.0380***	-0.0521***	-0.2412***	-0.0988***	-0.1952***	0.2950***	0.4189***	0.3170***	1				
New_Industry	0.0060	-0.0968***	-0.0783***	-0.0668***	-0.0641***	-0.1865***	-0.0330***	-0.2289***	-0.0574***	1			
Foreign_Share..	0.0484***	-0.1528***	-0.2327***	-0.1320***	-0.1294***	0.0750***	0.3582***	0.3035***	0.1369***	0.0494***	1		
Institutional_Share.	0.2182***	-0.0697***	-0.2200***	-0.0967***	-0.1847***	0.2164***	0.4306***	0.3240***	0.2833***	-0.0455***	0.1865***	1	
Tobin'sQ	0.2969***	-0.1072***	-0.2037***	-0.0384***	0.0760***	0.2358***	0.5531***	0.4119***	0.2071***	0.0603***	0.2961***	0.2007***	1

Spearman correlations; Stars indicate significance levels: *** p<0.01, ** p<0.05; *Family_Dir* is the count of the directors and owners of the firm who share the same last name, scaled by the total number of directors and owners of the firm. *Community_Dir* is the count of directors and owners of the firm whose last names are typical of any of the three traditional trading communities, scaled by the total number of directors and owners of the firm.

Table 6: Change in the identity of the largest firms in the economy over time?

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rank[1]	Company Name	Total assets[2]	Industry	2005[3]	2009[4]	*Family_Dir*	*Community_Dir*
1	Reliance Industries Ltd.	5,67,763	Refinery	1	1	0.3	0.6
2	Tata Steel Ltd.	1,28,096	Steel	3	3	0.0	0.3
3	Larsen & Toubro Ltd.	1,07,020	Industrial construction	8	6	0.1	0.4
4	Tata Power Co. Ltd.	84,848	Electricity generation			0.1	0.5
5	Tata Motors Ltd.	81,260	Commercial vehicles	5	5	0.0	0.5
6	Tata Communications Ltd.	76,401	Telecommunication services			0.0	0.3
7	Hindalco Industries Ltd.	74,898	Copper & copper products	4	7	0.2	0.7
8	J S W Steel Ltd.	73,424	Steel	9	9	0.2	0.3
9	I T C Ltd.	72,578	Tobacco products	7		0.0	0.2
10	Grasim Industries Ltd.	62,891	Synthetic textiles			0.2	0.5

[1]Rank based on decreasing order of Total assets in 2001 among publicly traded firms in our dataset, excluding central or state government enterprises, and excluding firms in the banking and financial services sector
[2]In millions of Rupees
[3]Rank in 2005 based on decreasing order of Total assets among publicly traded firms in the dataset, excluding central or state government enterprises, and excluding firms in the banking and financial services sector
[4]Rank in 2009 based on decreasing order of Total assets among publicly traded firms in the dataset, excluding central or state government enterprises, and excluding firms in the banking and financial services sector

Table 7: Multivariate regression to assess the extent to which firm-level characteristics are associated with family and community control.

VARIABLES	(1) Community _Dir	(2) Family _Dir	(3) Community _Dir	(4) Family _Dir	(5) Marwari _Dir	(6) Gujarati _Dir	(7) Parsi _Dir	(8) Parsi_Dir (Sans Tata)
Size	-0.023***	-0.028***	-0.016***	-0.022***	-0.009***	-0.001	-0.001	-0.001
	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)	(0.001)	(0.001)
Age	-0.000*	-0.001***	-0.000	-0.001***	-0.001*	0.000	0.000***	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Market_Share	-0.063	-0.178***	0.002	-0.127**	-0.003	-0.027	0.038*	0.025
	(0.051)	(0.044)	(0.067)	(0.060)	(0.051)	(0.018)	(0.022)	(0.020)
New_Industry	-0.109***	-0.091***	-0.094***	-0.078***	-0.085***	0.007	0.007	0.006
	(0.013)	(0.011)	(0.020)	(0.016)	(0.016)	(0.011)	(0.006)	(0.006)
Business_Group	-0.004	-0.089***	-0.015	-0.109***	0.015	-0.020***	0.011***	0.008**
	(0.009)	(0.008)	(0.015)	(0.012)	(0.013)	(0.007)	(0.004)	(0.004)
Institutional_Share.			-0.000	-0.001***	0.000	-0.000	0.000	0.000
			(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Foreign_Share.			-0.001***	-0.003***	-0.001**	-0.000*	-0.000	-0.000
			(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tobin'sQ			-0.005	0.003	-0.002	0.001	0.003**	0.002**
			(0.004)	(0.004)	(0.003)	(0.002)	(0.001)	(0.001)
Year2005	-0.010	-0.075***	0.000	-0.065***	-0.002	0.001	0.002	0.003*
	(0.011)	(0.010)	(0.006)	(0.008)	(0.006)	(0.003)	(0.002)	(0.002)
Year2009	0.005	-0.046***	0.013	-0.038***	0.003	0.002	0.001	0.002
	(0.012)	(0.010)	(0.007)	(0.009)	(0.006)	(0.003)	(0.002)	(0.002)
Constant	0.626***	0.708***	0.585***	0.709***	0.332***	0.075***	0.008	0.013**
	(0.017)	(0.015)	(0.023)	(0.021)	(0.021)	(0.013)	(0.006)	(0.005)
Observations	6782	6782	5,182	5,182	5,182	5,182	5,182	5,116
Wald χ^2	36.07***	144.83***	97.13***	713.73***	63.13***	27.21***	42.92***	32.38***

Robust standard errors in parentheses; Stars indicate significance levels: *** p<0.01, ** p<0.05; Inclusion of Tobin's q in columns 3-8 reduces the number of observations because Tobin's q requires a combination of stock market and annual report data and there are fewer firms for which both pieces of data are available.

Table 8: Multivariate regression to assess the extent to which age, size and market share are associated with family and community control.

VARIABLES	(1) Community _Percent	(2) Family _Percent	(3) Community _Percent	(4) Family _Percent
Size	-0.445**	0.014	-0.435*	0.175
	(0.200)	(0.201)	(0.228)	(0.268)
Age	-0.062***	-0.057***	-0.062***	-0.061**
	(0.016)	(0.018)	(0.023)	(0.024)
Market_Share	-8.064	-7.493	-10.576*	-8.308
	(6.136)	(5.952)	(5.690)	(6.139)
New_Industry	-3.964***	-3.903***	-3.751***	-3.573***
	(0.828)	(0.856)	(1.229)	(1.215)
Business_Group	-4.061***	-7.163***	-4.040***	-7.009***
	(0.702)	(0.735)	(0.966)	(1.000)
Institutional_Share.			-0.079***	-0.211***
			(0.018)	(0.021)
Foreign_Share.			-0.150***	-0.314***
			(0.025)	(0.033)
Tobin'sQ			1.193***	2.151***
			(0.278)	(0.331)
Year2005	1.246*	3.451***	0.617*	1.770***
	(0.732)	(0.745)	(0.367)	(0.454)
Year2009	2.462***	5.643***	2.345***	5.293***
	(0.736)	(0.738)	(0.462)	(0.559)
Constant	19.324***	23.963***	19.737***	24.784***
	(1.202)	(1.236)	(1.419)	(1.634)
Observations	4,318	4,318	3815	3815
Wald χ^2	20.95***	34.93***	169.46***	448.60***

Robust standard errors in parentheses; Stars indicate significance levels: *** $p<0.01$, ** $p<0.05$, * $p<0.1$; Note that the number of observations from 4,318 to 3815 in column 3 due to the inclusion of Tobin's q (Tobin's q requires a combination of stock market and annual report data and there are fewer firms for which both pieces of data are available).

APPENDIX A: Data Cleaning Procedures for Shareholding and Director Names

The data were first cleaned using algorithms that removed spaces, dots, and a list of other symbols and honorifics like "Dr.", "Mrs.", "HUF – Hindu Undivided Family", "Karta" (head of the family) etc. This process is essential because shareholder names (and director names) were slightly different across years – e.g., "Ghatek Singh Aluvalia" also appears as "Ghatek Singh Aluvalia (HUD – Karta)". However, the algorithmic process was not sufficient since sometimes there was no clear pattern to the slight differences between names: for instance, "Ghatek Singh Aluvalia" also appears as "Ghatek Singh Alluvalia." I also corrected for company-level name changes, and mergers and acquisitions during the 2001-2009 period.