

Mixing Family With Business:

A Study of Thai Business Groups and the Families Behind Them

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Abstract

A large fraction of business groups around the world are run by families. In this paper, we analyze how the structure of the families behind these business groups affects the groups' organization, governance and performance. To address this question, we constructed a unique data set of the family trees and the business groups they run for 70 of the largest business families in Thailand. We show that the group head and his brothers hold the majority of family positions within each group. However, we also find a positive relationship between family size and involvement of family members in the business group, especially when the ultimate control has passed from the founder to one of his descendants. Interestingly, groups that are run by larger families (more male siblings of the group head) tend to have lower performance. This negative performance effect coincides with a larger number of small firms in these group, more fragmented internal capital markets and possibly more tunneling along the pyramidal structure of the groups. These performance and within-group resource allocation effects are again especially pronounced in groups where the founder is no longer active and ultimate control has been passed to one of his descendant. One hypothesis that emerges from our analysis is that part of the decay of family-run groups over time may be due to in-fighting for group resources as control becomes more diluted among different family members.

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1 Introduction

Family firms have attracted a lot of interest over the last few years. Recent research shows that the U.S. experience of dispersed ownership, with strong separation of ownership and control, does not match the typical corporation across countries. Instead, most firms around the world are likely to be part of a group of companies, linked together through common ownership. Often the ultimate ownership lies with a single family. La Porta et al. (1999) show that a large fraction of public and private firms around the world are family-controlled and often follow a pyramidal ownership structure.¹ The use of pyramidal ownership structures allows the family to exert control over a large network of firms. While family firms appear to be more prevalent in countries with weak minority shareholder protection, a number of recent studies show that family involvement is quite widespread, even in the U.S. For example, Anderson and Reeb (2003) find that founding families are present in one third of S& P 500 firms and hold on average about 18% of equity in these firms.²

The economic literature so far has mostly treated the families behind business groups as monolithic entities. Most models of family businesses in the economic literature focus on the role of families as second best solutions to imperfections in the financial markets, the market for corporate control or the market for managerial talent.³ These models generally assume that trust relationships between family members can serve to (partially) solve principal agent problems between owners and outside managers, if monitoring of managers is difficult. However, families are constituted of individual members who may have their own personal objectives and claims over the family businesses. The divergence in objectives might even lead to an erosion of trust within families, especially once the founder has passed control to the next generation and an increasing number of family members become involved in the business over time. Our goal in this paper is to explore how these family dynamics affect the organization, governance and performance of business groups. One hypothesis that emerges from the analysis performed below is that the decay of family-run groups over time may in part reflect in-fighting for group resources as controls become more diluted among different family members.

To perform this analysis, we created a unique data set that contains detailed information on the

¹See also Claessens, Djankov, Fan and Lang (2000) for a study of family involvement in East Asian countries, and the European Corporate Governance Network (2001) for a similar study for European countries.

²See also Battacharya and Rabikumar (1999) and Perez-Gonzalez (2002).

³See, for example, Burkard, Panunzi and Shleifer (2003) and Caselli and Gennaioli (2003)

family trees (starting with the founder and following until the current generation) of about 70 of the largest business groups in Thailand. There are several motivations for our focus on Thailand. First, Thailand is one of the only countries we are aware of where such detailed family structure data could be constructed with reasonable accuracy. Second, the majority of Thai business families are of Chinese origin. Since Chinese families are very prevalent in business across South-East Asia, our findings potentially apply beyond the Thai context. Third, the 1997 South East Asian financial crisis presents a large negative shock to the Thai economy that will allow us to study how family involvement interacts with the restructuring effort that followed the financial crisis.

In addition to building these family trees, we have also compiled detailed balance sheet information on the businesses that are controlled by these families. For each of these family business groups, we have obtained information on the number of firms in the group, the financial performance of these firms, as well as their board composition and ownership structure. This data was collected for 1996 and 2001, i.e. a year before the financial crisis and a year after the crisis. For each of these business groups, we also constructed organizational charts that describe the network structure of the groups as of 1996.⁴

Our main findings are as follows. First, we document how control, management and ownership are allocated across family members. We find that the group head (who is almost always either the founder or a son of the founder) and his brothers hold the majority of family positions within each group. Larger families have more widespread involvement of family members in business (in the form of ownership and control) and consequently have a smaller share of outside managers. These results hold even if we instrument family size with the gender composition of children to control for endogeneity in the fertility choice of groups. This tendency to hire family members for positions within the family firms is especially strong when the ultimate control of the group has passed from the founder to one of his descendant.

Second, we show how within-family dynamics interact with the organization of the business groups. We find that there are more firms at the top of the group structure when the group head has more male siblings. Moreover, larger families are associated with a larger number of *smaller* firms in the group and somewhat deeper groups. Again, these effects of family composition on group size and structure are stronger for groups where ultimate control has been transferred

⁴We are currently constructing such organizational charts for 2001.

from the founder to one of his descendants. Looking at the board composition of individual firms within a group, we also find that group firms tend to overlap less along genealogical lines once the founder has left active management: different sons of the founder are less likely to jointly hold board positions in the same firm once the founder retired. These results may suggest that potential conflicts between family members lead to distortions in the organization and governance of the groups once the founder has retired.

Finally, we analyze the implications of these family structure variables for group performance and other financial outcomes. We show that groups have lower performance if the founder is no longer active –much in line with previous findings on founder succession. Most interestingly, we show that this negative performance effect is stronger when the current group head has more male siblings. We also find that capital markets become more fragmented in groups where family involvement is more widespread *and* the founder is no longer active. Similarly, we find preliminary evidence of increased expropriation activities in these firms. This analysis suggests that the widening of family involvement might alter the performance of groups through other channels than the sole quality of their management. Part of the decay of family firms over time may be due to a infighting for group resources across a larger set of family members.

Our paper builds on several recent studies which document that founder succession is important in explaining the relatively poor performance of family firms. Indeed, several papers have shown that family firms have on average lower stock market valuations and lower rates of return than non-family firms (see for example Claessens, Djankov, Fan and Lang (2002), or Conqvist and Nilsson (2003)). More recently, Perez-Gonzales (2002) and Villalonga and Amit (2004) show for U.S. firms that this negative performance effect is in large part related to the passing of active management and control from the founder to the descendants.⁵ But not all papers conclude that family firms perform worse on average. For example, Anderson and Reeb (2003) find higher performance for family firms in the U.S. Khanna and Palepu (1997) show that business groups in India (which are for the most part family-controlled) on average perform better than stand-alone firms in matched industries.

Our paper is also closely related to a sociological literature on family groups which tends to focus

⁵Using Swedish data, Conqvist and Nilsson (2003) also shows that family firms with controlling minority ownership stakes are 50% less likely to be taken over but have a three times higher bankruptcy probability than non-family firms.

more on detailed descriptions of *within-family* dynamics. For example, a number of sociological studies, relying for the most part on case studies, interviews or anecdotal evidence, have stressed the importance of cultural factors in explaining the emergence of family firms. For example, Redding (1990), Jones and Rose (1993) and Whyte (1996) explore this argument in the context of Chinese families. These papers suggest that family traditions and inheritance rules might be central to the evolution of family businesses. They also highlight the possibility of conflicts within business families and how those might alter the direction and growth of the businesses. Moreover, the importance of family structure also plays a prominent role in political models of family firms, where specific family members present an important source of reputation capital in political markets. For example, Morck, Stangeland and Yeung (2002) suggest that if the government plays a central role in the economy, family connections may provide access to resources. This can lead to a cycle whereby resources become even more concentrated in the hands of a few families, which then further increase their political influence.⁶

The rest of this paper is organized as follows. In section 2, we provide background information on Thai business history, including the evolution of family businesses. Section 3 explains in details how the data was collected. We provide summary statistics of the data and its limitations. Section 4 describes the involvement of different family members in the group firms. Section 5 investigates the relationship between the structure of the family tree and the organization of the group. And section 6 focuses on the implications for the performance of the family groups. Finally, section 7 concludes.

2 Brief Historical Background

The Thai economy was integrated into the world economy in 1855 when the Bowring Treaty was signed between Britain and Siam. This treaty ended the King's monopoly power over international trade and lowered the tariff on exports and imports. This trade expansion induced European businesses to enter Thailand, mainly through trading-houses, banks, and in the forestry, mining, and engineering sectors. Over the same period, the number of Chinese immigrants increased. Almost three million Chinese immigrants arrived in Thailand between 1882 and 1931. By the end of the 1920s, almost 12% of the total population of Thailand was of Chinese origin (Limlingan,

⁶See Mamon (2002) for a similar description of the emergence of family firms in South Korea and Israel.

1986). Most of these immigrants were poor and worked as laborers in the growing export industries such as rice milling. But a number of these immigrants became entrepreneurs in various industries such as agriculture, trade, and mining, and started to expand their business extensively. The origin of some of the most well-known business families can be traced back to this period (Suehiro, 1997).

The revolution of 1932 marked the end of the absolute monarchy. The King's Privy Purse Bureau was dissolved and replaced by the Crown Property Bureau – one of the largest business groups in Thailand today. Other large family groups such as the Wanglee family and the Lamsam family also expanded during this period due to their oligopoly in agriculture-related business, especially rice milling and exporting. Despite the government's nationalistic policies, these families managed to cooperate with the government in running a number of state-owned enterprises.

After the Second World War, Thailand entered a long period of successive military dictatorships that lasted until the 1970s. During this period, the government and military leaders became involved in business through share holdings or board participation in both state-owned enterprises and private companies. This involvement ranged from agriculture and manufacturing to banking and other services. These connections allowed the related companies to grow rapidly. Examples are the Thai Farmers Bank of the Lamsam Family and the Bangkok Bank of the Sophonpanich family.

The First National Economic Development Plan was introduced in 1961, which marked the beginning of the industrialization of the country. The Thai economy has moved toward industrial manufacturing since then. Real GDP grew at an average rate of 7.7% per year between 1960 and 1998. During this time period the economy witnessed the expansion of domestic business groups as well as the entry of new entrepreneurs and multinational corporations. The Securities Exchange of Thailand was established in 1975 with nine companies listed. The number of listed companies increased substantially during the 1990s. Economic growth began to slow down in the mid 1990s and was negative during the East-Asian crises. There were 454 companies listed on the stock market prior to the crisis; by the end of 2001 this number had dropped to 382. Almost half of the de-listed firms were in the financial sector. The financial crisis forced many families to reorganize their business groups but also led to the bankruptcies of many family firms that had been prominent in the Thai economy for decades. After 1999, the economy started growing again at an average rate of 3.6

3 Data Collection

3.1 Firm Data

All registered firms in Thailand have to submit annual financial statements to the Department of Business Development at the Ministry of Commerce. The data must be audited by an authorized auditor. On top of this information, all listed firms are required to submit additional balance sheet data to the Security and Exchange Commission. These financial records are available in the *Thailand Company Information* database.

The *Thailand Company Information* database contains financial, ownership and board composition information at the firm-level. The financial information includes total assets, total liabilities, total revenues and net profits. Ownership is reported as the percentage of company shares directly held by separate legal entity (ordinary persons and judicial persons such as other firms). The database also includes information of the names of all the directors on the firms board. For publicly traded firms we also know the specific position on the board a particular person holds, allowing us to distinguish between executive and non-executive board positions.⁷ The database also provides information on industry classification similar to 1 and 2-digit SIC codes, and founding year for each firm.

From this database, we construct a two-year (1996 and 2001) firm panel dataset. Starting in 1996, we restrict our sample to those firms that have annual revenues of at least 200 million Baht in that year (approximately eight million US dollars) or are listed on the Stock Market Exchange of Thailand (SET). Our 1996 sample therefore includes all publicly traded firms and the largest privately held firms in Thailand, for a total of 2153 firms in 1996. We then track the same set of firms to 2001. Out of 2153 firms in 1996, 1718 are still in operation in 2001.⁸ This implies a cumulative exit rate of 20 percent, which matches aggregate figures obtained from alternative sources. For 2001, we supplement the *Thailand Company Information* database with the *Listed Company Information*, provided by the Stock Market Exchange of Thailand, as well as with data from Business Online Co., Ltd. (BOL).

⁷We classify as executive board members CEO's, presidents, chairpersons, managing directors, executive directors, and the associated vice, deputy, and assistant positions. Other directors are defined as non-executives (which may include "honorary" positions).

⁸We are careful to track firms that changed their names between 1996 and 2001 by tracing their registration numbers. We also double-check any name changes filed with the Ministry of Commerce.

3.2 Family Data

Our objective is to construct family trees for the family groups in our sample that are as accurate and comprehensive as possible. For that purpose we rely on a number of sources. We start with information from a publication by the Brooker Group entitled *Thai Business Groups: A Unique Guide to Who Owns What*. This book identifies the 150 leading business families in Thailand, and covers the history of each of these families since the time the first business was founded until today. While this source helps us to identify the relevant set of business families, it does not provide systematic information on the full family tree. We therefore construct more detailed descriptions of Thai business families from several alternative sources. First, we collect information from the Funeral Book Collection at the National Library in Bangkok. It is customary in Thailand when a public person dies that the descendants compile a funeral book that contains information about the person's life and his family relationships. Second, Sappaibul (2001a, b) also provides impressive information on 55 of the most famous business families. Third, we supplement this information with articles from various local business magazines and newspapers. And finally, we also conducted interviews with family members of a few business families to verify the accuracy of our data.

The data we collected starts with the founder of each business group and his brothers and sisters. This is the *founding generation* in our family tree. We then track all direct descendants of the founding generation up to the last generation that is currently active in business. We include information on all family members, *whether or not* they are involved in the family business. The founding generation is coded as generation one, the children of that generation as generation two, and so on. For each family member, we collect information on their specific position in the family tree, gender and birth order (defined as the rank order of children within a specific marriage).

For each family member we also collect information on the name of the spouse, whenever possible. We do not, however, count spouses as part of the family when we construct measures of family size. For a subset of family members, we were also able to obtain information on education, business background and political experience. We also collected information on relationships *across families*, through marriages, cross-family joint ventures, or directorships. Finally, we also relied on these sources to identify which specific family members, if any, had been designated as "heir" of the family business.

As an example, Figure 1 displays one of the family tree we have constructed based on these

sources. The Bhirom Bhakdi family owns and manages a beer business in Thailand under the brand “Singha.” The family business was started in 1932 by Boonrwad Satrabutr. Boonrwad is coded as the first generation in our data. He adopted Wit, who is a son of his brother, as his child. He later had two other sons, Prachuab and Chamnong, from his own wife. Wit, Prachuab and Chamnong are considered as the family’s second generation. There are eleven family members in the third generation: five males and six females. They are sons and daughters of Wit, Prachuab and Chamnong.

Each individual in the family tree was then matched to the ownership and board composition data collected at the firm-level, allowing us to determine whether a specific family member is involved in the family business, in which capacity (through ownership and/or control) and in which firms. There are two major data challenges in performing this matching exercise. First, there are typically many different English spelling for a given Thai name, forcing us to do most of this matching by hand. Second, special care had to be taken in matching female family members to the ownership and board information as they may have dropped their maiden name after getting married.

Since we have to rely on secondary sources to construct the family trees, there is some obvious concern about the completeness of this information. In particular, one might be concerned that there is a bias in coverage of family members that are involved in business, while family members that are more private will not be mentioned in these sources. For that purpose, we have limited our sample to 70 families for which we can cross check the information using several different sources. But even for these families, there is still some concern that the information we have obtained may not be complete. For example, the coverage of the sisters of the group founder seems to be incomplete, since the ratio of male to female is far from even in the founding generation. However, for second generations and beyond this problem is much less pronounced, with about 40% of the family members in our data being female past the first generation. Another major limitation of our family data is that we cannot systematically track whether a given family member in our family tree is still alive or not. We will come back to how we deal with this issue later on.

3.3 Description of Family Groups

Table 1 provides a first overview at the business families in our sample. While the average family has 16 members, there is wide variation in family size, where the largest family has as much as 130 members and the smallest has two.⁹ There are two main sources of variation in family size: (1) the average number of children each couple has, and (2) the number of generations that have passed since the founder started the business. On average, the business groups we cover have been around for 2.5 generations, with a minimum of 1 generation (three families), and a maximum of five generations (only one family). The average family in our sample controls seven different companies in 1996. As a whole, the 70 families we cover control more than 30 percent of all the assets in our 1996 sample of firms.

How representative are the family groups that we cover in our data? We obviously do not have information about family trees for the families we did not cover. Consequently, we can only compare other observable business characteristics (such as group structure and size) for the families in our sample and the other families also included in the Brooker Group publication but not in our sample.

Not surprisingly given our sample construction process, we find that the families included in our sample control relatively larger groups. Table 2, shows that the groups covered in our sample have on average seven firms while other business groups listed in the Brooker book only have four firms on average. The two sets of family groups, however, differ much less in other dimensions. Average financial leverage (defined as the ratio of total group liabilities over total group assets) is identical across the two samples (70%). Also, we find no statistical difference in average firm performance between the two samples: In the last two rows of Table 2, we report the results from a regression of firm-level return on assets on a dummy for families included in our sample and a dummy for families that are not covered in our sample but identified in the Brooker Group publication. The second to last row of Table 2 reports the estimated coefficient on these dummy variables. Both dummies are economically small and statistically insignificant. The last row of Table 2 replicates the same exercise but adds additional controls for the logarithm of firm assets and 2-digit industry fixed effects. The family firms not included in our sample perform slightly better on average than

⁹We directly address the skewness of the family size variable when moving to our empirical tests. We verify the robustness of all results to dropping the largest families or performing median regressions.

the rest of the economy. The performance of firms belonging to the covered families does not differ from the rest of the economy.¹⁰

In summary, the 69 families we study control the largest business groups in Thailand. While this should be kept in mind when venturing into any generalization of our findings, the overall economic importance of these families makes the study of their handling of business even more intriguing and relevant.

4 Involvement of Family Members in Family Business

As a first step, we propose to simply describe which family members are involved in the management and control of the family business, and in which position. We focus on four types of involvement: designated heirs to the family business, board membership, executive board membership (for publicly traded firms only), and ownership. Information on board membership and ownership is derived directly from the firm-level data. Information on designated heirs was compiled from the secondary sources used to collect the family tree information.

4.1 Group Heirs

One of the most important decisions the head of a business group has to undertake is selecting a successor. We start by analyzing which family members are chosen as successor (heirs) to the founder. Across all the families in our sample we identified 76 family members that have been nominated as heirs. Nearly all of the designated heirs are male. Only 2 of the 76 heirs are female.

We break down the different generations of successors to the founder into first, second, third and fourth heir. A change in control from founder to first heir has occurred in 40 of the 69 families we study. We identify 59 individual as first heirs.¹¹ An overwhelming majority of first heirs are sons of the founder (80%). The remaining first heirs are either grand-sons of the founder (10%) or other siblings of the founder. For a subset of the families, we can track the birth order for the founder's children. For that subset of families, we find that about 2/3 of the sons designated as first heirs are oldest sons of the founder.

¹⁰It is important to note that the firms that are not classified as "Brooker Group" firms need not be stand-alone firms. These firms could be part of conglomerates that have different ownership structures or other family groups that are not covered in the Brooker Group publication.

¹¹Hence, several families designate more than one first heir.

Second heirs have been appointed in only eight families of the 69 families we study. In total we identify 14 second heirs. Eight of these are grand-sons of the founder, and seven of these are oldest sons. The remaining second heirs are younger sons of the founder (more than 30% of the cases), or other siblings of the founder. For the very limited cases where we observe a third or fourth heir, these are always grand-sons or great-grand-sons of the founder.

These findings are very much in line with the sociological research on inheritance patterns in Chinese families. Our data reconfirms that inheritance of the business is a very male dominated process and closely follows the birth order of sons. The results also reaffirm the importance of male family members for business decisions. It is therefore not surprising that the families we study display significant pro-male bias in their fertility decisions. As in prior studies, we establish this bias by regressing the number of children the founder has on the gender of the founder's first born child. We find that founders whose first born is a female have significantly more children on average.

In the analysis that follows, we will often contrast our findings for groups where the founder is still in charge of the family business versus groups where the founder has retired. We propose two separate ways to do that. First, we differentiate groups where at least one heir has been chosen from those where no heir has been identified. Alternatively, we also measure directly whether the founder still holds any board position in the family group. While these two variables are positively correlated, they do not perfectly overlap.

4.2 Family Size and Involvement

We now turn to broader patterns of family involvement in board membership, management and ownership. For each family, we compute the number of different family members that are involved in each of these aspects of the family business. We are especially interested to see if family involvement is correlated with the size of the family. We present these results in Table 3.

As discussed above, we obtained detailed data on the name of all board members for all the firms in our sample. For publicly traded firms, we can further classify board positions into more detailed categories: executive positions, non-executive positions and honorary positions. About 50 of the business groups in our sample have at least one publicly traded firm.

Panel A of Table 3 reports summary statistics for the breadth of family involvement in the family

business. On average, four different family members hold a board position, nearly two different family members are involved in management and close to five own some shares in at least one of the group firms. There is, however, large variation in the amount of family involvement across groups. The maximum number of family members with board positions is 26, the maximum number of family members with management positions is 21 and the maximum number of family members with ownership is 10. We also compute the fraction of all board and management positions held by family members within a group; the means are 37 and 32 % respectively. This implies that family members control on average 1/3 of all executive and non-executive positions in their family group. Again, there is large heterogeneity across families; in some families, management and board membership are 100% in family hands.

Panel B of Table 3 correlate family involvement with family size. Each row in this table corresponds to a different regression.¹²

Row 1 correlates the number of family members that have *any* board membership to the number of male and female family members.¹³ We also include dummy variables for the number of generations since the group was founded. We find a strong positive correlation between the number of male family members and the number of family members that are involved in business. The estimated elasticity, 0.74, is high. On the other hand, more female family members are not associated with wider family involvement. In fact, the point estimate is negative.¹⁴

One obvious difficulty in interpreting the positive correlation between the number of male family members and broader participation in business is that fertility choices are likely endogenous. Founders may purposefully procreate more if they are planning to grow the family business strongly. To address this problem we instrument the number of male family members with the fraction of first born children that are female across all couples in a family tree, controlling again for the number of generations. If the fraction of female first born children is large within a family, one would

¹²All regressions, except that in row 2, are estimated using OLS. The results are however robust to running median regressions or dropping the largest families from the sample.

¹³Note that we use here all family members in the family tree when computing number of males and females. One would optimally like to use only family members that are alive and of working age. Unfortunately, as we discussed above, we do not have good information on age in our data. We obtain, however, qualitatively similar results when we focus on number of males and females in “active generation,” i.e. generations where we observe at least one active family member in that generation.

¹⁴Note that this result cuts against the worry that there is a selection bias in the number of female family members that are reported in the family tree. If female family members were more likely to be included if they are involved in the business, the result should lead to strong positive bias on the coefficient on female family members.

expect this to be associated with a smaller number of male family members. The advantage of this instrumentation approach is that it relies exclusively on biological chance rather than on intentional fertility choices (abstracting from selective abortion). Therefore in row 2 we use the fraction of first born children that are boys as an instrument for family size. The first stage regression (not reported) shows a strong negative correlation between the fraction of female first born and number of males.¹⁵ In row 2, we see that the estimated coefficient on the number of males is positive and significant in the IV regression. The point estimate is not statistically different from the OLS regression. Hence, the result in row 2 supports a more causal interpretation of the relation between family size and involvement in business. In other words, it appears that exogenous shocks to the *supply* of male family members increase the involvement of family members in the business.

Row 3 focuses on the number of family members that hold executive positions. We find very similar patterns to row 1, though the elasticity of number of males to number of executive family members is lower (0.47). In Row 4 we analyze whether the concentration of control in the hands of family members is related to family size. We regress the fraction of all management positions that are held by family members on the number of males and females, again controlling for generation dummies. The estimated coefficient on males is positive and marginally significant ($p = 0.14$).

We now want to understand if the level of involvement by family members changes if control has been transferred from founder to heir. We proposed earlier two different measures to identify families where the transition has taken place: 1) if the secondary sources identify at least one heir in the family and 2) if we directly observe that the founder no longer holds any board position. The next four rows replicate row 4 for these different sub-samples of families. Interestingly, we find that the positive relationship between the number of male siblings and the concentration of control in family hands is entirely driven by families where control has been passed on to an heir (or where the founder is no longer active). In the subsequent five rows, we show a similar pattern for the fraction of *management positions* held by family members. As before, the coefficient on the number of female family members is insignificant in most specifications. In other words, while more male siblings imply more family involvement in management and control across all groups on average, this effect appears mostly driven by groups where ultimate control has passed from the

¹⁵The across-family mean for the fraction of female first-born children is about 0.33. Again, while one would expect this mean to be about 0.5 in a large population, this lower mean is in accordance with the fact that we are missing some females in our family tree data.

founder to an heir.

The last five rows replicate the same analysis but focus on the number of family members who are directly holding shares in at least one of the group companies. Again, the same patterns emerge. More males imply a wider dispersion of shares across family members and this effect is stronger and more precisely estimated for the groups that have elected an heir or groups where the founder is no longer active in the family business.

4.3 Allocation of Control and Ownership to Specific Family Members

We now investigate in more detail how control and ownership are allocated to *specific* family members. We start with the allocation of *control rights* through board membership and executive positions. Given the data constraints discussed above, we can only differentiate these positions for the publicly traded firms. As before, we focus on the 1996 data. First, we look at the cross section of family involvement on broads. Ideally, we would like to focus only on family members that are alive and of working age, but as mentioned before we have only limited information on date of birth and death. To deal with this issue we control for the number of *active generations* in each of these families. We define a generation as *active* if at least one family member in that generation holds a position within the family business in 1996.¹⁶

The results of this analysis are presented in Table 4. We categorize family members based on their relationship to the group founder or the current head of the group. We define current head as being the latest heir identified in a given family tree; if no heir was designated, the current head is the founder. For each position in the family tree (e.g. brother of founder, son etc.), we determine which fraction of all family-held positions held by family members in that position. We compute these fractions either based on a simple count of positions, or based on an asset-weighted count. The asset-weighted count gives more weight to board membership in larger firms. Panel A of Table 4 shows the distribution of positions across family members based on their relationship to the group's founder. The results document that control is concentrated among the children and grand children of the founder. The involvement of more distant family members (such as nephews or even siblings of the founder) is much more limited. Children of founders hold about 40% of all family positions in 1996. Founders themselves, when still active, hold about 9% of all positions.

¹⁶Obviously, the notion of active generation could be somewhat endogenous. For example, older family members may decide to retain control longer in families where less young family members are available.

Moreover, founders disproportionately hold positions in larger firms.

The second part of Table 4 traces the distribution of position across family members based on their relationship with the current head of the business group. That table indicates that control is concentrated in the hands of the current head and his siblings. About 60% of all family positions are held either by the current head or his siblings. Involvement of parents is quantitatively more limited but clearly targeted towards the largest firms. The reverse pattern applies for the children of current heads: While they hold a little less than 15% of all positions, their involvement is in the smaller firms in the groups. The last row of Table 4 confirms that involvement in the family business is a male dominated activity. Female family members hold only about 10% of all family positions and their involvement tends to be concentrated in smaller firms.

Table 5 replicates the results for positions held in public firms (for 1996). For these firms we can classify positions as either non-executive, executive or honorary (based on a board members' title). As before, we report the distribution of these positions based on the person's relationship to the current head of the group. A picture similar to that in Table 4 emerges. However, there are important contrasts across different types of positions. First, honorary positions are mainly controlled by current heads and their parents, with no involvement of other siblings. From an asset-weighted perspective, heads manage 30% of the assets, with the remaining 60% of all executive positions being roughly equally distributed between siblings, parents and uncles of heads. The largest share of the non-executive positions is controlled by siblings of the current head. Involvement of children of the head is limited to smaller firms.

This cross-family approach gives a good overview of how control is spread out across family members. However, it does not necessarily reflect *individual-level* allocations. For example, a founder may hold a lower fraction of positions than all his sons combined, but he might still hold a larger number of board positions than any individual son does. Moreover, the descriptive statistics give more weight to the largest business groups, since these have a bigger number of family members involved in it. To address this issue, we complement the results above with individual-level regressions in Table 6. We focus again on positions in publicly traded firms in 1996, and restrict the sample to male family members in active generations. We regress the number of positions a family member holds on dummies for different relationships to current head: current head himself, father of head, brother of head or son of head. We also control for family fixed effects to account

for any fixed differences across families in number of positions (which could for example result from differences in group size).

The dependent variable in the first column of 6 is a simple count of positions by family members. Current heads hold on average one more position than any of their siblings and siblings hold more positions than fathers (even though the difference is not statistically significant) and sons. The positive point estimates on these four dummies indicate that these close family members hold on average more positions than other family member. In column (2), we repeat the regression in the first column for an asset-weighted count of positions. We find that the results for the group heads, brothers and fathers of heads are even stronger than in the non-weighted regression, suggesting that these family members hold particularly important positions within the firm. Any brother controls about 1/3 as much assets in his group as the head, and more than any other family members. The last two columns replicate the first 2 columns but focus on executive positions only. The results clearly indicate that heads, their father, and brothers play the most significant executive role in family groups. We also find that precise genealogical lines matter strongly for involvement in the family firms. Within a given generation, sons of sons are much more likely to be involved in the family group than sons of daughters are (results not reported).

In summary, we find that: (1) The involvement of family members in business is positively related to the number of *available males* in the family. (2) However, not all male family members are equal; involvement in the family business is mostly concentrated among the immediate relatives of the current head (brothers, father and sons of the current head). (3) Executive roles are shared across brothers of heads (mostly sons of the founder in our data). While oldest sons of founders are much more likely to be chosen as heirs of the family business, other sons also appear to inherit a substantial role in the control of the family business. (4) Female family members are not totally precluded from participation in the family businesses; however, the majority of positions are held by male family members.

4.4 Within-Family Governance and Internal Organization of Groups

The natural next question is whether varying kinship relationships between family members affect the overall board composition of family firms. For example, the level of trust or comfort between

family members might be higher the more closely related family members are. In that case we would expect more joint board memberships between these (close) family members, and vice versa for more distant ones. Here again, one might conjecture that this effect is especially strong in groups where the founder is no longer active and the cohesion possibly provided by his authority has vanished.¹⁷

To analyze this question we construct indicator variables for whether different types of family members are sitting on the board of a given firm, either in an executive, non-executive or honorary position. We estimate the likelihood that different types of family members are *jointly* sitting on the board of a given family firm. These regressions are estimated at the firm level and include family fixed effects and control for the total number of family members on the board. The results in this table are robust to controlling for other firm characteristics such as their size, listed status and direct family ownership in the firm.

The results of this analysis are presented in Table 7. Panel A presents results for groups without a designated heir, and Panel B focuses on those with a designated heir. We start by analyzing how group heads and their male siblings are allocated across boards in column 1. There is a sharp contrast between families with and without heirs. Column 1 of Panel A shows no significant correlation between the presence of the group head and at least one his brothers in families where the founder is still in control. However, there is a strong negative correlation in families where the founder is retired (Column 1, Panel B). Hence, brothers are much less likely to sit on the same boards in families where official control of the group has been passed on to younger generations.

In columns 2 and 3, we focus on board membership for female siblings. Since they are likely to be weaker within the power structure of the family, they might be especially subject to expropriation by other family members. Column 2 describes board membership for the sisters of the group head. We correlate the presence of a sister on the board with the presence of either the group head or one his brothers. If the founder is still in charge of the group, we find no systematic correlation (Panel A), but we find a strong negative correlation in groups where the founder has retired (Panel B).¹⁸ In column 3, we repeat this exercise for any female direct descendant of the founder and any male direct descendant of the founder. We also control for the oldest generation a family member

¹⁷However, one could theoretically also argue to the opposite. Joint board membership may be a way for distrustful family members to directly monitor each other's.

¹⁸One should however be cautious because of the incompleteness of our data coverage for sisters of the founder.

on the board belongs to. We find that female descendants of the founder appear to be separated from males with respect to the boards they sit on. We also find in Panel A that female descendants appear to systematically share board memberships with more senior family members.

In summary, the findings of Table 7 provide suggestive evidence that families may not be monolithic. In fact, the governance structures of family firms may reflect *within-family* dynamics and relationships. In particular, our results seem to be consistent with the hypothesis that positions in family firms are allocated to avoid overlap or potential conflict between different parts of the family, especially once the founder has retired. The different sons of the founder usually do not sit jointly on the boards of firms and female family members are not likely to sit on boards with male family members of direct lineage to the founder.

5 Family Structure and Groups' Size and Organizational Structure

The above analysis suggests that family size and genealogical lines may be important in understanding the allocation of control rights among family members. In the following section we investigate whether central business decisions of the groups, such as firm size, industry focus and organizational structure are also affected by the structure of the family behind the group. For example, while we have already shown that the presence of more family members is associated with greater crowd-out of professional managers and outside board members, one may wonder whether it also affects the number of firms in the group and its organizational structure.

In Table 8, we relate different characteristics of the groups to family structure variables. The regressions in this table are performed at the family-level. Based on our prior analysis, we proxy for family size with the number of male family members. All regressions in this table include dummy variables for the number of generations since the group was started. The first variable we consider is the number of firms in the group (as of 1996). Column (1) documents a positive, although statistically weak, correlation between the number of firms in the group and the number of male family members, across all families.¹⁹ Column (2) shows that this positive relationship between group size and number of male family members is not driven by the number of brothers of the

¹⁹Note that we count all male family members here, and not only males in “active generations”, since the current structure of the group most likely is shaped by the cumulative structure of the family over time. However, we obtain similar results if we use only the structure of the active generations.

current head of group.

In the remaining 4 columns, we replicate column 1 but separate families into those that have selected an heir and those that have not (columns 3 and 4), as well into those where the founder is still active and those where the founder is no longer active (column 5 and 6). Interestingly, family size only appears to predict group size (positively) in families where an heir has been designated or the founder is no longer active. The economic magnitude of this effect is large. For example, in column 4, we find that each additional male family member is associated with 0.6 more firms in the group.²⁰ In regressions not reported here, we also find that larger families are associated with larger total group assets. However, that effect is economically much smaller than the effect on the number of firms. This suggests that the average size of the firms within a group declines with the number of male family members. In other words the assets of the group tend to be divided into more separate parts, when the number of male family members increases.²¹

Second, we analyze how the hierarchical structure of groups varies with family structure. We define group depth as being the maximum number of (firm) layers separating a firm in a group from the firm(s) at the top of that group. This variable ranges from 0 to 6, with a mean of about 2.²² In all regressions here, we also control for the number of firms in the group.²³ We find that more males are associated with deeper groups, holding group size constant (column 1). As before, this group depth effect is not driven by the number of brothers of the current head (column 2). When we separate groups where the founder is still in charge from groups with heirs, we find that the relation between family size and group depth is stronger for groups without heirs (column 4). The alternative breakdown of families based on whether the founder is still active or not delivers noisier results. Note that we also check whether this effect on group depth is related to an effect on average *direct* family ownership in the family firms. Maybe surprisingly, we found no systematic relationship there. In other words, while larger families have more pyramidal groups, this does not translate into lower average direct family ownership in each firm.

²⁰These results are robust to estimating median regressions instead of OLS, as well as to dropping the largest families from the sample.

²¹In regressions not reported here, we also study whether group diversification, which we measured as fraction of group assets in the group's primary 1-digit or 2-digit industry, increases with number of male family members. While there is such a positive and statistically significant association in the data, this association becomes much weaker once we control for the number of firms in the group. This is not surprising since the two variables are highly correlated.

²²We obtain qualitatively similar results using average number of layers rather than maximum number of layers.

²³All the patterns discussed below are quantitatively and statistically stronger without that control.

Third, we look at the structure of the firms at the top of the group, i.e. number of firms in the group that are directly owned by family members, but not by any other family firms. We find no statistically significant relationship between the number of firms on the top of the group and the total number of males or females in the family (column 1). However, we find a strong positive correlation between the number of firms on top of the group and number of *brothers* of the current head. This relationship again appears to be stronger in groups where founders are no longer active (columns 4 and 6). Each additional son is associated with about 0.2 more firms on top. These findings might imply that family groups become divided into a number of separate hierarchies if the group head has more brothers (i.e. the founder has more sons).²⁴

In summary, it appears that a set of relevant group characteristics varies with the size and structure of the family. Interestingly, the impact of family structure on the organizational form of the group appears to be stronger for groups where control has been passed on from the founder to the next generation (in form of an heir).

6 Family Structure and Group Performance

We now turn to analyze whether the above documented involvement of family members in business and the ensuing differences in the structure, ownership and control of these groups is also associated with differences in performance. On the one hand, there are several reasons why we could expect lower performance for groups run by larger families. If family managers are less skilled than outside managers, greater involvement of family members will negatively affect performance. We also found that groups run by larger families are more hierarchical and are divided into more subgroups when the founder has more sons. This could indicate a reduced ability to benefit from economies of scale or scope. Finally, larger families might be prone to more infighting over resources. These theories would predict that broader family involvement will lead to more distortions and lower observed performance. On the other hand, we might conjecture that the market for corporate control and top executive talent is thin in Thailand. If a good governance of professional (outside) managers is difficult to establish, relying on trust relationship along kinship lines might be preferential since it

²⁴To investigate this possibility, we estimated (in regressions not reported here) the relationship between the number of subgroups within a group and number of brothers. We define a subgroup as a cluster of family firms that are related to each other through ownership links. While this relationship is positive, it is noisily estimated, and we cannot conclude in favor of a positive association with a reasonable level of confidence.

could serve as a substitute for direct monitoring. Moreover, a larger family offers a deeper talent pool of potential managers to draw from. These theories would imply that larger families would be positively related to group performance.

6.1 Group Level Performance Results

In Table 9 we study the relationship between group performance and the structure of the families behind them. Panel A presents regressions at the group-level, and Panel B at the firm-level. In Panel A, we define group performance as the sum of net profit across all group firms in 1996 divided by the group's total assets in 1996. All regressions in that table include a dummy variable for the number of generations since the group was started. Columns 1 and 2 analyze whether groups perform differently when ultimate control has passed from the founder to an heir. In column 1, we regress group ROA on a dummy variable for whether the founder still holds any board position in the group. The estimated coefficient on that dummy is positive and statistically significant. The magnitude indicates that groups where the founder is still active have five percentage points higher ROA on average. This finding is consistent with previous studies about family firms such as Perez Gonzales (2003) and Villalonga and Amit (2004). Moreover, we should note that any survivorship bias of groups would mute this positive performance effect. In column 2, we repeat the analysis of column 1 with an alternative measure of founder succession that is based on whether our secondary sources identify that control has passed to an heir. Again, we find that families with no heir perform better on average (ROA is 4% higher). This effect, however, is estimated noisily ($p = .18$).

In columns 3 and 4 of Table 9 we regress group performance on the size of the family, as before measured as the number of brothers of the current group head. We estimate an OLS regression in column 3 and a median regression in column 4 (to account for the skewness of the data). In both cases, we find a negative effect of the number of brothers of the group head on group performance. We have investigated the robustness of these findings to dropping the very large families and the results are unchanged.²⁵ The magnitude of the effect indicates that each additional brother reduces group ROA by 0.5 to one percentage point. In the next two columns, we replicate column 4 but break the sample into groups with designated heirs and those without. Similarly to patterns observed before, we find that the number of brothers is only related to lower performance for the

²⁵We re-estimated the OLS regression dropping families where the number of brothers of the head is larger than 8. We also found similar results using the logarithm of this variable.

groups where control has passed from the founder to a heir.

We also replicated the regressions in columns 3 and 4 by instead measuring family size using the total number of male family members. The results based on this other family structure variable are not robust. In the OLS specification, we surprisingly found a positive effect of the number of male family members on performance. However, that effect disappears when estimating median regressions. We investigated the source of this difference and found the OLS effect to be extremely sensitive to dropping the largest family in our sample. Overall, we conclude that the total number of male family members does not appear to be a robust determinant of performance. In light of our previous findings on the importance of close siblings for group structure, it might be intuitive that the brothers of the head are more relevant for group performance than more distant family members.

In the last three columns of Table 9 we focus on financial leverage as another indicator of financial health (maybe an especially relevant one in the wake of the financial crisis). Column 7 shows a weak positive relationship between group leverage and the number of brothers of the head. However, when we separate the sample into groups with or without the founder in charge, we again find that the positive correlation here is driven by those groups where ultimate control has moved away from the founder. In groups with designated heirs, each additional brother increases group leverage by about five percent (column 9). There is no significant relationship in groups without heirs.

6.2 Firm Level Performance Results

In Panel B of Table 9 we replicate these performance regressions at the firm-level. The firm-level analysis allows us to account for differences in ROA that are driven by differences in industrial composition across groups. More specifically, we estimate excess ROA by regressing firm-level ROA on firm size and 2-digit industry dummies for the full sample of about 2000 firms (i.e. the benchmark are all large firms in the Thai economy and not only firms that belong to the families in our sample). We then regress firm-level *residual ROA* on the same group characteristics as in Panel A, weighing each observation by the inverse of the number of firms the group the firm belongs to. Standard errors in all regressions are clustered at the family level.

Column 1 of Panel B relates residual firm-level ROA to whether the founder is still active or

not. As before, we find that firms in groups where the founder is still active perform better on average. The point estimate on the variable is smaller than in the group-level regressions. Column 2 shows qualitatively similar patterns when we compare groups with and without designated heirs. Again, similar to Panel A, this effect is more noisily estimated. Columns 3 and 4 estimate the relationship between performance and family size, measured as the number of brothers of the group's head. For both raw ROA and residual ROA, we find that more brothers are associated with lower performance. Confirming the patterns in Panel A, we find that this negative effect on performance is concentrated in the groups where control has passed to an heir (column 6). Finally, the last three columns replicate the leverage regressions from Panel A. Parallel to what we observed in Panel A, we find that more brothers are related to higher financial leverage in groups where control has been transferred to an heir.²⁶

In summary, our findings in Table 9 indicate systematically higher performance in groups that are still managed by their founders. This cross-family finding is consistent with earlier papers such as Perez-Gonzales (2002) for a panel of US firms. Perez-Gonzales shows that family firms experience a decrease in ROA after the founder elects one of his descendants to replace him as CEO. Most interestingly, our findings also indicate a negative relationship between group performance and the number of brothers of the current group head. This negative association is primarily driven by groups where leadership has been transferred to heirs of the founder. The results are not consistent with the hypothesis that trust relationships among family members and the ability to draw from a deeper talent pool in larger families provides a source of comparative advantage to these families. These findings are instead more supportive of theories that suggest efficiency losses through greater family involvement. As mentioned before, this could either be due to the fact that family firms forgo the opportunity of hiring (high-skilled) outside managers or because family involvement creates other inefficiencies in the operations of the family firms. We now move to a more detailed exploration of this question in the final sections of this paper.

6.3 Industry Focus

We first explore whether family involvement is related to the industry composition and the choice of sectors of a group. Family involvement could affect the industrial composition of a group (1)

²⁶In regressions not reported here, we also found that groups where the head has more brothers were also affected most negatively by the financial crisis, i.e. these families recorded a sharper drop in ROA between 1996 and 2001.

if family members have fewer business skills than professional managers, thus family groups may be disadvantaged in entering more innovative and complex industry sectors; (2) if larger families have the tighter political networks required to gain access to protected or regulated sectors of the economy. These theories would predict that family groups do particularly well in traditional sectors of the economy.

To analyze whether such patterns exist in the data, we move to a firm-level analysis. For each firm that belongs to a family group in our sample, we construct a measure of 2-digit industry ROA *based on the full firm sample* (and excluding the firm itself from the analysis). For each firm, we also form a Herfindhal index of concentration at the 2-digit industry level. We relate these firm-level characteristics to measures of family size and involvement in the business. Table 10 reports the results from firm-level regressions, where each observation is weighted by the inverse of the number of firms in the family group, so that our results are representative at the group-level.

Column 1 of Panel A regresses a firm's industry ROA on the logarithm of the number of family members involved in the group. The regression includes a dummy variable for the number of generations since the group was started as well as a linear control for the year the company was established. We find a negative correlation between family involvement and average industry ROA of the firms they run. In column 2, we use the number of male family members instead of the number of family members involved in the group as a proxy for family size. Again, we find that larger families are on average more likely to be involved in lower ROA sectors. The magnitude of the effect is comparable to that in column 1. Obviously, the negative correlation in columns 1 and 2 may not imply a causal relationship from family structure to industrial orientation. For example, it we could imagine that it is less costly for groups in sectors with low ROA (which could proxy for less innovative and skill intensive sectors) to involve family members in the group firms. This is especially a concern for the results in column 1 but less for column 2.

To address this concern, in columns 3 and 4 we analyze whether *younger firms within* a given group are systematically more likely to be in lower ROA sectors. These regressions control for family fixed effects. The coefficient of interest is the interaction term between establishment year and the number of family members in business (column 3) or the number of male family members (column 4). These interaction terms are negative. Standard errors are however large, especially in column 4. These results suggest that family structure may alter industrial composition of firms,

with larger families tending towards “easier” sectors, or maybe being worse at picking which sectors to invest in.

Panel B follows the same structure as Panel A but uses the industry level Herfindhal index for the group as a dependent variable. The regressions in Columns (1) and (3) indicate that larger families are systematically involved in more concentrated industrial sectors. The contrast between these two regressions and those in columns 1 and 2 of Panel A is striking given the positive correlation we observe in the data between industry ROA and industry Herfindhal (the correlation is 0.26). One possible interpretation that we would like to explore in future work is that the concentration ratios are more directly related to government or regulation-induced distortions than industry ROA is. If this were true, one could interpret these findings as suggestive that family members are more relevant to groups that need tighter political connections. We are however not able to draw such a conclusion without a more precise measure of industry-level regulation in Thailand, which we hope to develop in the near future.

In contrast, columns (3) and (4) show that *younger* firms within a given group tend to be in more competitive sectors when the number of male family members is higher. Overall, the results weakly point towards disproportionate investments in lower return industries and less concentrated sectors as the number of male family members increase. The direction of these effects is consistent with the idea that family involvement may limit the successful participation of family firms in the more skill-intensive and competitive sectors of the economy.

6.4 Strength of Internal Capital Markets

An analysis of the functioning of the internal capital markets in family-run business groups may also provide some light on how broader family involvement may affect group performance. Previous literature has argued that internal capital markets may play a role in alleviating imperfections of external capital markets especially; see for example Hubbard and Palia (1999) Stein (2000). A number of papers have documented that group cash flow is a strong determinant of firm investment, sometimes even stronger than the firm’s own cash flow. Building on this literature, we study whether the reallocation of capital across different firms within the group is reduced when more family members are involved in the family business.

The results of this exercise are presented in Table 11. Each regression in this table is at the

firm-level. Following the previous literature, we focus exclusively on non-financial firms. We also restrict groups to those with more than three firms. Unfortunately our ability of properly estimating investment-cash flow regressions is somewhat limited by data availability. We do not have cash flow measures, but we can proxy for firm cash flow with firm net profit. Similarly, we proxy for *group* cash flow with net profit at the group level²⁷. Capital expenditures are defined as firm-level asset changes between 1995 and 1996, which we normalize by firm assets in 1995. Finally, we also control for 1-digit industry fixed effects.

In column 1 of Table 11 we replicate the standard investment regression, by regressing firm-level investment on firm ROA in 1996, group ROA in 1996, the logarithm of the firm's assets in 1995, industry fixed effects and controls for the number of generations since the group was started. The estimated coefficient on both the firm and group ROA (which we interpret as a proxy for cash flow) are positive, but the coefficient on group cash flow is much larger in magnitude and more precisely estimated. This suggests that group wide cash flows affect the investment of an individual firm in the group, which can be interpreted as a sign that internal capital markets within these groups actively reinvest capital across firms. We now want to understand whether this investment-cash flow relationship varies with family size. In column 2 of Table 11, we re-estimate our investment regression but now we interact firm and group-level cash flows with the number of male family members. We also include number of male family members as a direct control in the regression. We find that the interaction term between group cash flow and number of males is negative and significant, though small in magnitude. This suggests that larger families may use internal capital markets less to finance investment. Column 3 replicates the results in column 2 but uses number of brothers of the current head instead of number of males. Again, we find the interaction term of that family composition variable to be negative and significant. The magnitude of the effect is much stronger in this case.²⁸ Finally, in columns 4 and 5 we split the sample into groups with and without an active founder. The interaction term with group cash flow is negative in both regressions; however, the magnitude of the interaction effect is much larger for families where the founder is no longer active.

²⁷When constructing group level net profits we exclude the firm itself from the computation

²⁸We have verified the robustness of these results to dropping the largest families from the sample to deal with possible outlier problems. The results were not affected. We also obtain similar results if we weigh each observation by the inverse of the number of firms in the firm's group. Finally, we have also verified that these results are robust to limiting the sample to groups that have only one subgroup.

In summary, our results in Table 11 suggest that larger families and the subsequent larger family involvement in the family business, may alter the internal organization of the group by weakening the use of internal capital markets to finance investment. Again, we also find evidence that these effects are larger in groups where the formal authority was passed on to heirs. If reallocation of resources via internal capital markets is indeed one of the important benefits of business groups in developing countries, this benefit appears to be reduced once the founder no longer retains ultimate control.

6.5 Tunneling

Another often discussed aspect of business groups is that the ultimate owners of these groups may engage in expropriation of minority shareholders by tunneling resources out of the firm. A number of papers have shown that this is especially relevant for pyramidal group structures (see for example Johnson et al. (2000) or Bertrand, Metha and Mullainathan (2002) . Some of our earlier findings indicate that groups controlled by larger families may be organized along more pyramidal lines (i.e. these groups tend to be deeper). And groups tend to have more firms at the top of the pyramid when the number of brothers increases. This might suggest not only more firms to tunnel resources from, but maybe also more firms to tunnel resources to.

We conduct a simple empirical approach to investigate whether there is increased tunneling in groups run by larger families. We regress residual ROA at the firm level on the depth of the firm in the group (the position of the firm in the hierarchy), controlling for family fixed effects, firm size and whether the firm is publicly traded or not. If tunneling is a concern, we would expect lower excess performance in firms at lower levels of the group hierarchy and higher performance towards the top. This effect should be particularly pronounced in groups with larger families, if family involvement is associated with more distortive behavior.

In column (1) of Table 12 we find no evidence that firms at lower levels of the firm hierarchy have systematically lower performance. The point estimate on the depth variable, while negative, is small and statistically insignificant.²⁹ Parallel to before, we sort the sample into groups with and without active founders. The point estimate is positive in the sub-sample of families with active founder (column 2) and negative in the sub-sample without (column 3). However, the point

²⁹We obtain similar results when we weigh each observation by the inverse of the number of firms in the observation's group.

estimates are statistically insignificant in both subgroups. The point estimate in column (3) implies about a 0.7 percentage point lower performance for each additional extra layer down the pyramid. These results suggest that tunneling is not very strong among the cross section of family groups.

There however appears to be some important heterogeneity once we account for family size. The central hypothesis we want to test is whether groups with larger families engage in more tunneling, measured as worse performance for firms at lower level of the group hierarchy. For that purpose, we interact the depth variable with family size, measured as the number of male family members. Again we sort groups into those with and without active founders. Column (4) Table 12 shows no significant patterns on this interaction term in the groups with active founder. However, the interaction term is negative and statistically significant in the groups without active founders (column 5). This is consistent with increased tunneling at lower levels of the pyramidal structure in larger families once the founder is gone. We obtain qualitatively very similar results when we use the number of male siblings to the groups' head instead of total number of male family members (columns 6 and 7). The magnitude of the interaction term is even larger in this case.³⁰

6.6 Restructuring after the Asian Financial Crisis

Finally, we look at the response of family firms to the Asian financial crises in the late 1990s. In particular, we analyze within-family changes in the allocation of control following the crisis. If excessive dilution of control rights across a large number of family members led to inefficiencies prior to the crises, we might expect to see a tightening of control in the hands of fewer members to be part of the restructuring effort. This hypothesis relies on the assumption that the crisis forced groups to restructure.

We look at the changes in the number of executive and non-executive board positions of family members between 1996 and 2001, i.e. before and after the Asian crises. Again we only use the sample of publicly traded firms for which we can differentiate executive and non-executive positions. The first two columns of Table 13 focus on executive and non-executive positions but exclude honorary positions; the last two columns focus on executive positions only. The unit of observation is any male family member that was in an active generation in 1996. For each male family member

³⁰One should however note that the results in Table 12 do not appear robust to breaking-down the sample based on whether a heir was appointed or not, our alternative measure of whether or not the founder is still involved in the family business.

who was part of an active generation in 1996 we compute the change in the number of board positions that the individual held between 1996 and 2001. We present either simple counts of the changes in positions (columns 1 and 3), or changes in the asset-weighted number of positions (columns 2 and 4). As before, we construct dummy variables for the head, brother of head, son of head or father of head and pool all other family members. Each regression includes family fixed effects.

All the results in Table 13 point towards a reduction in the relative involvement of brothers of the group head. The coefficient on the “current head dummy” in the equal weighted regression in column (1) is positive but not significant, while the coefficients on the brothers and father of head are negative (not significant). However, if we weigh the different board positions by the asset size of the firm they oversee, the coefficient on the “current head” dummy becomes strongly significant and economically large. The results are qualitatively similar if we use changes in executive positions only (column 3 and 4). These results indicate that group heads may have substantially increased their control over the group assets after the crisis.

7 Conclusion

A large fraction of firms around the world are run by families. Families themselves, however, are not monolithic entities but are composed of individual members, who may have different stakes and objectives in the family businesses. The current paper takes a first step in going beyond the case-study evidence to ask whether constraints imposed by family structure affect the corporate decisions and the ultimate performance of these family-run firms.

We show that inheritance of control within family business groups follows genealogical lines, i.e. control is passed from the founder to his sons, grand-sons etc. However, the larger the family, in particular the more male children and the more brothers the current group head has, the more positions within family firms are held by family members instead of outside managers and outside board members. Family size also appears to affect the overall size of business groups as well as their organizational structure. Our analysis also shows that groups that are run by larger families (especially more brothers of current group head) tend to have lower performance and to be financially less sound. Groups run by larger families also appear associated with more fragmented internal capital markets for investment purposes and more tunneling along the pyramidal structure.

Again, we show that these results are especially strong when the group's founder is no longer active. Most interestingly, all of these effects are especially pronounced in groups where the founder is no longer active and ultimate control has been passed on to an heir.

Overall, these findings provide novel evidence that wider family involvement in business groups alters business decisions and the performance of family-run firms. One hypothesis that emerges from our analysis is that the decay of family-run groups over time may be due in part to in-fighting for group resources as control becomes more diluted among different family members. Conflicts between different parts of the family might lead to distortions in the governance structure and internal operations of these groups. These conflicts might be especially important once the founder has retired.

One deeper question in this context is why families do not separate the control rights (i.e. management) more effectively from the ownership structure of the firm by placing management control in the hand of professionals but retaining ownership control within the family. Arrangements like this are widely used in many European countries where family firms are still prevalent, such as Italy or Germany. This would allow family members to fight over the cash flow streams, without distorting the efficiency of the business decisions within the firms. We conjecture that a potential answer to this question lies in the limited enforcement of contracts and market for governance in a country like Thailand. It could be that cash flow rights de facto can only be guaranteed in conjunction with control rights. Therefore, family members may have to stay directly involved in the operations of the business if they want to protect their cash flow rights. Our analysis suggests that individual family members may not only have to be concerned about expropriation by outsiders, but also expropriation by other (more powerful) family members. For example, the fact that weaker family members, such as daughters of the founder, are less likely to hold positions in firms where sons of the founder are also on board is quite suggestive in this regard. Similarly, our findings that larger families and larger family involvement is associated with a break down group assets into a larger set of (smaller) firms may also indicate that access to cash flow for a given family member requires control rights for that family member.

There are several extensions of this paper we plan to pursue in future work. First, while we have already briefly touched at possible governance changes after the financial crisis, we plan to study

any such changes in more details in the future.³¹ For example, we would like to know more about changes in the organizational structure of the groups post-crisis (based on family structure) and also study differential exit of firms based on the identity of the family members on board or holding shares in these firms. We also plan to focus more on the involvement of spouses in the family business. Similarly, we plan to investigate the determinants of cross-business families marriages, and whether they play a strategic role in establishing business relationships.

³¹Some of the 2001 data collection effort is still in progress.

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Table 1
Summary Statistics: Families and Their Businesses ^a

<i>Characteristic</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Family size (=total number of family members)	16.2	21.1	2	130
Number of generations (Founder's generation==1)	2.5	.8	2	5
Number of heirs	.80	.83	0	4
Number of male family members	10.0	11.7	1	70
Number of female family members	6.0	9.2	0	55
Fraction of female family members (second generation and beyond)	.76	.75	0	4
Number of firms	7.3	10.3	1	58
Log (group total assets)	16.5	1.7	12.8	21.2
Depth of average firm in group (0 equals top of group)	1.69	1.43	0	6

^aNotes:

1. The unit of observation is a family (N=69).
2. Groups' financial characteristics are computed for 1996.
3. See text for details on data sources and sample construction.

Table 2
Comparison of Sampled Families to Other Brooker Book Families ^a

	Sampled families	Non-included families
Sample size	69	68
Number of firms	7.31 (st. dev.: 10.32)	4.28 (st. dev.: 8.37)
Log (group total assets)	16.51 (st. dev.: 1.74)	15.58 (st. dev.: 1.63)
Group Leverage	.71 (st. dev.: .20)	.70 (st. dev.: .20)
Firm-level ROA (relative to non-Brooker firms)	-.004 (st. error: .004)	.003 (st. error: .005)
Firm-level residual ROA (relative to non-Brooker firms)	.004 (st. error: .004)	.009 (st. error: .005)

^aNotes:

1. The unit of observation is a family.
2. "Other Brooker Book families" are families that are included in the Brooker Book but not covered in our sample. See text for details on data sources and sample construction.
3. Under "Firm-level ROA," we report estimated dummy variables on "sampled families" and "other brooker book families" from a regression of firm-level ROA based in our full sample of firms on these 2 dummy variables. Under "Firm-level residual ROA," we report estimated dummy variables on "sampled families" and "other brooker book families" from a regression of firm-level ROA in our full sample of firms on these 2 dummy variables as well as controls for the logarithm of the firm's total assets and 2-digit industry fixed effects.

Table 3
Family Involvement in Business and Family Size ^a

Panel A: Summary Statistics on Family Involvement			
	Mean	St. Dev.	
Number of family members with board positions (executive, non-executive or honorary)	4.19	3.60	
Number of family members with executive positions	1.83	2.29	
Fraction of all board positions in group held by family members	.37	.27	
Fraction of all executive positions in group held by family members (public firms only)	.32	.26	
Number of family members with direct ownership in at least one of the group's firm	4.68	4.09	

Panel B: Family Size and Family Involvement			
Dependent Variable:	Sample	Log(n. of males)	Log(n. of females)
Log(n. of fam. members with board positions)	all families	.74 (.15)	-.17 (.12)
Log(n. of fam. members with board positions)	all families, IV	1.09 (.52)	—
Log(n. of fam. members with exec. positions)	all families	.47 (.20)	.07 (.14)
Frac. of all positions held by family	all families	.09 (.06)	.02 (.05)
Frac. of all positions held by family	no heirs	-.11 (.12)	.07 (.07)
Frac. of all positions held by family	heirs	.14 (.07)	.01 (.06)
Frac. of all positions held by family	founder active	.05 (.08)	-.04 (.07)
Frac. of all positions held by family	founder not active	.14 (.08)	.04 (.06)
Frac. of all exec. pos. held by family	all families	.12 (.07)	-.10 (.06)
Frac. of all exec. pos. held by family	no heir	-.07 (.18)	.11 (.12)
Frac. of all exec. pos. held by family	heir(s)	.19 (.07)	-.12 (.06)
Frac. of all exec. pos. held by family	founder active	.10 (.14)	-.09 (.12)
Frac. of all exec. pos held by family	founder not active	.13 (.08)	-.13 (.06)
Log(n. of fam. members with direct ownership)	all families	.43 (.16)	.01 (.14)
Log(n. of fam. members with direct ownership)	no heir	.12 (.30)	.18 (.23)
Log(n. of fam. members with direct ownership)	heir(s)	.55 (.21)	-.06 (.18)
Log(n. of fam. members with direct ownership)	founder active	.37 (.31)	-.19 (.27)
Log(n. of fam. members with direct ownership)	founder not active	.54 (.21)	.09 (.18)

^aNotes: See next page.

Notes:

1. The unit of observation is a family. Family involvement is measured in 1996. “Heir(s)” correspond to the set of families where secondary sources report that a heir has been designated; “no heir” are the excluded families. “Founder active” corresponds to the set of families where we observe the founder in at least one board position in 1996; “founder not active” are the excluded families.
2. See text for details on data sources and sample construction.
3. In each row in Panel B corresponds to a different regression. Also included in each of these regressions is a dummy variable for the number of generations that have elapsed since the founder started the group (where the founder generation is defined as the first generation).
4. All regressions in Panel B are estimated with OLS unless row 2. In row 2, we instrument the logarithm of the number of male family members with the fraction of first-born along the family tree that are females. The estimated coefficient on the fraction of first-born that are females in the first-stage regression is $-.46$ (standard error of $.19$).

Table 4
Relative Involvement in Business Along Family Trees (All Firms, 1996) ^a

Outcome:	Fraction of all positions (no weight)	Fraction of all positions (asset-weighted)
Relationship to Founder:		
Founder	.09	.14
Son/Daughter	.46	.43
Sibling	.08	.05
Nephew/Niece	.06	.01
Grand-son/Grand-daughter	.20	.29
Grand-nephew/Grand-niece	.01	.00
GG-son/GG-daughter	.08	.05
GG-nephew/GG-niece	.00	.00
GGG-son/GGG-daughter	.00	.00
GGG-nephew/GGG-niece	.00	.00
Relationship to Current Head:		
Current Head	.27	.33
Son/Daughter	.14	.07
Nephew/Niece	.08	.04
Grand-son/Grand-daughter	.00	.00
Grand-Nephew/Grand-niece	.00	.00
Sibling	.28	.29
Mother/Father	.02	.10
Uncle/Aunt	.07	.11
Gender:		
Male:	.87	.92

^aNotes:

1. The statistics reported in this table are computed as follows. We sum (simple sum or asset-weighted sum) all positions held by family members across all families in our sample in 1996 (public and private firms). We then compute the fraction of this total amount held by family members with a given kinship to either the founder of the groups (Panel A) or the current head of the group (Panel B). We define “current head” of group as being the founder if our secondary sources do not report that a heir was appointed, or the latest heir appointed if at least one heir was appointed.

Table 5
Relative Involvement in Business Along Family Trees (Public Firms, 1996) ^a

	Frac of all positions		Frac of exec. positions		Frac of hon. positions	
Relationship to Current Head:						
Current Head	.29	.29	.34	.29	.72	.45
Son/daughter	.14	.04	.12	.02	0	0
Nephew/niece	.07	.04	.04	.04	0	0
Grand-son/daughter	.01	.00	.01	.00	0	0
Grand-nephew/niece	0	0	0	0	0	0
Sibling	.31	.21	.33	.16	0	0
Mother/father	.02	.18	.02	.22	.18	.45
Uncle/aunt	.07	.18	.10	.22	.09	.09
Weights:	None	Assets	None	Assets	None	Assets

^aNotes:

1. The statistics reported in this table are computed as follows. We sum (simple sum or asset-weighted sum) all positions held by family members across all families in our sample in 1996 (public firms only). We then compute the fraction of this total amount held by family members with a given kinship to the current head of the group. We define "current head" of group as being the founder if our secondary sources do not report that a heir was appointed, or the latest heir appointed if at least one heir was appointed.

Table 6
Within-Family Allocation of Control (Public Firms, 1996) ^a

Dep. Var.:	N. of positions		N. of exec. positions	
	(no weight)	(asset-weighted; 10 ⁷)	(no weight)	(asset-weighted; 10 ⁷)
Current head	1.62 (.18)	6.49 (1.98)	1.07 (.12)	5.92 (1.98)
Brother of current head	.73 (.15)	2.59 (1.61)	.53 (.09)	2.73 (1.61)
Father of head	.57 (.36)	1.72 (3.84)	.47 (.23)	16.7 (3.84)
Son of head	.46 (.20)	2.21 (2.23)	.14 (.13)	2.04 (2.13)
Family fixed effects?	Yes	Yes	Yes	Yes

^aNotes:

1. The unit of observation is an individual in an active generation. We define a generation within a given family to be active if at least one family member in that generation holds one board position. Sample size is 553.
2. The dependent variable is either a simple count of number of positions held by a given individual in his group, or an asset-weighted count.
3. All regressions are estimated using OLS.

Table 7
Within-Family Board Allocation (1996) ^a

Panel A: Families without Heirs			
Dependent Variable: Are any of the following family members on board?			
	Brother of head? (Y=1)	Sister of head? (Y=1)	Any female descendant of founder? (Y=1)
Current head on board? (Y=1)	-.007 (.074)	—	—
Head or any brother of head on board? (Y=1)	—	-.024 (.044)	—
Any male descendant of founder on board? (Y=1)	—	—	-.370 (.119)
Oldest generation on board	—	—	.255 (.069)
Family F.E.?	Yes	Yes	Yes

Panel B: Families with Heirs			
Dependent Variable: Are any of the following family members on board?			
	Brother of head? (Y=1)	Sister of head? (Y=1)	Any female descendant of founder? (Y=1)
Current head on board? (Y=1)	-.160 (.060)	—	—
Head or any brother of head on board? (Y=1)	—	-.112 (.035)	—
Any male descendant of founder on board? (Y=1)	—	—	-.324 (.076)
Oldest generation on board	—	—	.040 (.040)
Family F.E.?	Yes	Yes	Yes

^aNotes:

1. The unit of observation is a firm. The sample is all firms in the covered group. We measure board membership based on all type of positions (executive, non-executive and honorary). All regressions also control for the total number of family members on board. All regressions are estimated using OLS.

Table 8
Family Size, Group Size and Group Structure (1996) ^a

<i>Dependent Variable: Number of firms in group</i>						
N. of males	.35 (.30)	.33 (.15)	-.38 (.88)	.62 (.33)	-.81 (.69)	.95 (.30)
N. of females	-.04 (.38)	—	.44 (.88)	-.38 (.42)	1.29 (.89)	.22 (.48)
N. of brothers of current head (1=no brothers)	—	-.03 (.54)	—	—	—	—
Number of gen. F.E.? Sample	Yes all families	Yes	Yes no heirs	Yes heir(s)	Yes founder active	Yes founder not active
<i>Dependent Variable: Depth of group</i>						
N. of males	.09 (.04)	.05 (.02)	.22 (.09)	.02 (.04)	.04 (.07)	.06 (.05)
N. of females	-.05 (.04)	—	-.05 (.09)	-.00 (.05)	.01 (.09)	-.04 (.06)
N. of brothers of current head (1=no brothers)	—	-.03 (.06)	—	—	—	—
Control for n. of firms? Number of gen. F.E.? Sample	Yes Yes all families	Yes Yes	Yes Yes no heirs	Yes Yes heir(s)	Yes Yes founder active	Yes Yes founder not active
<i>Dependent Variable: Number of firms at top of group</i>						
N. of males	.05 (.03)	-.01 (.02)	—	—	—	—
N. of females	-.05 (.04)	—	—	—	—	—
N. of brothers of current head (1=no brothers)	—	.15 (.06)	.05 (.16)	.13 (.07)	.12 (.07)	.15 (.10)
Control for n. of firms? Number of gen. F.E.? Sample	Yes Yes all families	Yes Yes	Yes Yes no heirs	Yes Yes heir(s)	Yes Yes founder active	Yes Yes founder not active

^aNotes:

1. The unit of observation is a family. Group size and structure are measured in 1996. “Heir(s)” correspond to the set of families where secondary sources report that a heir has been designated; “no heir” are the excluded families. “Founder active” corresponds to the set of families where we observe the founder in at least one board position in 1996; “founder not active” are the excluded families.
2. “Depth of group” is the number of layers in the group (ranges from 0 to 6). “Number of firms on top” is the number of firms in the highest layer of the group.

Table 9
Family Characteristics and Group Performance (1996)^a

Panel A: Group-Level Data									
Sample:	Dependent Variable: Group ROA						Group Leverage		
	All Groups			No heir			Heir(s)		
	(Med. Reg.)								
Active founder? (Y=1)	.051 (.028)	—	—	—	—	—	—	—	—
No heirs? (Y=1)	—	.043 (.031)	—	—	—	—	—	—	—
N. of brothers Of current head	—	—	-.013 (.005)	-.006 (.002)	.003 (.006)	-.007 (.002)	.015 (.015)	-.035 (.085)	.050 (.011)
N. of gen. F.E.?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel B: Firm-Level Data									
Sample:	Dependent Variable: Res. ROA						Leverage		
	Res. ROA			ROA			Res. ROA		
	(Med. Reg.)								
Active founder? (Y=1)	.014 (.008)	—	—	—	—	—	—	—	—
No heirs? (Y=1)	—	.011 (.008)	—	—	—	—	—	—	—
N. of brothers of current head	—	—	-.004 (.001)	-.003 (.001)	.003 (.006)	-.003 (.001)	.012 (.008)	-.052 (.027)	.024 (.009)
N. of gen. F.E.?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

^aNotes:

1. The unit of observation in Panel A is a family. The unit of observation in Panel B is a firm. For the regressions in Panel B, we weigh each observation by the inverse of the number of firms in the group the firm belongs to. All regressions are estimated using OLS, unless otherwise specified. Standard errors are clustered at the family-level in Panel B.
2. We define group ROA as the sum of net profits across all firms in the group divided by the sum of total assets across all firms in the group. We define group leverage as the sum of financial liabilities across all firms in the group divided by the sum of total assets across all firms in the group. We define firm-level residual ROA as the residual from a firm-level regression in the full sample of firms on log (firm total assets) and 2-digit industry fixed effects. “Active founder” is a dummy variable that equals 1 if the group’s founder still holds at least one board position in his group, 0 otherwise. “No heirs” is a dummy variable that equals 1 if our secondary resources do not identify any heir to the group, 0 otherwise.

Table 10
Family Characteristics and Industry Composition of Groups (1996)^a

Panel A				
Dependent Variable: Average Industry ROA (1996)				
Log(N. of fam. members with position)	-.004 (.002)	—	—	—
Log(N. of males)	—	-.005 (.002)	—	—
Year company established	.000 (.000)	.000 (.000)	.000 (.000)	.000 (.000)
Year company established* Log(N. of fam. members with position) (*10)	—	—	-.002 (.001)	—
Year company established* Log(N. of fam. members with position) (*10)	—	—	—	-.001 (.000)
Number of gen. F.E.? Family F.E.?	Yes No	Yes No	No Yes	No Yes

Panel B				
Dependent Variable: Industry Herfindahl (1996)				
Log(N. of fam. members with position)	.016 (.007)	—	—	—
Log(N. of males)	—	.022 (.007)	—	—
Year company established	-.000 (.000)	-.000 (.000)	.000 (.001)	.002 (.001)
Year company established* Log(N. of fam. members with position)(*10)	—	—	-.001 (.000)	—
Year company established* Log(N. of fam. members with position) (*10)	—	—	—	-.001 (.000)
Number of gen. F.E.? Family F.E.?	Yes No	Yes No	No Yes	No Yes

^aNotes:

1. The unit of observation is a firm. Sample is all individual firms belonging to one of the families covered in our sample (Sample size is 492).
2. Regressions are estimates using OLS. We weigh each observation by the inverse of the number of firms in the firm's group.
3. Industry ROA and concentration (herfindahl index) are calculated based on the full sample of firms (both public and private) and are computed at the 2-digit industry level. "Industry ROA" is defined as average firm-level ROA in the 2-digit industry the firm is in, excluding the firm itself from the calculation. "Industry herfindahl" is an asset-based herfindahl index for the 2-digit industry the firm is in.

Table 11
Family Characteristics and Firm Investment-Group Cash Flow Sensitivities^a

Dependent Variable: Investment					
Sample:	All Groups			Founder Active	Founder not Active
Firm ROA	.32 (.27)	.08 (.41)	.48 (.41)	.10 (.62)	.73 (.83)
Group ROA	.53 (.22)	1.52 (.55)	1.08 (.38)	1.76 (.83)	4.24 (2.41)
N. of males	—	.000 (.002)	—	-.002 (.003)	.008 (.006)
N. of males* Group ROA	—	-.017 (.009)	—	-.02 (.013)	-.43 (.19)
N. of males*Firm ROA	—	.002 (.017)	—	.011 (.022)	-.049 (.045)
N. of brothers of current head	—	—	.015 (.009)	—	—
N. of brothers* Group ROA	—	—	-.49 (.29)	—	—
N. of brothers*Firm ROA	—	—	-.03 (.08)	—	—
Log (total assets) in 1995 Firm ROA	.006 (.013)	.005 (.014)	.009 (.013)	-.008 (.024)	.012 (.017)
N. of gen. F.E.?	Yes	Yes	Yes	Yes	Yes
1-digit Industry F.E.?	Yes	Yes	Yes	Yes	Yes

^aNotes:

1. The unit of observation is a firm. We restrict sample to firms that belong to groups of 3 firms or more and to non-financial firms within these groups. Sample size is 266 in the full sample (columns 1 to 3). “Founder Active” is the sample of groups where we observe the founder in at least one board position; “Founder not active” are the excluded groups.
2. “Investment is calculated as the percentage change in total assets between 1996 and 1995. “Group ROA” is calculated as the asset weighted average 1996 ROA for all firms in group, excluding the firm itself. .

Table 12
Family Characteristics and Relative Firm Performance Along the Pyramidal Chains^a

Dependent Variable: Residual ROA (1996)							
Sample:	All Groups	Founder Active	Founder Not Active	Founder Active	Founder Not Active	Founder Active	Founder Not Active
Firm depth	-.002 (.004)	.005 (.006)	-.007 (.004)	-.003 (.011)	.035 (.012)	.002 (.009)	.028 (.012)
N. of males* Firm depth	—	—	—	.000 (.001)	-.002 (.000)	—	—
N. of brothers of current head*Firm depth	—	—	—	—	—	.000 (.001)	-.008 (.002)
Public firm (Y=1)?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control for firm size?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Family F.E.?	Yes	Yes	Yes	Yes	Yes	Yes	Yes

^aNotes:

1. The unit of observation is a firm. All regressions are estimated using OLS. “Founder Active” is the sample of groups where we observe the founder in at least one board position; “Founder not active” are the excluded groups.
2. We define firm-level residual ROA as the residual from a firm-level regression in the full sample of firms on log (firm total assets) and 2-digit industry fixed effects. . “Firm Depth” is the layer of the firm in its group’s pyramidal structure (0=top of group).

Table 13
Change in Within-Family Allocation of Control (Public Firms, 1996 to 2001) ^a

	Dependent Variable: 1996 to 2001 Change in:			
	N. of positions (except hon. (no weight) (asset-weighted; 10 ⁷)		N. of executive positions (no weight) (asset-weighted; 10 ⁷)	
Current head	.01 (.14)	6.43 (2.37)	.04 (.10)	7.21 (2.68)
Brother of current head	-.19 (.11)	2.20 (1.93)	-.22 (.08)	2.57 (2.18)
Father of head	-.28 (.27)	2.59 (4.60)	-.32 (.20)	4.50 (5.20)
Son of head	.32 (.15)	2.65 (2.55)	.06 (.11)	2.93 (2.88)
Family F.E.?	Yes	Yes	Yes	Yes

^aNotes:

1. The unit of observation is an individual in an active generation. We define a generation within a given family to be active if at least one family member in that generation holds one board position in 1996. Sample size is 553.
2. The dependent variable is either a simple count of number of positions held by a given individual in his group, or an asset-weighted count.
3. All regressions are estimated using OLS.