

# The Family Behind the Family Firm: Evidence from Successions in Danish Firms\*

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## Abstract

This paper uses a unique dataset from Denmark to examine the impact of owners' family characteristics (size, gender composition, divorce, etc) on the decision to appoint internal (family) or external chief executive officers (CEOs). In contrast to common perceptions, we find that conditional on observing family CEO transitions, within cohort (spouse, siblings) successions are at least as prevalent as subsequent generation transitions. When assessing the impact of family characteristics on subsequent generation CEO appointments, we find that the probability of observing a family succession increases with the number of children, decreases with the ratio of female children, and decreases with divorce, particularly when it is accompanied with a new marriage and a new family. To show that these results are not spurious, we use instrumental variables. Overall, we find that family dynamics play a significant role in firm decision-making even when families are not the sole owner of these firms.

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# 1 Introduction

During the last two decades, a significant body of work has shown that the Berle and Means' (1932) view of firms with separated ownership and control is not a widespread description of publicly traded firms. Evidence of ownership concentration, particularly around families, by La Porta, et al. (1999) indicates that families control 53 percent of publicly traded firms with at least \$500 million in market capitalization in 27 countries.<sup>1</sup>

Research on the impact of families on firm performance is mixed. Morck, et al. (1988) find a positive effect of family management for young firms but a negative correlation for old firms. Yermack (1996) finds a negative effect of a founding family CEOs and Morck, et al. (2000) and Perez-Gonzalez (2003) find performance for family CEOs who inherit their positions. In contrast, McConaughy, et al (1998) find a positive impact of family CEOs and Anderson and Reeb (2003) find a positive correlation between founding family ownership and firm profitability and M-B ratios, and conditional on family ownership, a positive correlation between these performance measures and family CEOs. Finally, Villalonga and Amit (2004) find that founding families enhance value only when founders are active either as executives or directors of the corporation but hurt valuations in descendant CEOs firms.

Less known, empirically, are the specific mechanisms through which families affect firm decisions, and the particular circumstances under which these instruments differ relative to other large investors (Shleifer and Vishny (1986)) whose sole (main) objective is maximizing "explicit" cash-flow returns, or relative to individual owners whose families are not involved in the business.

Existing literature in other areas of economics suggests that inside-the-family dynamics might be influential for firm decision-making when there is a blurring line separating families and firms. Economists have long acknowledged that the crucial role of family structure on other important economic decisions, such as, labor supply decisions, human capital investments, portfolio choice, housing demand, etc.<sup>2</sup>

Consistent with this idea, there is a large body of anecdotal evidence suggesting that corporate

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<sup>1</sup>Evidence of the prominent role of families in publicly traded firms has also been provided by Morck, et al. (2000) for Canada, Claessens, et al. (2002) for East Asian countries, and Faccio and Lang (2002) for Western Europe. In the U.S., family ownership is present in 35 (37) percent of firms in the Standard and Poor's (Fortune) 500, where families hold an average of 18 (16) percent of shares (Anderson and Reeb (2003), Villalonga and Amit (2004)).

<sup>2</sup>See Becker (1993) and the survey by Browning (1992).

decisions in family firms are affected by the structure of its controlling family. According to Ward (1987) “family circumstances critically influence the choice of business strategy”. Gersick et al. (1997) highlight the potential conflict between business logic and parents’ fairness considerations when assessing ownership inheritances or expansion strategies. A recent example from S.C. Johnson & Company illustrates the point: Samuel Curtis Johnson, the controlling shareholder, divided the firm in three legally independent firms and gave one to each one of his three interested children to avoid potential conflicts among siblings.<sup>3</sup>

To date, there is little systematic evidence on the link between family structure and family circumstances and corporate decisions. Yet, recent work suggests that family dynamics might be key for performance. For example, Perez-Gonzalez (2003) shows that families’ preference for within family CEOs in a sample of U.S. publicly traded firms are associated to large declines in operating performance and valuation when family CEOs did not attend selective undergraduate institutions, but that such correlation does not exist for unrelated promotions. Bertrand, et al. (2004) use data from 69 Thai business groups to document that the size of families is correlated with higher family involvement in management positions and that the higher the male ratio within a family the lower the operating performance of groups, which is potentially consistent with family conflicts.

In this paper we examine the impact of family structure on firms’ succession decisions using a unique dataset from Denmark. This dataset allows us to identify the universe of Danish firms, the families behind them and their family characteristics. In consequence, we are able to improve upon Perez-Gonzalez (2003) in that we can observe the full family tree (potential family candidates) and not just whether a family CEO is promoted, and upon Bertrand et al (2004) in that we have a panel of firms and family characteristics that we are able to follow over time, not only a cross-section, which will allow us to control for firm-invariant heterogeneity, and relative to both, in that we observe (1) the universe of firms in a country and not only a small non-random sub-sample, and (2) a large array of family characteristics that have never been explored in this literature. Finally, we also improve on the large pre-existing management literature (Levinson (1971), Barnes and Hershon (1976), Gersick et al. (1997), Lansberg (1999) and Ward (1987)) by providing systematic evidence on many of the arguments and insightful cases discussed therein.

The dataset includes balance sheet and selected income statement figures for all limited liability

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<sup>3</sup>New York Times, August 22, 1999.

firms in Denmark from 1995 to 2002. The data also reports the names of top management and board members, and, in many cases, information on the ownership structure of firms. The dataset is unique in that we were able to link these owners and managers' to detailed information about their families and their family characteristics. In particular, we are able to obtain information about the number, age, gender, and marital status of current or prior spouses, siblings, parents, and offspring. Overall, we have family tree information for approximately one million individuals (roughly 20 percent of Denmark's population).

Our sample includes 40,811 firms, 74 percent (30,145) of which are classified as family controlled. A firm is classified as family controlled when as one individual or family owns at least 50 percent of ownership. When we focus on transitions, we identify that 3,657 of these family controlled firms observed a CEO transition during the 1995-2002 sample period. Surprisingly, 75 percent of all transitions yield an unrelated CEO successor. This ratio was unexpected given the large ownership concentration around owners, and that in the US, around 40 percent of firms where a member of the founding family retires as CEO, promote as successor a family heir (Perez-Gonzalez (2003)). Also contrary to what is typically assumed in the literature, we find that in 52 percent of all CEO transitions where control remains inside the family, the top management post passes to members of the same family cohort (typically the spouse or a siblings) of the departing CEO. In only in 41 percent of family transitions, control shifts to the next generation (in the remaining 7 percent of cases, control passes to the generation prior to the acting CEO (typically parents)).

Our main findings related to family structure and CEO successions are three.

First, the probability of observing a family succession increases first in the number of children but it turns negative for families with four or more kids. The evidence might be indicative that gains from improved quality of the CEO pool are substantial when moving from one to two (or two to three) children. Yet, as the number of heirs increases further, family conflicts or sibling rivalry reduce the probability of observing a family succession.

One might be concerned that this result could be driven by unobserved family or firm characteristics that jointly affect fertility and succession decisions. This would occur, for example, for parents with a taste for large and closely knit families, or in firms where interpersonal information -which arguably is more easily transferred to family members- affects firms' and fertility outcomes (number of children would then be endogenous).

We address this criticism in two ways. Following Angrist and Evans (1998), we instrument for family size using variation in the number of children from families where the first two kids are of the same gender. Given that parents tend to exhibit a preference for variety in offspring's sex-composition, they will be more likely to have a third child after two consecutive girls/boys than those families whose first two children were a girl and a boy. In consequence, this is a valid instrument because family size varies as a function of offspring' gender (more likely to have a third child) in a way that is unlikely to be correlated to family or firms' unobserved characteristics that might affect the decision to appoint a family CEO. Alternatively, we examine succession decisions of firms whose founders started their firms 10 years after having their last child. While this approach does not deal with parent unobserved preferences and their potential impact on the probability of observing a family succession it does reduce concerns that firms unobserved characteristics determined both fertility and succession decisions.

Both approaches confirm that the probability of observing a family succession initially increases with the number of children. However, the effect turns negative for the fourth and subsequent children. The evidence confirms that family size does have a causal effect on the probability of observing a family succession.

Second, we show that the gender composition of children affects family succession decisions. In particular, we find that family transitions are significantly less likely to occur in families where all children are female. This is surprising given Denmark's reputation for being one of the most egalitarian societies in the world. Yet, might not be unexpected given the evidence (and recent heated debate) on the lower female to male participation in certain highly time-demanding jobs.

Third, we find that family conflicts, as measured by the number of marriages of the founder or the existence of children with multiple partners, are associated to negative and statistically significant decline in the probability of observing within family successions. Prior work (Gersick et al. (1997) has indicated that family complexity, such as a higher number of branches within a family, can affect firm decisions. In the setting of succession, family branches can reduce the chances of observing a family CEO if the head of the family anticipates sibling infighting or if the relevant offspring do not agree on one family CEO. Furthermore, we show that the correlation between family succession and the owner's number of marriages is not driven by reverse causality, by conflicts between the owner and previous spouses, and by the direct effect of divorce. Consistent

with the multiple factions or family politics arguments, we find that the strongest reduction in the probability of family transition occurs when the owner not only has been married more than once, but also has children with multiple spouses. The findings suggest that sibling rivalry might be particularly intense across family branches and that this rivalry is more important for firms' succession decisions than spouses conflicts.

Overall the paper presents detailed evidence that family characteristics can affect firms' decision-making and that with-in cohort family successions are important when thinking about family firms. The evidence shows that family firms should not be thought as a single economic agent but rather as a complex organization within the controlling shareholding interest. Given the prevalence of family ownership around the world (Laporta et al (1999)) and arguments by family firm scholars that cross country differences in the prevalence of family firms might be traceable to family characteristics (Gersick (1997)), we think that further understanding the complexities of families behind firms, and the particular circumstances that make family firms different, are fruitful areas for further research.

The rest of the paper is organized as follows. Section I describes the data. Section II provides stylized facts. Section III presents the empirical strategy and Section IV describes the main results of this paper. Section V concludes.

## 2 Data description

In this section we describe the sources of data and the procedures we followed to construct our dataset. We also provide descriptive statistics.

### 2.1 Firm data

We use two sources of firm data. The first is Købmandsstandens Oplysningsbureau's dataset ("KOB" dataset). KOB is a private firm that uses the annual reports that all limited liability firms are required to file with the Ministry of Economics and Business Affairs to compile this dataset. The dataset contains accounting, management and ownership information of all the registered limited liability joint stock companies in Denmark.<sup>4</sup> These annual reports include items from firms' income

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<sup>4</sup>In addition to the limited liability joint stock company form (Aktieselskabet) firms can also register as a Anpartsselskab, which is similar to the the German GMBH or the US S-corporation. We exclude this latter corporate form from the analysis due to lack of data.

statement (e.g. sales, profits) and balance sheet (e.g. book value of assets, debt and equity). Firms are also required to furnish the Ministry of Economic and Business Affairs with the name of the CEO and all current board members. Finally, firms are required to file ownership information. Although the official requirement is that firms list the names of shareholders with an equity stake above 5%, many firms also include the actual stakes of the large shareholders. In 65.9% of the firms we can account for 90% or more of the voting rights. For firms with two or more shareholders the corresponding figure is 29.6%. KOB started this dataset in 1995 and the last year available is 2002. Because each annual report has to include accounting information for the previous three years, we have accounting data from 1993 to 2002. However, for all other data the window is 1995 to 2002.

The second source comes from the agency Erhvervs- og Selskabsstyrelsen under the Ministry of Economic and Business Affairs (“E&S” dataset). Under Danish company law, when a firm is founded, it must report the name of the founders, the CEO and all board members to this agency. In addition, firms are required to file any change in the CEO and board positions with the agency within 2 weeks of the actual change. The E&S dataset is compiled from all these reports. Even though firms have been required to file these reports for many decades, the dataset is available in electronic format only since 1986. As a result, for firms founded after 1986, we have information about the founders, CEOs (current and past) and board members (current and past). However, for firms founded before 1986 we do not have information on founders or on board members that have not been replaced from 1986. Practically, this is not a serious limitation. Because the KOB dataset also contains the names of all board members from year 1995 to 2002, we can ascertain how many board members are not present in the E&S dataset. The figure is smaller than 5%.

Even though the board member information is already in the KOB dataset, we use the E&S dataset because, in addition to the names of CEOs, board members and founders, the E&S dataset contains their CPR number, a personal identification number similar to the Social Security number in the United States. We were able to get the CPR numbers, although for privacy reasons, these are not available to the public.

We restrict our sample to closely held joint stock companies that are both in the KOB and E&S datasets in the window from 1995 to 2002. We use consolidated accounting information for firms with 100% owned subsidiaries. When other corporations hold stakes in a firm, we go back to get the ultimate owners. Since we have the entire universe of Danish firms, the corporate owner of a

firm in our sample is very likely to be in our sample as well.<sup>5</sup>

## 2.2 Family data

Our source for family information is the CPR agency in the Ministry of Interior, the government department that administers the CPR numbers. For every person whose CPR number we submit, this agency provides us with the name, address, date of birth and date of death (if any). We also get the names and CPR numbers of the person's immediate relatives: parents, siblings, and children. In addition, we obtain the entire history of marriages and divorces: names and CPR numbers of current and previous spouses and dates of marriages and divorce.

Since the focus of our study is on family ownership, we need to construct the family tree for the owners of the firm. The KOB database has ownership information. Unfortunately, this database only has the names of the owners but not their CPR number. Thus, we cannot link the KOB dataset with the information provided by the CPR agency. The E&S dataset does have CPR numbers, but it does not have the list of owners. To solve this problem, we proceed as follows. From the E&S dataset, we obtain the names and CPR numbers of current and all past CEOs, current and past board members, and founders and submit their CPR number to the CPR agency. In this first round we submit almost 352,000 CPR numbers. In a second round, we submit the CPR numbers of the immediate relatives of the people in the first round. Thus we are able to construct an extended family tree with grandparents, cousins, etc. The total number of individuals for which we have data is approximately 1 million. This is equivalent to around 20% of the current Danish population. Next, for each firm, we construct a list that pools all family members of the CEOs (current and past), board members (current and past), and founders. Using the names, we try to match owners (from KOB) to this list of family members. We can assign a CPR number to all the owners that we match. With the CPR number we gain access to the family tree information. Our matching procedure is very efficient. In about 87.2% of the firms, we are able to match at least one owner.<sup>6</sup>

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<sup>5</sup>Except when the corporate owner is a non-Danish corporation or in the very few cases in which the corporate owner has not complied with the law and has not filed an annual report with the Ministry of Economic and Business Affairs.

<sup>6</sup>It is important to get family information for CEO board members and founders before matching owners to increase the efficiency of the matching procedure. It is common, for example, for a parent to retain ownership but to have his children run the firm. In this case, the children but not the father appears in the E&S database. However, because we obtain the name and CPR number of all people with family relations to persons in E&S, we will be able to match the father.

Conditional on getting the CPR number, our methodology to identify family members is more precise than using the last name. For example, our method can identify daughters that have changed their last name, sons and daughters in law, cousins with different last names, and even partners who are not married but have joint children.<sup>7</sup>

### 3 Descriptive statistics

#### 3.1 Family and non-family firms

We first identify family firms. In most of the following analysis we classify a firm as a family firm if the members of a single family hold more than 50% of the voting shares. Non-family firms are those in which no single family holds a majority of the voting shares. These can be firms in which no family holds more than 50% of the voting shares or firms in which the majority shareholder is a foundation, a foreign corporation or the State. We only classify firms with personal owners as non-family firms when we can check, using the family tree information provided by the CPR agency, that the owners are not family members. When we do not have the complete family tree for all shareholders (for example because we were not able to match the name of the owner with the E&S dataset) we classify the firm as undecided. In this category we also include firms for which we do not have the actual distribution of ownership stakes of the owners and firms where the control contest is tied (i.e. two families holding 50% each).

We use a 50% threshold for control as opposed to the lower thresholds (10% or 20%) used in empirical analysis of publicly held corporations. The reason for this difference lies in the different ownership structures of closely held and publicly held firms. In a publicly held firm, a shareholder with a large minority stake, say 10% to 20%, can have effective control because the rest of the shareholder are so dispersed that collective action problems prevent them from exercising their control. However, because the number of shareholders in a close corporation is smaller (in our sample the average number of shareholders is only 1.73), it is less likely that shareholders will face severe collective action problems and, as a result, a 50% stake is needed to achieve control (see Bennedsen and Wolfenzon, 2000).

There are several definitions of family firms (see, e.g., Villalonga and Amit, 2004). They include

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<sup>7</sup>We identify partners who are not married but have children (a common family situation in Denmark) because, in the first round we get the name and CPR number of the child and in the second step, when we submit the child's CPR number, we get the name of both parents, whether or not they are married.

different combinations of family ownership, management, and control. Our definition is based only on control. The ownership dimension is not particularly useful in the context of closely held corporations. If we were to apply the definition that a family firm is one in which a family holds a large stake, say 20% or larger, we would end up classifying most firms as family firms. Regarding the management dimension, we show in section 6, that our results are unchanged when we use a more strict definition of family firm that requires that a family both control the firm and some of its members be involved in management.

Table 1 shows the number of firms that fall in each category for the year 2002. Out of a total of 47,355 corporations in that year, we classify 77.5% as family firms, 5.6% as non-family firms, and we were not able to classify the remaining 17%. We further classify family firms into two groups. The first group is composed of family firms in which a single member of the family is a shareholder. In the second group, there are more than one member of the controlling family in the ownership of the firm. Because defining family variables (number of children, marital status, etc.) is easier and less controversial when it refers to a single individual, we use mostly the first group in the analysis that follows.

Table 1 shows that a large fraction of the closely held firms in Denmark are controlled by a single family. Family firms are prevalent across all firms sizes –although they are more common among the smallest firms– and all ages (tables not shown). When we separate firms into size quintiles, family firms appear more often in the smallest quintile (82.5%) but they are still very prevalent in the largest quintile (67%). Regarding age, family firms constitute 74.7% of the firms in the younger age quintile and 80% of the oldest.

Table 1 also shows that family firms appear to be slightly more profitable. The average ROA for all family firms (single owner and multiple owner) is 5.5% compared with 5.2% for the non-family firms. In terms of number of owners, family firms have fewer shareholders. Of course, this is expected because firms with a single shareholder are classified as family firms under our definition. However, even conditional on the number of shareholders being two or higher, the number of shareholders is lower for family firms. Finally, Table 1 shows that there is a significant overlap between control and management. More than 90% of the firms have CEO from the controlling family.

## 3.2 Succession

In most of the paper we focus on the decision to transfer of CEO position to a family member or to an manager outside the family. We identify changes in the CEO position from one year to the next by comparing the CPR number of the CEO in adjacent years. In section 6 we show that our results are unchanged when we focus on ownership transition.

On average, about 1% of family firms have a CEO transition in a given year. The reason why this number is so low (compared to the corresponding number for publicly held firms) is that all recently incorporated firms appear in the dataset. Thus, our dataset contains a large fraction of very young firms that never make it to their first succession. Table 2 shows the number of CEO transitions in every year from 1995 to 2002. Panel A shows all the CEO transitions in family firms that we are able to identify. Panel B shows the number of CEO transitions in firms for which we have the complete family tree information of the controlling family. We have 3,169 transitions in family firms in which a single member of the controlling family is a shareholder and 522 transitions in family firms in which multiple members of the controlling family are shareholders. We use the sample of 3,169 transitions in most of the following analysis.

Table 3 shows firm and family characteristics by the identity of the new CEO. Out of 3,169 transitions, 794 (25%) are family transitions. Within this category, 325 are transitions to the next generation (children, step children and children in law), 415 transitions are to a family member in the same generation (spouse and siblings) and 54 are to a relative of the previous generation (parents).

Comparing firm characteristics, Table 3 shows that firms in which the new CEO is a family member are considerably smaller, older and less profitable than firms in which the new CEO is an outsider. In terms of family characteristics, owners of firms that name a CEO from the family are less likely to be divorced, less likely to have been married multiple times and have significant more children than owners of firms in which the new CEO is a non-family member.

## 4 The effect of family structure on succession

In this section we consider the effect of family structure (number of children and gender composition) on the succession decision.

We use two measures of the endogenous variable CEO transition. One is *Family transition to all generations*, which is a dummy variable that takes the value of one when the new CEO belongs to the controlling owner’s family. There is a potential problem with this variable, namely that transitions to family members of the same generation might not be a final decision but can be a temporary arrangement until the next generation is old enough to manage the firm. Supporting this conjecture is the fact that Table 3 shows that the number of adult children at the time of “lateral transitions” is significantly lower than the number of adult children at the time of a transition to the next generation.

To address this problem, we drop all family transitions to both the same generation and the previous generation and define the variable *Family transition to next generation*, which is a dummy variable that takes the value of one when the new CEO is a child, step child or child in law of the controlling owner.

#### 4.1 Univariate analysis

Table 4 shows the probability of family succession conditional on the number of children (panel A) and the number of adult children (panel B). The probability of transition increases monotonically as the number of children is raised from 0 to 3 in both panels and for both measures of family succession. In 3 out of the four cases, the probability of family succession decreases for controlling shareholders having four or more children.

The positive impact of children is not surprising. With more children, there is a higher probability that one of them will be talented enough and willing to take over the CEO position. The negative impact of the fourth and subsequent children is puzzling. It could be that, from the point of view of the children, the higher number of siblings reduces the probability of getting the CEO position and hence negatively affects incentives to invest in the human capital necessary to run the firm. This rises the probability that, at the time of succession, no child is capable of taking the reins of the firm. Another possibility is related to the fact that, typically, the ownership of the firm is evenly split among all the children. Talented children will not be willing to commit their human capital to the family firm for a small fraction of the proceeds. Currently, we are testing these hypotheses.

Moving to gender composition, Table 5 shows the probability of family transition conditional

on children's gender composition. Panel A shows that family transition is less frequent in families in which all children are females. This result is stronger for the variable *Family transition to the next generation*: in families with at least one male offspring the family transition frequency is close to 17.2%, whereas in families in which all children are female this probability is only 6.9%. In panel B, we confirm this pattern by restricting attention to children above 20 years.

## 4.2 Multivariate analysis

Table 6 present two sets of multivariate probit analysis. The first three columns of Table 6 show the result of a probit analysis on the variable *family transition to the next generation*. Because families with no children do not have the option of family transition to the next generation, we drop them from these regressions. The last three columns show the results of a probit analysis on the variable *family transition to all generations* on the unrestricted transition sample.

We use two specifications for number of children and gender distribution. In the first specification we define *Number of adult children* as the number of children of the controlling family aged 20 or above at the time of the transition. We also include *number of adult children* squared. We add a gender dummy, *All adult children are females*. Our second specification measure number of male and female children independently.<sup>8</sup>

In columns 3 and 6 we use the first specification and add a number of controls. *Firm size* is book value of assets measured in million Danish kroner (equivalent to 135,000 euros). *Firm age* is measured as number of years since the firm was established. *Profitability* is industry adjusted returns on assets, defined as operating profit over book value of assets minus the mean 2-digit SIC industry return on assets. *Industry competition* is the Herfindahl-Index, which sums the squares of each firm's market share within the industry. Our last two control variables are: *Old CEO in Family* and *Gender composition of industry workforce*. The former is a dummy that takes the value of one when the departing CEO belongs to the controlling family. The latter variable measures the ratio of women in the industry workforce.

In all specifications, the insights from the univariate analysis are confirmed. In columns 1,3, 4, and 6, *Number of adult children* is always positive and highly significant. This effect is also economically significant. Ignoring the quadratic effect, one additional child around the average of

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<sup>8</sup>In addition to the presented table using children above 20 years, we did also run the regressions using the number of children independently of their age. This did not change the results presented in the tables.

approximately 2 children increase the likelihood of family transition to children by almost 20%. Number of adult children squared is always negative and statistically significant implying that the marginal effect of additional children on family transition eventually becomes negative. The dummy variable for all *adult children are daughters* is negative and statistically significant.

In columns 2 and 5, both *number of adult sons* and *number of adult daughters* are positive and significant. However, the coefficient on number of sons is around two times the coefficient on number of daughters.

In terms of the control variables, the most significant results relate to size and industry concentration. Larger firms and firms in competitive industries are less likely to be transferred to a family member. This could be driven by the fact that managerial ability is more important in these firms and so the family simply chooses the person with the highest ability. Only in rare circumstances will this person be a family member.

We sum up by concluding that our data shows a statistical correlation between management transition on one side and the number of children, and gender composition of children on the other.

### 4.3 Causality

Our previous results do not prove a causal effect of number of children on family transition. The correlation uncovered might be driven by the reverse causality or unobserved variables. It is possible, for example, that owners who want ensure a family transition in the future have more children today. It is also possible that unobserved characteristics (e.g., being a ‘family man’ or a ‘family woman’) drive both the high number of children and the family transition decision.

The issue of endogeneity of number of children in other economic decisions have been discussed in the literature. The classical example is that the fertility decision is endogenous in a regression of women’s labor supply. It is worth observing, however, that in our setting, the endogeneity problem is potentially less severe. The fertility and the succession decision are taken, on average, 30-40 years apart. Hence, it requires significant foresight of the young business owner to incorporate this at the time that family size is decided. In contrast, in the example of women’s labor supply referred to above, the participation and fertility decisions are taken simultaneously: a woman that can find or has a job might decide not to have children.

In any case, we try to address the endogeneity problem as follows. We follow Angrist and Evans

(1998) in instrumenting the number of children using gender composition of the first two children. This is potentially a good instrument because the gender of the first two children is randomly assigned. In addition, Angrist and Evans (1998) document that parents like to have children of both gender. As a result, when the first two are of the same gender, the probability of having a third one is higher. Because this argument only works for couples that are still married, we focus on business owners who are married at the time of the transition and have two or more children. These restrictions limit our sample significantly.

One potential problem with this instrument is that, although the gender composition of the first two children is randomly assigned, we cannot rule out the possibility of a direct effect of gender composition on family transition. To mitigate this concern, we control for the direct effect of gender composition by adding two dummy variables: the gender of the first child and the gender of the second child (not reported).

The results are presented in Table 7. The first 4 columns use transition to next generation as the dependent variable and the last 4 columns show transition to all generations. We instrument for the number of additional children. We notice that, in the first stage, our instrument is strongly significant in all regressions with t-statistics between 6.23 to 9.34. More importantly the effect of additional children on management transition is large, positive and significant at 1% and 5% depending on the regression.

To confirm our results, we use a different instrument: wife's age at time of marriage. This instrument exploits the biological fact that fertility is decreasing with the age of a woman. In particular, couples that marry when the woman is young are significantly more likely to have more children. Thus, we construct a sample of family firms in which the owner is married and has not been divorced and use wife's age at time of marriage as instrument for number of children.

Table 8 reports the results from the OLS and 2SLS regressions. This instrument is strongly correlated with the number of children (t-statistics in the first stage are between -3.09 and -9.06). In addition, in all IV regression we obtain a positive and highly significant effect of number of children.

Our last approach to address the endogeneity problem is to estimate a probit regression on a sample of firms in which there is a 10 years time lag between the birth of the last child and the foundation of the family firm. We expect the endogeneity problem to be mitigated in this sample.

It is hard to believe that potential business owners choose the number of children in expectation of a future management transition in a firm he or she plans to establish in 10 years time. We identify 1,308 family firms in this sample, which reduces to 1,072 when we add control variables. For the transition to the next generation definition, we are left only with 581 transfers, which reduces to 473 when we add control variables.

We present our results in Table 9. The first two columns present probit regressions for family transition to the next generation and the last two for family transition to all generations. The first two columns paint a similar picture as all the results above. The same is true for the last two columns, except that the quadratic term is not longer statistically significant.

Overall, using two different instruments and choosing a sample in which the potential endogeneity problem is mitigated, we still find the same effects of family structure on succession.

## 5 Family politics

This section investigates the possibility that family politics or conflicts affects the succession decision. There is a large body of anecdotal evidence suggesting that, in more complex families, family succession becomes less likely.<sup>9</sup> There are many potential explanation for this effect. First, there is the well known aversion of the head of the family not to favor any of their relatives. If this aversion is sufficiently strong, the head of the family might opt for an outsider. It is possible that this aversion is stronger (and hence family transition less likely) when the potential candidates to the CEO position belong to different branches of the family. Second, it could be that anticipating fighting between the family branches, the head of the family decides to nominate an outsider.<sup>10</sup>

We do not have a large number of observations of firms in which the controlling family has multiple branches.<sup>11</sup> However, we have a fair number of cases of family firms in which the owner

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<sup>9</sup>Gersick et al. (1997) note “It is easy to understand why so few companies, especially in the United States, thrive under family control into the [third generation]. There are many forces that chip away the connections integrating all the parts of the family business system: interpersonal conflict; distance and lack of common experiences; normal family disruptions caused by death and divorce; and the increasing variability among family members in the financial costs and benefits of staying involved” (page 53).

<sup>10</sup>Regarding the negative effect on performance of fighting among family branches, Gersick et al. (1997) note “Although family constituent boards can be quite professional and effective, they tend to focus too much on the personal interests of branches, rather than confronting tough strategic issues facing the company. Their membership structure can be solely determined by rules about equalized family representation, without regard for qualifications or potential contribution.” (, p. 52)

<sup>11</sup>The reason for this is that the CPR number was introduced in Denmark in 1960. Thus, CPR numbers are only available for people who were alive at that time. This fact prevent us from constructing family trees going back many generations.

has been married multiple times. The family of the owner with each of the spouses approximates the idea of family branches discussed in the literature. Also, because in Denmark it is common for couples not to marry, we also look at family firm owners with children with one and multiple partners. We start the next section with a univariate analysis.

## 5.1 Univariate analysis

Table 10 shows the family transition frequencies conditional on marital status. We divide the owners into four marital groups: The first consists of owners who have never been married. Less than 3% of the owners in this group have children and, on average, they are younger than the other groups. The second group consists of owners who are married and have not been previously divorced. The third group consists of owners who are currently divorced. Finally, the fourth group consists of owners who have been married at least twice. Panel A shows that probability of transition to the next generation is highest in the married group, slightly lower for the divorced group and much lower for the group of owners with multiple marriages. Panel B shows that when we focus on transfers to all generations, owners with multiple marriages have a lower frequency of family transition relative to the owners who are still in their first marriage. The divorced and not remarried group now has the lowest family transfer frequency. This is probably due to the fact that there are fewer spouse to spouse transitions among the group of divorced owners.

The right hand side of Table 10 divides the owners depending on the number of partners with which they have children (one or multiple partners). The frequency of generational transfer is almost twice as large for owners with children from a single partner.

These univariate results are consistent with the idea that multiple branches reduce the probability of family succession.

## 5.2 Multivariate analysis

Table 11 presents the results of four probit regressions. The dependent variable is family transition and we use the same set of covariates as in Table 6. In all regressions, the coefficient on the variable *Multiple Marriages* is negative and significant at either the 1% or the 5% level. The sign and statistical significance of the coefficients of variables measuring family structure remain the same.

### 5.3 Isolating the mechanism

We showed above that there is a negative correlation between *Multiple Marriages* and family succession. We argued that this correlation is driven by the increase in the number of factions inside the family. However there might be other reasons that explain this correlation. In this section we eliminate other possibilities and analyze in more detail the precise mechanism by which *Multiple Marriages* affect succession.

#### 5.3.1 Reverse causality

It is possible that partners choose to divorce (which raises the probability of remarrying) because of the anticipated outcome of the succession process. For example the spouse of the business owner may stay in a marriage only because he or she wants to increase the likelihood that one of his or her children will take over the CEO position later on. Realizing that the business owner will choose an outsider may therefore provide the final incentive to leave the current marriage.

We have not been able to find a good instrument for multiple marriages. Hence, we choose an alternative approach. We look at the impact of multiple marriages but require that the second marriage began at least 5 years before the CEO transition. This should mitigate reverse causality concerns. The results are presented in Table 12. This table shows that the effect of multiple marriages is still negative and statistically significant.

We also run the regression with timelags of 3 and 10 years (not reported). In both cases we confirm the results of Table 12, even though, as expected the results are more significant when we use a 3 year lag than when we use a 10 year lag. This difference in significance are probably due to the fact that when we use a 10 year lag, the sample is much smaller.

In sum, reverse causality does not appear to be driving the results.

#### 5.3.2 Conflicts between parents

It is possible that multiple marriages is a proxy for conflicts between the family firm controlling shareholder and his or her ex-spouse. Thus we can explain the correlation between multiple marriages and family transition to the extent that conflicts between parents affect the probability of transferring the firm to their children.

We test whether conflicts between parents affect the probability of family transition. One

possibility is to use divorce as a proxy for conflicts between parents and run a regression of the determinants of family transition including a dummy variable for whether the parents are divorced. The problem with this approach is that it would be difficult to interpret the coefficient on the divorce dummy: would it capture the effect of conflicts or the direct effect of divorce itself (e.g., divorce settlement). Moreover, while it is clear that before the divorce there are conflicts between the parents, it is not clear whether the conflict still exist after the divorce.

To isolate the effect of parental conflicts, we construct a sample of all business owners who are married at the time of the transition. We construct a dummy variable *Divorce after the transition* that takes the value of 1 if a divorced occurred two years after the transition. Because it is very likely that the conflicts that lead to divorce are present two years prior to the actual divorce, our variable captures parental conflicts. Moreover, because the parents are not divorced at the time of the transition, we can be certain that the coefficient is not driven by the direct effects of divorce.

Table 13 shows our results. Our variable for parental conflicts is insignificant when we analyze transition to the next generation. Therefore, it appears that parental conflicts do not have an effect on the probability of leaving the firm to the next generation. The coefficient on parental conflicts is negative and statistically significant when the dependent variable is transition to all generations. The reason is transition to all generations includes transition to an spouse. Obviously, there are fewer transitions to an spouse in the presence of parental conflicts.

In sum, at least for transition to the next generation, parental conflicts are not a channel by which multiple marriages affect the probability of family succession.

### **5.3.3 The direct effects of divorce**

One last channel, not related to our factions in the family story, by which multiple marriages can affect the probability of transition is that divorce itself (e.g., the divorce settlement) affects succession. Because most of the owners who have been married more than once have had a divorce, it is possible that the correlation we uncovered is driven by the direct effect of divorce on succession.

To address this concern, we constructed a sample of family firms with owners that have been married at least once and created the dummy variable: *Divorced but not remarried* (the category with no dummy attached is the sample of owners who are still married). We estimated a probit using the standard set of covariates and this dummy variable (actually, in Table 14, we include

two other dummies *Multiple marriages with children with one partner* and *Multiple marriages with children with multiple partners* that we use in the next section). Results are presented in Table 14. For transition to the next generation, the coefficient on *Divorced but never remarried* is statistically insignificant. Thus, relative to owners who are still married, divorce has no effect on succession to the next generation.

### 5.3.4 Multiple spouses and children with multiple partners

We further confirm our theory by testing additional implications that can be derived from it. We propose that more than one faction in the family might lead to a lower probability of family transition either because the head of the family is reluctant to choose from among two or more different camps, or because an outsider will mitigate the inevitable fighting for the firm resources among the factions. If any of these two stories is true, an additional implication is that the probability of family succession should be even lower among the group of owners who have been married more than once but that, in addition, *have children with multiple spouses*. Under the first explanation, this is because an owner who has been married multiple times but has children only with one spouse does not face the problem of choosing a child from different camps. Under the second explanation, if these factions have, in addition to the spouse, other members, then the fighting for resources could be more severe.

Table 14 shows the results. Both the coefficients on *Multiple marriages with children with one partner* and on *Multiple marriages with children with multiple partners* are negative and significant. However, the magnitude of the second coefficient is much larger (although the difference is not statistically significant). In a second set of regressions, we define the dummy variables *Multiple marriages with sons with one partner* and on *Multiple marriages with sons with multiple partners*. Both coefficients are negative and significant, but now the difference is higher (however, it is still not significant).

## 6 Robustness

We perform two robustness test. The first relates to the definition of succession. In the previous analysis, we identified a succession with the change in the CEO position and defined a family succession when the new CEO is a member of the controlling family. However, a succession will

also involve transfer of the owner's equity stake in the firm. We used this alternative definition in Table 15. We defined a succession as the introduction of a new shareholder. We classified the succession as a family succession when the new shareholder is a member of the controlling family. Using this new definition, we estimated probit regressions similar to those in Table 6. The results are shown in Table 15. As can be seen from this table, overall, the qualitative results are not changed.

The second robustness test relates to the definition of family firm. To this end, we used a more strict definition of family firm. In addition to requiring that a family control more than 50% of the firm, we require that there be at least two members of the controlling family among the owners, the CEO and board members. We estimated probits similar to those of page 6 in this subsample. The results are shown in Table 16. Again, qualitatively, the results do not change.

## 7 Conclusions

This paper uses a unique dataset to investigate the effect of family structure and politics on the decision whether to leave the firm to a family member. It shows that both structure and politics of the family are statistically and economically important determinants of succession. In addition the paper documents that there is a causal connection between these factors and succession. We argue that understanding this decision is important because the identity of the successor has been shown to influence performance.

More generally, the paper presents one example in which knowing the family behind the firm is important to understanding corporate decisions. There are many other instances in which the family plays an important role on the corporate side. For example, sibling rivalries are supposed to reduce value, family members provide capital to the firm and thus share risk, etc. Studying these other corporate decision from the viewpoint of the family behind the firm is left for future research.

## References

- Adams, Renèe B., Heitor Almeida, Daniel Ferreira (2003), Founder-CEOs and firm performance, Working Paper, Stockholm School of Economics.
- Anderson, Ronald C., and David M. Reeb, 2003, Founding-family ownership and firm performance: Evidence from the S&P 500, *Journal of Finance* 58, 1301-1328.
- Anderson, Ronald C., Mansi A. Sattar and David M. Reeb, 2003, Founding family ownership and the agency cost of debt, *Journal of Financial Economics* 68, 263-285.
- Angrist, Joshua D. and William N. Evans, 1998, Children and their parents' labor supply: Evidence from exogenous variation in family size, *American Economic Review* 88, 450-77.
- Barnes, Louis B. and Simon A. Hershon, 1976, Transferring power in the family business, *Harvard Business Review* 54, 105-114.
- Becker, Gary, *A treatise on the family*, 1991. Enlarged Edition (Cambridge, Mass.: Harvard University Print).
- Bennedsen, Morten and Daniel Wolfenzon, 2000, The balance of power in closely held corporations, *Journal of Financial Economics* 58, 113-139.
- Bergstrom, Theodore C., 1997, A Survey of theories of the family, *Handbook of Population and Family Economics*, Elsevier Science.
- Bertrand, Marianne, Simon Johnson, Samphantarak and Antoinette Schoar, 2004, Mixing family with business: A study of thai business groups and the families behind them, working paper.
- Bhattacharya, Utpal and B. Ravikumar, 2001, Capital market and the evolution of family business, *Journal of Business* 74: 187-220.
- Bhattacharya, Utpal and B. Ravikumar, 2002, From cronies to professionals: The evolution of family firms, Working Paper, University of Indiana.
- Burkart, Mike, Fausto Panunzi and Andrei Shleifer, 2003. Family firms, *The Journal of Finance* 58, 2167-2202.
- Butcher, Kristin F. and Anne Case, 1994, The effect of sibling sex composition on women's education and earnings, *The Quarterly Journal of Economics*, 109, 531-563.
- Browning; Martin, 1992, Children and household economic behavior, *Journal of Economic Literature*, 30, 1434-1475.
- Casselli, Francesco and Nicola Gennaioli, 2003, Dynastic management, NBER Working Paper No. 9442.
- Chami, Ralph and IMF Institute, 2001, What is different about family businesses?, IMF Working Papers 01/70, International Monetary Fund
- Claessens, Stijn, Joseph Fan and Larry Lang, 2000, The separation of ownership and control in East Asian corporations, *Journal of Financial Economics* 58, 81-112.
- Cronqvist, Henrik and Mattias Nilsson, 2003, Agency costs of controlling minority shareholders, *Journal of Financial and Quantitative Analysis* 38, 695-719.

- Del Boca, Daniela, 2003, Mothers, fathers and children after divorce: The role of institutions, *Journal of Population Economics*, 16, 399-422.
- Faccio, Mara and Larry Lang, 2002, The ultimate ownership of Western European corporations, *Journal of Financial Economics* 65, 365-395.
- Gersick, Kelin E., John A. Davis, Marion McCollom Hampton, and Ivan Lansberg, 1997, *Generation to generation: Life cycles of the family business*, Harvard Business School Press.
- Grossman and Oliver Hart, 1980, Take-over bids, the free rider problem and the theory of the corporation, *Bell Journal of Economics*, 11, 42-64.
- Johnson, W. Bruce, Robert Magee, Nandu Nagarajan, and Herry Newman, 1985, An analysis of the stock price reaction to sudden executive Death: Implications for the management labor market, *Journal of Accounting and Economics*, 7, 151-174.
- La Porta, Rafael, Florencio Lopez de Silanes, and Andrei Shleifer, 1999, Corporate ownership around the world, *Journal of Finance* 54, 471-517.
- Lansberg, Ivan, 1999, *Succeeding Generations: Realizing the Dream of Families in Business*, Harvard Business School Press.
- Levinson, David, 1971, Conflicts that plague family businesses, *Harvard Business Review*, March-April 1971.
- Levinson, David, 1978, *The Seasons of a Man's Life*. New York: Ballantine Books
- Levinson, David, 1996, *The Seasons of a Woman's Life*. New York: Ballantine Books
- MassMutual Financial Group, 2003, American family business survey.
- McConaughy, Daniel L., Charles H. Matthews, Anne S. Fialko, 2001, Founding family-controlled firms: Performance, risk, and value, *Journal of Small Business Management*, 39, 31-49.
- McConaughy, Walker, Henerson, Jr., and Mistra, 1998, Founding family controlled firms: efficiency and value. *Review of Financial Economics*, 1, 1-19.
- Morck, R., X. Strangeland, and B. Yeung, 2000, Inherited wealth, corporate control, and economic growth, in *Concentrated Corporate Ownership*, Randall, M. (ed.), The University of Chicago Press.
- New York Times, 1999, Father divides a business to keep the children united, August 22, 1999, section 3, p.g. 3.1
- Palia, Darius and S. Abraham Ravid, 2002, The role of founders in large companies: entrenchment or valuable human capital?, Working paper, Rutgers University.
- Perez-Gonzalez, Francisco, 2002, Inherited control and firm performance, Working paper, Columbia University.
- Shanker, Melissa C. and Joseph H. Astrachan, 1996, Myths and realities: Family businesses' contribution to the US economy – A framework for assessing family business statistics, *Family Business Review*, 9, 107-123.
- Smith, Brian F. and Ben Amoako-Adu, 1999, Management succession and financial performance of family controlled firms, *Journal of Corporate Finance*, 5, 341-368.

Villalonga, Belen and Raphael Amit, 2004, How do family ownership, management and control affect firm value?, Harvard Business School and Wharton working paper.

Weiss, Yoram, 1997, The formation and dissolution of families: Why marry? Who marries whom? And what happens upon divorce, *Handbook of Population and Family Economics*, Elsevier Science.

Ward, John L., 1987, *Keeping the family business healthy: How to plan for continuing growth, profitability and family leadership*, Jossey-Bass, San Francisco.

**Table 1, Firm Characteristics in 2002 by Type of Control**

This table reports mean and (median) descriptive statistics of firms controlled by a family, firms in which no family has control, and firms we were unable to classify in either of these two groups. We define control using a 50% (of votes) threshold. We distinguish between two types of family-controlled firms: those in which only one family member is a shareholder and those in which multiple members of the family are shareholders. The category *unable to classify* include firms we could not classify due to tied ownership (i.e. two families owning 50 pct. of the votes each) or missing information on the distribution of votes.

	Family-controlled		No controlling family	Unable to classify
	Single family member is shareholder	Multiple family members are shareholders		
N, firms (total = 47,355)	30,147	6,542	2,630	8,036
Distribution (%)	63.7	13.8	5.5	17.0
Book value of assets in 1,000 €	1,163 (261)	3,297 (587)	24,603 (653)	3,148 (466)
Firm age	13.1 (11.0)	17.7 (14.0)	14.0 (8.0)	13.2 (9.0)
Return on assets (%)	5.7 (3.9)	4.6 (3.5)	5.2 (3.4)	5.2 (4.1)
Number of ultimate owners	1.03 (1.00)	2.54 (2.00)	3.52 (3.00)	3.12 (2.00)
CEO from the controlling family (%)	90.8	95.0		

**Table 2, CEO Transitions in Family Firms, 1995-2002**

This table shows the number of CEO transitions that occurred in family controlled firms from 1995 to 2002. We define control using a 50% (votes) threshold. We distinguish between two types of family-controlled firms: those in which only one family member is a shareholder and those in which multiple members of the family are shareholders.

Panel A includes all family firms with a CEO transition between 1995 and 2002, whereas Panel B includes the sub-sample of firms for which we were able to identify the family members' CPR number and thereby obtain the complete family tree information.

	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>Total</b>
	<b>to</b>							
	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	
<b>Panel A: All family controlled firms</b>								
Single fam. Member owner	772	763	544	304	250	552	472	3,657
Multiple fam. members owners	133	179	129	70	64	147	114	836
<b>Panel B: Family controlled firms with complete family tree information</b>								
Single fam. Member owner	686	639	459	261	221	493	410	3,169
Multiple fam. members owners	83	101	76	45	39	96	82	522

**Table 3, Family and firm characteristics of the sample of firms with a CEO transition**

This table shows descriptive statistics on family-controlled firms with a single family member as owner that experienced a CEO transition between 1995 and 2002 and for which we were able to obtain complete family information of the owners. We also present information about the family behind the firm. We define *family transition* as transitions to the *next generation* (children, step children and children in law), *same generation* (spouse and siblings) and to the *previous generation* (parents). Adult children includes children that were aged over 20 or above at the time of the transition. Panel A presents data on firm characteristics. Panel B presents data on the family behind the firm. All family statistics relate to the family of the controlling owner.

Transition to	Family member				Non-family member	All transitions
	Next Generation	Same generation	Previous Generation	All family transitions		
<b>Panel A: Firm characteristics</b>						
Mean book value of assets in 1,000 €	1,062	825	530	901	1,718	1,511
Mean firm age	18.7	12.5	8.6	14.8	13.1	13.5
Mean return on assets (%)	5.7	6.8	1.0	6.0	6.5	6.5
<b>Panel B: The family behind the firm</b>						
Retiring CEO						
Age	60.4	52.9	34.6	54.7	50.4	51.5
%Male	82.2	73.0	87.0	77.8	83.7	82.2
%Family	95.1	96.7	92.6	95.8	76.1	81.0
New CEO						
Age	34.1	51.0	57.5	44.5	46.3	45.8
%Male	83.4	37.3	75.9	58.8	86.9	79.9
Owner						
Divorced (%)	13.5	14.2	5.6	13.4	17.0	16.1
Multiple marriages (%)	9.5	13.3	5.6	11.2	15.4	14.4
Number of children	2.43	2.08	0.98	2.15	1.74	1.84
Number of daughters	0.96	0.96	0.50	0.93	0.86	0.88
Number of adult children	2.35	1.43	0.00	1.71	0.95	1.14
Number of firms	325	415	54	794	2,375	3,169

**Table 4, Family Transition and Number of Children**

This table shows the frequency of family transitions in family-controlled firms in which a single member of the controlling family is a shareholder conditional on the number of children. Under the columns labeled *Family transition to next generation*, we only include family transitions to children, step children and children in law. In these columns, CEO transitions to spouses, siblings and parents are not considered transitions (see section 3). Under the columns *Family transition to all generations* we include all types of family transitions (i.e., to all types of children, spouse, siblings and parents). The frequency of family transition (*%FT*) is the number of firms with family transition over the total number of transitions. In Panel A we count all children, whereas in Panel B we only count children that were aged 20 or above at the time of the transition.

Number of children	Family transition to next generation		Family transition to all generations	
	N	%FT	N	%FT
<b>Panel A, All children</b>				
0	543	0.0	604	10.6
1	349	9.7	413	23.7
2	1,077	13.6	1,295	28.1
3	552	19.9	648	31.8
4+	178	18.0	209	30.8
All	2,699	12.0	3,169	25.1
<b>Panel B, Adult children</b>				
0	1,233	0.6	1,426	14.0
1	387	9.0	445	20.9
2	684	21.6	831	35.5
3	322	34.8	376	44.1
4+	73	31.5	91	45.1
All	2,699	12.0	3,169	25.1

### Table 5, Succession and gender composition of children

This table shows the frequency of family transitions in family-controlled firms in which a single member of the controlling family is a shareholder conditional on the gender composition of the owner's children. Under the columns labeled *Family transition to next generation*, we only include family transitions to children, step children and children in law. In these columns, CEO transitions to spouses, siblings and parents are not considered transitions (see section 3). Under the columns *Family transition to all generations* we include all types of family transitions (i.e., to all types of children, spouse, siblings and parents). The frequency of family transition (*%FT*) is the number of firms with family transition over the total number of transitions. Panel A we count all children, whereas Panel B we only count children that were aged 20 or above at the time of the transition.

	Family transition to next generation		Family transition to all generations	
	N	%FT	N	%FT
<b>Panel A: All children</b>				
At least one son	1,681	17.2	2,003	30.5
All daughters	475	6.9	562	21.4
All	2,156	14.9	2,565	28.5
<b>Panel B: Adult children</b>				
At least one son	1,103	26.0	1,309	37.7
All daughters	363	8.5	434	23.5
All	1,466	21.7	1,743	34.1

**Table 6, The effect of family structure on succession**

Family transition is the dependent variable. This variable takes the value of 1 when the CEO position is transferred to a family member. We use two different definitions of family transition. Under the columns labeled *Family transition to next generation*, we only include family transitions to children, step children and children in law. In these columns, CEO transitions to spouses, siblings and parents are not considered transitions (see section 3). Under the columns *Family transition to all generations* we include all types of family transitions (i.e., to all types of children, spouse, siblings and parents). *Number of adult children* is the number of children of the controlling owner that were at least 20 years old at the time of the transition. *All adult children are daughters* is a dummy taking the value 1 when all adult children are female. *Number of adult sons* and *Number of adult daughters* are the number of sons and daughters, respectively, that are at least 20 years old at the time of the transition. *Old CEO in family* is a dummy taking the value 1 when the departing CEO is a member of the controlling family. *Firm size* is book value of assets measured in million Danish kroner (equivalent to 135,000 €). *Firm age* is measured as number of years since the firm was established. *Profitability* is industry adjusted returns on assets, defined as operating profit over book value of assets minus the mean 2-digit SIC industry return on assets. *Industry concentration* is the Herfindahl-Index, which sums the squares of each firm's market share within the industry. *Female share of industry workforce* is defined as the share of female workers in the industry. t-statistics are reported in parenthesis.

\*\*\*, \*\* and \* denote significance at the 1, 5 and 10 percent level, respectively.

Estimation method	Family transition to next generation			Family transition to all generations		
	Probit	Probit	Probit	Probit	Probit	Probit
Number of adult children	0.947*** (5.11)		0.750*** (3.47)	0.396*** (7.22)		0.454*** (7.16)
Number of adult children squared	-0.121** (-3.32)		-0.106** (-2.46)	-0.033** (-2.11)		-0.053*** (-2.98)
Number of adult sons		0.493*** (9.48)			0.376*** (12.9)	
Number of adult daughters		0.205*** (3.93)			0.191*** (6.10)	
All adult children are daughters			-0.563*** (-4.58)			-0.028 (-0.43)
Old CEO in family	0.970*** (7.07)	0.978*** (7.04)	0.893*** (5.92)	1.014*** (11.3)	1.011*** (11.3)	0.975*** (9.90)
Firm size			-0.005** (-2.12)			-0.006*** (-3.59)
Firm age			0.001** (2.09)			3E-04 (0.80)
Profitability			0.224 (0.93)			0.290* (2.01)
Industry concentration			0.902* (1.91)			0.920*** (3.17)
Female share of industry workforce			-0.520 (-1.86)			-0.020 (-0.11)
Constant	-3.034*** (-11.9)	-2.430*** (-9.52)	-2.332*** (-7.54)	-1.959*** (-21.5)	-1.924*** (-21.4)	-1.909*** (-14.9)
Pseudo-R <sup>2</sup>	0.09	0.10	0.11	0.11	0.11	0.12
N	1,466	1,466	1,203	3,169	2,617	2,617

**Note:** In the 'Transition to next generation sample' we exclude single family owners with 0 adult children. Thus, the 'Never married' is dropped since all unmarried single owners have 0 adult children.

**Table 7, Succession decision with same gender dummy as the source of exogenous variation in family size**

The sample is constructed from family-controlled firms in which a single member of the controlling family is a shareholder. Following Angrist and Evans (1998) we keep only the firms in which the owner is still married and has at least two adult children. Family transition is the dependent variable. This variable takes the value of 1 when the CEO position is transferred to a family member. We use two different definitions of family transition. Under the columns labeled *Family transition to next generation*, we only include family transitions to children, step children and children in law. In these columns, CEO transitions to spouses, siblings and parents are not considered transitions (see section 3). Under the columns *Family transition to all generations* we include all types of family transitions (i.e., to all types of children, spouse, siblings and parents). The instrumented variable is *Number of additional children* which is the number of children in excess of 2. The instrument is *Same gender*, defined as a dummy taking the value 1 when the first two children have the same gender. Similarly to Angrist and Evans (1998) we add two dummies for the gender of each of the first two children to the list of exogenous covariates. *All adult children are daughters* is a dummy taking the value 1 if all adult children are female. *Old CEO in family* is a dummy taking the value 1 if the departing CEO is a member of the controlling family. Where indicated we include the following unreported control variables: *Firm size*, *Profitability*, *Industry concentration* and *Female share of industry* (see Table 6 for definitions). t-statistics are reported in parenthesis. The table only reports the second stage regression for 2SLS. We report the t-statistic on the instrument, *Same gender*, from the first stage regression at the bottom of each panel.

\*\*\*, \*\* and \* denotes significant at the 1, 5 and 10 percent level, respectively.

Estimation method	Family transition to next generation				Family transition to all generations			
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
<b>Same gender dummy as instrument for Number of additional children</b>								
Estimation method	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
Number of additional children	0.074*** (3.08)	0.292*** (3.52)	0.063** (2.56)	0.321*** (2.69)	0.059*** (2.57)	0.258*** (3.16)	0.051** (1.99)	0.311** (2.82)
All adult children are daughters	-0.101* (-1.70)	0.013 (0.18)	-0.113*** (-1.68)	0.001 (0.01)	-0.074*** (-1.28)	0.035 (0.48)	-0.065 (-1.03)	0.059 (0.70)
Old CEO in family	0.292*** (6.67)	0.291*** (6.31)	0.290*** (5.74)	0.304*** (5.58)	0.416*** (9.06)	0.415*** (8.71)	0.412*** (7.82)	0.426*** (7.56)
Control variables	NO	NO	YES	YES	NO	NO	YES	YES
Constant	-0.030 (-0.54)	-0.189** (-2.29)	0.006 (0.07)	-0.163 (-1.48)	0.006 (0.11)	-0.139* (-1.69)	0.006 (0.08)	-0.170 (-1.58)
t-statistic on instrument		(8.80)		(6.23)		(9.34)		(7.08)
N	769	769	636	636	940	940	786	786

**Table 8, Succession decision with wife's age at marriage as the source of exogenous variation in family size**

The sample is constructed from family-controlled firms in which a single member of the controlling family is a shareholder. From this initial sample, we keep only the firms in which the owner is still married and has not been divorced at the time of the CEO transition. Family transition is the dependent variable. This variable takes the value of 1 when the CEO position is transferred to a family member. We use two different definitions of family transition. Under the columns labeled *Family transition to next generation*, we only include family transitions to children, step children and children in law. In these columns, CEO transitions to spouses, siblings and parents are not considered transitions (see section 3). Under the columns *Family transition to all generations* we include all types of family transitions (i.e., to all types of children, spouse, siblings and parents). The instrumented variable is *Number of adult children*, which is the number of children that were at least 20 years old. We use *Wife's age at marriage* as an instrument. *All adult children are daughters* is a dummy that takes the value 1 when all adult children are female. *Old CEO in family* is a dummy taking the value 1 if the departing CEO is a member of the controlling family. Where indicated, we include the following unreported control variables: *Firm size*, *Profitability*, *Industry concentration* and *Female share of industry* (see Table 6 for definitions). t-statistics are reported in parenthesis. The table only reports the second stage regression for 2SLS. We report the t-statistic on the instrument from the first stage regression at the bottom of each panel.

\*\*\*, \*\* and \* denotes significant at the 1, 5 and 10 percent level, respectively.

Estimation method	Family transition to next generation				Family transition to all generations			
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
<b><i>Wife's age at marriage dummy as instrument for Number of adult children</i></b>								
Number of adult children	0.079*** (5.42)	0.424*** (2.66)	0.069*** (4.22)	0.419** (2.21)	0.057*** (5.93)	0.188*** (3.84)	0.059*** (5.40)	0.185*** (3.36)
All adult children are daughters	-0.108*** (-3.95)	0.068 (0.78)	-0.119*** (-3.82)	0.069 (0.64)	-0.033 (-1.43)	0.147** (2.09)	-0.028 (-1.08)	0.149* (1.85)
Old CEO in family	0.148*** (4.99)	0.150*** (4.06)	0.149*** (4.48)	0.158*** (3.76)	0.193*** (7.63)	0.190*** (7.16)	0.189*** (6.72)	0.186*** (6.33)
Control variables	NO	NO	YES	YES	NO	NO	YES	YES
Constant	-0.088** (-2.06)	-0.844** (-2.40)	-0.017 (-0.30)	-0.794* (-1.87)	0.007 (0.24)	-0.243** (-2.49)	0.004 (0.09)	-0.254** (-2.13)
t-statistic on instrument		(-3.64)		(-3.09)		(-9.06)		(-8.27)
N	996	996	825	825	1,833	1,833	1,520	1,520

**Table 9, Succession in firms founded ten years after the owner's last child was born**

The sample is constructed from family-controlled firms in which a single member of the controlling family is a shareholder. From this initial sample, we keep only the firms that were founded 10 years after the owner's last child was born. Family transition is the dependent variable. This variable takes the value of 1 when the CEO position is transferred to a family member. We use two different definitions of family transition. Under the columns labeled *Family transition to next generation*, we only include family transitions to children, step children and children in law. In these columns, CEO transitions to spouses, siblings and parents are not considered transitions (see section 3). Under the columns *Family transition to all generations* we include all types of family transitions (i.e., to all types of children, spouse, siblings and parents). *Number of adult children* is the number of children that were at least 20 years old. *All adult children are daughters* is a dummy that takes the value 1 when all adult children are female. *Old CEO in family* is a dummy taking the value 1 if the departing CEO is a member of the controlling family. Where indicated, we include the following unreported control variables: *Firm size*, *Profitability*, *Industry concentration* and *Female share of industry* (see Table 6 for definitions). t-statistics are reported in parenthesis.

\*\*\*, \*\* and \* denotes significant at the 1, 5 and 10 percent level, respectively.

Estimation method	Family transition to next generation		Family transition to all generations	
	Probit	Probit	Probit	Probit
Number of adult children	1.678*** (4.31)	1.822*** (4.01)	0.223** (2.01)	0.310** (2.48)
Number of adult children squared	-0.228*** (-3.26)	-0.262*** (-3.18)	0.004 (0.16)	-0.020 (-0.69)
All adult children are daughters	-0.598*** (-2.96)	-0.764*** (-3.15)	-0.185 (-1.39)	-0.228 (-1.54)
Old CEO in family	1.230*** (5.11)	1.044*** (4.05)	1.065*** (7.31)	1.037*** (6.29)
Control variables	NO	YES	NO	YES
Constant	-4.316*** (-7.57)	-4.171*** (-6.22)	-1.817*** (-9.18)	-1.908*** (-7.62)
Pseudo-R <sup>2</sup>	0.18	0.20	0.11	0.13
N	581	473	1,308	1,072

**Table 10, Succession decision and marital status (conditional means)**

This table shows the frequency of family transitions conditional on marital status and in single owner family firms with a CEO transition as a function of the number of the children, the marital status and the number of partners with which the owner has children. Under the columns labeled *Family transition to next generation*, we only include family transitions to children, step children and children in law. In these columns, CEO transitions to spouses, siblings and parents are not considered transitions (see section 3). Under the columns *Family transition to all generations* we include all types of family transitions (i.e., to all types of children, spouse, siblings and parents). The frequency of family transition (%FT) is the number of firms with family transition over the total number of transitions. In Panel A we count all children, whereas in Panel B we only count children that were aged 20 or above at the time of the transition.

Owner marital status										Number of partners with which the owner has children			
Never married		Married		Divorced and not remarried		Multiple marriages				Children w/ one partner		Children w/ multiple partners	
N	%FT	N	%FT	N	%FT	N	%FT	N	%FT	N	%FT	N	%FT
<b>Panel A: Family transition to next generation</b>													
All	13	0.0	1,127	24.4	79	20.3	247	10.9		1,305	22.8	161	12.4
<b>Panel B: Family transition to all generations</b>													
All	473	8.0	2,187	29.8	121	19.0	388	21.4		1,540	35.3	190	27.4

**Table 11, Succession decision and marital status (probit regression)**

Family transition is the dependent variable. This variable takes the value of 1 when the CEO position is transferred to a family member. We use two different definitions of family transition. Under the columns labeled *Family transition to next generation*, we only include family transitions to children, step children and children in law. In these columns, CEO transitions to spouses, siblings and parents are not considered transitions (see section 3). Under the columns *Family transition to all generations* we include all types of family transitions (i.e., to all types of children, spouse, siblings and parents). *Number of adult children* is the number of children of the controlling owner that were at least 20 years old at the time of the transition. *All adult children are daughters* is a dummy taking the value 1 when all adult children are female. *Number of adult sons* and *Number of adult daughters* are the number of sons and daughters, respectively, who are at least 20 years old at the time of the transition. *Multiple marriages* is a dummy taking the value 1 if the single controlling owner has been divorced and has remarried before the time of transition. *Old CEO in family* is a dummy taking the value 1 when the departing CEO is a member of the controlling family. *Firm size* is book value of assets measured in million Danish kroner (equivalent to 135,000 €). *Firm age* is measured as number of years since the firm was established. *Profitability* is industry adjusted returns on assets, defined as operating profit over book value of assets minus the mean 2-digit SIC industry return on assets. *Industry concentration* is the Herfindahl-Index, which sums the squares of each firm's market share within the industry. *Female share of industry workforce* is defined as the share of female workers in the industry. t-statistics are reported in parenthesis.

\*\*\*, \*\* and \* denote significance at the 1, 5 and 10 percent level, respectively.

Estimation method	Family transition to next generation		Family transition to all generations	
	Probit	Probit	Probit	Probit
Number of adult children	0.739*** (3.87)	0.713*** (3.29)	0.297*** (4.85)	0.368*** (5.36)
Number of adult children squared	-0.093** (-2.51)	-0.099** (-2.29)	-0.019 (-1.14)	-0.039** (-2.15)
All adult children are daughters	-0.535*** (-4.84)	-0.566*** (-4.62)	-0.119* (-1.92)	-0.101 (-1.48)
Multiple marriages	-0.414*** (-3.49)	-0.321** (-2.53)	-0.230*** (-2.89)	-0.216** (-2.47)
Old CEO in family	0.937*** (6.75)	0.856*** (5.67)	0.983*** (10.9)	0.943*** (9.52)
Firm size		-0.005** (-2.13)		-0.007*** (-3.65)
Firm age		0.001** (2.03)		3E-04 (0.83)
Profitability		0.206 (0.85)		0.279* (1.92)
Industry concentration		0.937** (1.98)		0.892*** (3.06)
Female share of industry workforce		-0.482* (-1.71)		0.020 (0.11)
Constant	-2.545*** (-9.48)	-2.225*** (-7.14)	-1.733*** (-16.3)	-1.728*** (-12.7)
Pseudo-R <sup>2</sup>	0.12	0.11	0.12	0.13
N	1,466	1,203	3,169	2,617

**Table 12, Succession with exogenous marital status**

Family transition is the dependent variable. This variable takes the value of 1 when the CEO position is transferred to a family member. We use two different definitions of family transition. Under the columns labeled *Family transition to next generation*, we only include family transitions to children, step children and children in law. In these columns, CEO transitions to spouses, siblings and parents are not considered transitions (see section 3). Under the columns *Family transition to all generations* we include all types of family transitions (i.e., to all types of children, spouse, siblings and parents). *Number of adult children* is the number of children of the controlling owner that were at least 20 years old at the time of the transition. *All adult children are daughters* is a dummy taking the value 1 when all adult children are female. *Multiple marriage at least 5 years before transition* is a dummy taking the value 1 if the owner remarried at least 5 years before the time of transition. *Old CEO in family* is a dummy taking the value 1 when the departing CEO is a member of the controlling family. Where indicated, we include the following unreported control variables: *Firm size*, *Profitability*, *Industry concentration* and *Female share of industry* (see Table 6 for definitions).

\*\*\*, \*\* and \* denote significance at the 1, 5 and 10 percent level, respectively.

Estimation method	Family transition to next generation		Family transition to all generations	
	Probit	Probit	Probit	Probit
Number of adult children	0.735*** (3.86)	0.715*** (3.30)	0.295*** (4.81)	0.366*** (5.35)
Number of adult children squared	-0.092** (-2.49)	-0.099** (-2.30)	-0.018 (-1.11)	-0.039** (-2.13)
All adult children are daughters	-0.536*** (-4.86)	-0.565*** (-4.61)	-0.119* (-1.91)	-0.099 (-1.45)
Multiple marriage at least 5 years before transition	-0.326*** (-2.61)	-0.230* (-1.71)	-0.159* (-1.87)	-0.151 (-1.60)
Old CEO in family	0.950*** (6.86)	0.872*** (5.78)	0.993*** (11.0)	0.954*** (9.63)
Control variables	NO	YES	NO	YES
Constant	-2.571*** (-9.57)	-2.253*** (-7.22)	-1.753*** (-16.5)	-1.747*** (-12.9)
Pseudo-R <sup>2</sup>	0.11	0.11	0.12	0.12
N	1,466	1,203	3,169	2,617

**Table 13, Effect of parental conflicts on family transition**

The sample is constructed from family-controlled firms in which a single member of the controlling family is a shareholder. From this initial sample, we keep only the firms in which the owner was married at the time of the transition. Family transition is the dependent variable. This variable takes the value of 1 when the CEO position is transferred to a family member. We use two different definitions of family transition. Under the columns labeled *Family transition to next generation*, we only include family transitions to children, step children and children in law. In these columns, CEO transitions to spouses, siblings and parents are not considered transitions (see section 3). Under the columns *Family transition to all generations* we include all types of family transitions (i.e., to all types of children, spouse, siblings and parents). *Number of adult children* is the number of children that were at least 20 years old. *All adult children are daughters* is a dummy that takes the value 1 when all adult children are female. *Divorced after transition* is our proxy for conflicts. It takes the value of 1 if the owner divorced two years after the transition. *Old CEO in family* is a dummy taking the value 1 if the departing CEO is a member of the controlling family. Where indicated, we include the following unreported control variables: *Firm size*, *Profitability*, *Industry concentration* and *Female share of industry* (see Table 6 for definitions). t-statistics are reported in parenthesis.

\*\*\*, \*\* and \* denotes significant at the 1, 5 and 10 percent level, respectively.

Estimation method	Family transition to next generation		Family transition to all generations	
	Probit	Probit	Probit	Probit
Number of adult children	0.832*** (3.91)	0.799*** (3.27)	0.316*** (4.68)	0.353*** (4.67)
Number of adult children squared	-0.105*** (-2.56)	-0.108** (2.25)	-0.019 (-1.07)	-0.032 (-1.56)
All adult children are daughters	-0.610*** (-4.95)	-0.652*** (-4.75)	-0.142** (-1.99)	-0.153* (-1.94)
Divorced after the transition	-0.148 (-0.72)	-0.211 (-0.85)	-0.431*** (-2.58)	-0.482*** (-2.42)
Old family CEO	1.092*** (6.62)	0.992*** (5.49)	1.067*** (9.62)	1.020*** (8.36)
Control variables?	NO	YES	NO	YES
Pseudo-R <sup>2</sup>	0.12	0.12	0.10	0.11
N	1,186	977	2,276	1,890

**Table 14, Family conflicts: the effect of having children with multiple spouses on succession**

The sample is constructed from family-controlled firms in which a single member of the controlling family is a shareholder. From this initial sample, we keep only the firms in which the owner has been married at least once. Family transition is the dependent variable. This variable takes the value of 1 when the CEO position is transferred to a family member. We use two different definitions of family transition. Under the columns labeled *Family transition to next generation*, we only include family transitions to children, step children and children in law. In these columns, CEO transitions to spouses, siblings and parents are not considered transitions (see section 3). Under the columns *Family transition to all generations* we include all types of family transitions (i.e., to all types of children, spouse, siblings and parents). *Number of adult children* is the number of children of the controlling owner that were at least 20 years old at the time of the transition. *All adult children are daughters* is a dummy taking the value 1 when all adult children are female. *Divorced, but never remarried* is a dummy taking the value 1 if the single owner is divorced and has not remarried. *Multiple marriages but children with one partner* is a dummy taking the value 1 if the single owner has been divorced and has remarried, but only has children from one spouse. *Multiple marriages and children with multiple partners* is a dummy taking the value 1 if the family owner has been divorced, has remarried and has children with multiple partners. *Multiple marriages but sons with one partner* is a dummy taking the value 1 if the single owner has been divorced and has remarried, but only has sons from one marriage. *Multiple marriages and sons with multiple partners* is a dummy taking the value 1 if the family owner has been divorced, has remarried and has sons with multiple partners. *Old CEO in family* is a dummy taking the value 1 if the departing CEO was a family member. Where indicated we include the following unreported control variables: *Firm size*, *Profitability*, *Industry concentration* and *Female share of industry* (see Table 6 for definitions. t-statistics are reported in parenthesis. t-statistics are reported in parenthesis.

\*\*\*, \*\* and \* denote significance at the 1, 5 and 10 percent level, respectively.

Estimation method	Family transition to next generation			Family transition to all generations		
	Probit	Probit	Probit	Probit	Probit	Probit
Number of adult children	0.724*** (3.80)	0.700*** (3.21)	0.714*** (3.29)	0.307*** (4.92)	0.371*** (5.32)	0.373*** (5.36)
Number of adult children squared	-0.089** (-2.40)	-0.095** (-2.18)	-0.098** (-2.28)	-0.021 (-1.26)	-0.041** (-2.21)	-0.042** (-2.27)
Divorced, but never remarried	-0.040 (-0.23)	-0.021 (-0.11)	-0.023 (-0.12)	-0.339** (-2.41)	-0.310* (-1.91)	-0.311* (-1.93)
Multiple marriages but children w/ one partner	-0.324** (-2.40)	-0.251* (-1.73)		-0.192** (-2.09)	-0.198** (-1.998)	
Multiple marriages and children w/ multiple partners	-0.682** (-2.90)	-0.526** (-2.14)		-0.403*** (-2.70)	-0.327** (-1.98)	
Multiple marriages and sons w/ one partner			-0.275** (-2.03)			-0.212** (-2.28)
Multiple marriages and sons w/ multiple partners			-0.620* (-1.83)			-0.368 (-1.57)
All adult children are daughters	-0.534*** (-4.81)	-0.567*** (-4.62)	-0.570*** (-4.64)	-0.133** (-2.03)	-0.130* (-1.79)	-0.132* (-1.82)
Old CEO in family	0.936*** (6.72)	0.856*** (5.64)	0.854*** (5.63)	0.971*** (10.2)	0.934*** (8.87)	0.933*** (8.86)
Control variables	NO	YES	YES	NO	YES	YES
Constant	-2.536*** (-9.40)	-2.213*** (-7.08)	-2.227 (-7.12)	-1.706*** (-15.2)	-1.683*** (-11.8)	-1.681*** (-11.7)
Pseudo-R <sup>2</sup>	0.12	0.11	0.11	0.10	0.10	0.10
N	1,466	1,203	1,203	2,696	2,234	2,234

**Table 15, Determinants of Ownership Transition**

We use a sample of single family member family firms where a new owner entered the firm. Family transition is the dependent variable, defined as a dummy taking the value 1 when one of the new owners belongs to the next generation and to all generations of the family, respectively. We use two different samples of family firms, *Ownership transition to next generation*, which includes all transitions to outsiders and only family transitions to the next generation, and *Ownership transition to all generations*, which includes all transitions to outsiders and all family transitions (see Section 2 for further details). *Number of adult children* is the number of children of the single controlling owner that was aged 20 at the time of the transition. *Never married* is a dummy taking the value 1 if the single owner never has been married. *Multiple marriages* is a dummy taking the value 1 if the single controlling owner has been divorced and has remarried before the time of transition. *All adult children are daughters* is a dummy taking the value 1 if all adult children are daughters. *Number of male children* and *Number of female children* are the number of adult male and female children, respectively. *Old CEO in family* is a dummy taking the value 1 if the departing CEO was a family member. *Firm size* is book value of assets measured in million Danish kroner (equivalent to 135,000 €). *Firm age* is measured as number of years since the firm was established. *Profitability* is industry adjusted returns on assets, defined as operating profit over book value of assets minus the mean 2-digit SIC industry return on assets. *Industry concentration* is the Herfindahl-Index, which sums the squares of each firm's market share within the industry. *Female share of industry workforce* is defined as the share of female in the workforce within the industry. t-statistics are reported in parenthesis.

\*\*\*, \*\* and \* denote significance at the 1, 5 and 10 percent level, respectively.

Estimation method	Ownership transition to next generation		Ownership transition to all generations	
	Probit	Probit	Probit	Probit
Number of adult children	0.489*** (3.90)	0.462*** (3.39)	0.831*** (11.1)	0.849*** (10.3)
Number of adult children squared	-0.059** (-2.49)	-0.059** (-2.26)	-0.124*** (-7.82)	-0.132*** (-7.46)
Never married			-0.302* (-1.90)	-0.226 (-1.37)
Multiple marriages	-0.286*** (-3.95)	-0.220*** (-2.74)	-0.259*** (-3.97)	-0.216** (-3.00)
All adult children are daughters	-0.466*** (-6.10)	-0.448*** (-5.32)	-0.524*** (-7.39)	-0.511*** (-6.59)
Old CEO in family	1.414*** (14.9)	1.418*** (13.2)	1.175*** (12.7)	1.188*** (11.4)
Control variables	NO	YES	NO	YES
Constant	-2.081*** (-11.7)	-1.960*** (-9.35)	-2.520*** (-19.2)	-2.361*** (-15.1)
Pseudo-R <sup>2</sup>	0.14	0.13	0.25	0.25
N	2,454	1,958	4,830	3,825

**Table 16, Determinants of succession using a more strict definition of family firm**

We construct a sample of family firms with a controlling family and family involvement, i.e. at least two family members among the group of owners, CEO and board members – see Table 1 and Section 2 for further details. Family transition is the dependent variable, defined as a dummy taking the value 1 when the CEO position is transferred to the next generation and to all generations, respectively. We use two different samples, *Family transition to next generation*, which includes all transitions to outsiders and only family transitions to the next generation, and *Family transition to all generations*, which includes all transitions to outsiders and all family transitions (see Section 2 for further details) *Number of adult children* is the sum of the family owners' children that was aged 20 at the time of the transition. *Multiple marriages* is a dummy taking the value 1 if at least one family owner has been divorced and have remarried. *Majority of children are daughters* is a dummy taking the value 1 if the majority of the family owners' adult children are daughters. *Old CEO in family* is a dummy taking the value 1 if the departing CEO was a family member. Where indicated we include the following unreported control variables: *Firm size*, *Profitability*, *Industry concentration* and *Female share of industry* (see Table 6 for definitions. t-statistics are reported in parenthesis. t-statistics are reported in parenthesis.

\*\*\*, \*\* and \* denote significance at the 1, 5 and 10 percent level, respectively.

Estimation method	Family transition to next generation		Family transition to all generations	
	Probit	Probit	Probit	Probit
Number of adult children	1.121*** (5.73)	1.063*** (4.80)	0.356*** (5.61)	0.408*** (5.36)
Number of adult children squared	-0.164*** (-4.60)	-0.153*** (-3.71)	-0.034** (-2.14)	-0.042** (-2.07)
Multiple marriages	-0.698*** (-4.19)	-0.657*** (-3.76)	-0.546*** (-4.50)	-0.595*** (-4.50)
Majority of adult children are daughters	-0.412*** (-4.34)	-0.438*** (-4.11)	-0.214** (-2.54)	-0.174* (-1.79)
Old CEO in family	0.455** (2.58)	0.327* (1.69)	0.730*** (6.12)	0.776*** (5.74)
Control variables	NO	YES	NO	YES
Pseudo-R <sup>2</sup>	0.08	0.09	0.07	0.10
N	1,099	901	1,606	1,330