The Causal (Non-)Effect of Dynastic Control on Firm Performance

Laurent Bach[1]

March 13, 2016

Abstract

The conventional wisdom is that dynastic control provides sharp incentives to entrepreneurs ex-ante, when founders run firms in anticipation of their progeny being in charge once they retire, and bad management ex-post, when untalented heirs take over. Using data on Swedish private firms and the individuals who control them, I construct a cross-sectional measure of owners' dynastic intentions based on the presence in the board of young relatives of the current chairman, and provide instruments for dynastic control using the main owner's family characteristics. Dynastic intentions make it three times less likely that the firm will be taken over by outsiders in the future and they also immediately lead to less delegation of management to outsiders. Yet, my estimations rule out any first-order effect, positive or negative, of dynastic control on firm profitability.

[1] Stockholm School of Economics & Swedish House of Finance, Drottninggatan 98, Stockholm, Sweden. E-mail: laurent.bach@hhs.se. The paper benefited from helpful comments by Samuli Knupfer, David Sraer & Per Stromberg.

1 Introduction

Corporate dynasties are a recurrent feature of capitalism. It is estimated that 15% of US listed firms are currently controlled by descendants of their founder (Amit, Villalonga, 2010). Outside America, the prevalence of dynastic management is much higher[2]. Not surprisingly, assessing the impact of this form of corporate control on firms' operating performance has been a central theme of the academic literature in the last two decades. It has slowly reached a consensus: dynastic control guarantees that the firm's current controlling owners are here for the long-run, which makes the company credible enough to seal mutually beneficial agreements with its workers, clients, suppliers, creditors and communities at large (Shleifer, Summers, 1988); at the same time, this stability in the identity of controlling owners means that the firm faces a talent problem at the top, as families are too limited a pool to tap from in the long run, and this will eventually hinder the firm's performance (Caselli, Gennaioli, 2013). The corresponding empirical evidence is that firms controlled by families seem to outperform their counterparts in the cross-section (Anderson, Reeb, 2003; Amit, Villalonga, 2006; Sraer, Thesmar, 2007) but see their performance decline once new generations take power (Perez-Gonzalez, 2006; Bennedsen et al., 2007). In this paper, I re-evaluate this consensus under the light of new data collected on Swedish firms. Using a measure of dynastic control based on board composition and characteristics of owners' family structure as instruments, I turn around many of the existing results: owners with dynastic preferences do not significantly differ in terms of performance in the cross-section of firms; on the other hand, transfers of corporate control within a family do not under-perform transfers of control to unrelated parties.

Dynastic control over a firm is when its main controlling owner garners intentions to bequeath control to her heirs when she retires. While theoretically and anecdotally appealing, this concept turns out to be difficult to pin down in actual data. In this paper, I classify a firm as dynastic if one of the current chairman's younger relatives sits on the board. In order to validate this proxy for dynastic control, I show that it correlates very heavily with the likelihood of a transfer of control outside the family of the current chairman. At the same time, this measure has the advantage of being computable for about any firm, provided its leader has children of working age and its board has non-trivial responsibilities. This is definitely the case in Sweden, even for small businesses, as limited liability companies with strong boards dominate this economy. This allows me to give a precise picture of the importance of dynastic ownership: in Sweden in the

[2] This is the case for 24% of listed firms in France (Sraer, Thesmar, 2007) and 30% in Japan (Mehrotra, Morck, Shim, Wiwattanakantang, 2013).

period 2000 to 2013, about a third of firms with more than 20 employees were dynastic. Furthermore, when comparing firms' operating performance, I find that dynastic firms have the same level of operating return on assets (OROA) as other firms. With a 95% confidence level, I can rule out effects of being a dynastic firm bigger than a twentieth of a standard deviation in OROA in absolute terms. In other words, dynastic control is neither a boon nor a panacea when it comes to operating performance.

This is a strong conclusion but it is open to the criticism that dynastic control is not randomly assigned. The best-performing firms might attract a lot of interest from outside buyers and such a promising exit potential may deter a founder from putting her children in command. Alternatively, if a firm performs particularly well, its chairman might think she is putting little at risk by getting her children to run the firm when she retires. In other words, there are strong arguments for the existence of a causal bias, of which direction remains ambiguous, when comparing dynastic and non-dynastic firms. To address this problem, I rely on the intuition provided by Bennedsen et al. (2007) that active owners' dynastic goals are shaped by the structure of their family: those chairmen who have sons are more likely to train them into becoming active owners of their firm. In my data, I confirm that the sex composition of the offspring of the main owner has a first-order effect on the dynastic character of a company: firms whose current chairman has a son as a firstborn child are about 50% more likely to include in the board a young relative of the chairman. This allows me to use sex composition variables as instruments for the dynastic intentions of firms' current owners. Yet, even after instrumentation, there is still no distinguishable difference in terms of OROA between dynastic and non-dynastic firms.

The main divergence in this analysis with respect to the existing literature is a matter of definition: in the finance literature, the focus of the analysis is on the broader concept of "family firms", i.e. firms whose control is held by a single individual or a tight set of individuals. What is seen to matter then is ownership concentration, no matter what kind of individual holds the blocks, rather than the actual preferences of the individual block-holders. In this type of analysis, Larry Page, the founding CEO of Google, is typically supposed to have the same impact on value as Brian Roberts, the second-generation CEO of Comcast. More refined studies (Sraer, Thesmar, 2007) consider the differential impact of founders vs. later-generation members of the controlling family, but they do not measure the dynastic intentions of the few individuals controlling a firm. Larry Page might be hosting the intention of passing control over Google to his heirs; on the contrary, Brian Roberts might want to exit his family's position in

Comcast once his tenure reaches to an end. The former type of owners have dynastic preferences, despite being founding owners, while the latter type do not have such preferences, despite being descendants of the founder. I choose to analyze the impact of *dynastic* control because it really is this concept that captures the specific trade-off implied by having a family (as opposed to a collection of individuals) as the main owner: only owners with dynastic preferences may have a specific commitment ability and simultaneously face a talent shortage problem at the top.

Family control as defined in the existing literature captures a very different trade-off, put forth in Burkart et al. (2002): due to ownership concentration, family firms are better at monitoring managers, but at the same time those firms may be run against the interests of minority shareholders. Such a trade-off is in fact not specific to family owners; it arises as soon as there is a block-holder who is a physical person. Yet, most cross-sectional findings documenting the over-performance of family firms have focused on the impact of ownership concentration rather than that of owners' dynastic preferences. In the data I am using, there is almost no variation in ownership concentration, because most firms are private and the few public ones also typically have a controlling owner; this might be why I come to very different conclusions regarding the impact of dynasties.

My finding that dynastic concerns of current owners do not affect performance in any measurable way before successors of the current leader take possession of the firm also goes against the common theoretical intuition about dynastic firms, which is that a dynastic commitment by the founder can only be a positive thing for as long as the founder remains in place. In this type of argument, it should only be when the heir actually takes over that the costs of dynastic commitment appear. In contrast, I find evidence that this dynastic commitment entails important differences in the governance structure way ahead of the current leader's retirement. In particular, the likelihood that the current lead owner delegates a leadership position to an individual outside the family goes from 44% to 17% if one of the relatives of the owner is already in the board. A similar order of magnitude is found when I use gender-based instruments for dynastic intentions. This is costly because outsiders bring valuable human capital to the firm, even when compared to the founder himself, as evidenced by Adams et al. (2015). This also sets bad incentives in the organization because this means that individuals outside the family stand no chance of ever obtaining a top-level position (Bandiera et al., 2015). Therefore, there are immediate and inherent costs to dynastic commitment that may effectively balance the potential gains from beneficial implicit contracts with stakeholders.

The new evidence I provide is also in apparent contrast with existing results on the impact of family CEO successions on performance (Perez-Gonzalez, 2006; Bennedsen et al., 2007). In the second part of the paper, I estimate the effect of dynastic changes in the identity of the lead owner using instruments based on family structure, and I do not find that those successions have any distinct causal impact on firm performance, contrary to Bennedsen et al. (2007) who focus on the Danish case and find a very negative impact. This can be explained by differences in the methodology I use. I focus on changes in the identity of the lead owner, typically the chairman, while Bennedsen et al. (2007) analyze changes in the identity of the CEO. My choice is partly driven by a specific feature of Swedish corporate law: firms do not have to fill a CEO position and in my sample a third of firms choose to leave this position vacant. This makes it difficult to investigate the pure impact of dynastic management. Yet, this choice to focus on controlling owners is sensible from a policy perspective because capital taxes only have a direct incidence on the choice by families to keep a controlling stake in the firm; they never force a family to keep a firm hand on day-to-day operations even when none of the family members have enough operational skills. I also use sampling restrictions that are significantly stricter than in Bennedsen et al. (2007) as I exclude successions taking place in very small firms (less than 20 employees). While I do not find any significant effect of family successions among firms with more than 20 employees, I am able to replicate their negative conclusions on family successions when I restrict my sample to similarly small firms.

These two fundamental differences in our methodologies (focus on control vs. management, bigger firms) imply that successions may be less affected by the quality of the talent pool in the family, for two reasons. First of all, since there is more value at stake in bigger firms, the internal succession process is more likely to be well-prepared than in very small firms. To back this claim, I find that chairmen of Swedish firms choose to stay in the board for a much longer time when one of their relatives is among the directors. Secondly, lead owners may keep control in the family but delegate day-to-day operations to outsiders if their offspring are not up to the task. Using data on Swedish firms and their CEOs, Adams et al. (2015) indeed provide confirmatory evidence that family-owned firms are able to select particularly talented outsiders as CEOs when required by the competitiveness of their industry.

To what extent can lessons be drawn from Swedish evidence? Besides the obvious advantage of unique data availability, Sweden is a very appropriate country to study the impact of dynastic ownership: it is famous for its well-established corporate dynasties such as the Wallenbergs but also for its recent entrepreneurial successes turned into dynastic businesses such as IKEA and

H&M. At the same time, Swedish capital markets make it possible to turn a young family business into an established widely-held firm; according to Franks et al. (2012), the country ranks #6 out of 27 European countries in terms of investor protection, financial development and takeover activity. In this context, the differences in performance I may observe between dynastic and non-dynastic firms will not primarily reflect governance failures but instead technological advantages or drawbacks of running a business with dynastic intentions.

My results can therefore be translated to many other developed countries and in this respect carry important tax policy implications. Most European states exempt family business assets from inheritance, gift and wealth tax bases. This is often justified by the illiquidity of family firms' assets (when tax systems do not allow for deferred payments) but more so because family firms are thought to perform better thanks to their long-term focus. This latter argument does not hold in my data: corporate capital is not better run when it's in the hands of a family, therefore family business assets should not be given preferential treatment based on this argument. On the other hand, calls for a large inheritance tax rate in order to avoid nepotistic management are not justified either if one takes these new results into account.

Finally, the paper provides a number of methodological improvements with respect to the existing literature. In particular, I do not view dynasties as only defined by the succession decision; I show that the dynastic preservation of control is widely anticipated by the owners long before the succession takes place. This means that instrumentation approaches for control structures based on constant family characteristics (such as the gender of children) are in fact more appropriate for the analysis of the cross-sectional impact of dynastic intentions than for the study of the impact of dynastic successions before and after a succession takes place, as has been done so far in the literature (Perez-Gonzalez, 2006; Bennedsen et al., 2007).

The remainder of the paper is as follows. Section 2 presents the data. Section 3 presents the results of my analysis. Section 4 concludes.

2 Data

2.1 Data Construction

I construct a dataset with 35,150 observations at the firm-year level covering Swedish limited liability corporations over the period 2000 to 2013. The dataset contains detailed financial information at the level of the firm together with information on the composition of the board

and personal information on each board member. It was built using two different sources of which I will now give a brief description.

The Serrano database is my main source. Produced by the commercial data provider *PAR*, it collects information sent by all Swedish corporations to a public agency called *Bolagsverket*. One of Serrano's components is a detailed register of ownership links between firms. This allows me to apply an initial filter: I consider only those firms that are not joint-ventures or wholly-owned subsidiaries of another firm, be it a domestic firm or a foreign one. Matching this database with dividend tax files (the so-called *K-10* forms in the Swedish tax code), I find that at least 90% of firms with more than 20 employees that fit this "independence" criterion are closely-held in the sense that fewer than four individuals possess at least 50% of the capital and at least one of these individuals is actively involved in the firm's leadership[3].

The Serrano database includes detailed financial statements, using both consolidated and unconsolidated accounts. Accounting items included are very extensive and, importantly, these include the total employment level within each firm. All firm-level variables are aggregated at the business group level, using consolidated accounts where available or through aggregation of unconsolidated accounts of the companies forming the business group otherwise. This leads to a second sampling restriction: only firms that have had more than 20 employees at a consolidated level in each of the last three years are included. This is to make sure that my analysis deals with significant firms.

Data from Serrano also include the identity of each firm's board members and executives: gender, first names, surname (very often together with maiden name), location, date of birth, together with their position within the board (chairman, CEO, vice-chairman, vice-CEO, simple board member, or deputy board member). As a third sampling filter, I drop firm-year observations for which a key position in the board was filled less than 6 months before the end of the calendar year. This eliminates cases in which the distribution of roles in the firm is only very temporary.

In order to measure dynastic control and provide instruments for it, I need to know more about the family relationships of each of the directors and executives. For this purpose I rely on a separate source, which is the administrative censuses (*Sveriges befolkning* in Swedish) performed by the Swedish statistical authority, *SCB*, in the years 1970, 1980 and 1990. This

[3] Unfortunately, due to privacy restrictions, we have not been able to use the dividend tax data for the rest of our analysis.

data is made available to the public by the Swedish national archives (*Riksarkivet*), mainly for genealogical purposes. It provides, for each household located in Sweden in each of those years, a list of the individuals forming that household. Information on each individual includes gender, first names, surname, location and date of birth. This is enough detail to recover census data on most board members and executives present in the Serrano database: I find in my census snapshots 98% of top executives active in 2000 and 94% of those active in 2013. I consider that, within a household, individuals who are less than 16 years apart belong to the same generation[4]. I then define a board member's children as those who are in the same household in either of the years 1970, 1980 or 1990 but belong to a younger generation. Finally, I sort board members' children by age and gender as in Bennedsen et al. (2007).

My analysis of dynastic control requires that I identify at each point in time the individual in each firm who has the greatest control over the firm, whom I will now call the *lead owner*, so I can then assess her intentions to pass control to her relatives in the future. In the context of Sweden, it is natural to focus on board members because Swedish company law follows a strict "ownership" model of the board (Carlsson, 2007): the main owners must be in full control of the nominating committee so a large part of the board is composed of actual owners and their relatives; its chairman is typically the lead owner (very often the founder himself), while the CEO is an optional position in the firm and may be recruited outside the owning family. Identifying the main controlling individual among the board members is not straightforward though because, as shown by Hall and Nordqvist (2008), the owners might in some cases recruit a professional chairman to provide strategic advice to a CEO who belongs to the owning family. In this case, it is the CEO who is most likely to be the lead owner. This makes it difficult to correctly identify the lead owner without having a sense of ownership stakes held by each of the senior board members (i.e. chairman, CEO, vice-chairman or vice-CEO). In the absence of individual ownership data at my disposal, I use an indirect ownership measure: if a senior board member (i.e. chairman, CEO, vice-chairman or vice-CEO) has another family member in the board, I deem this as evidence that she has substantial ownership and control over the firm. This is a very common occurrence in Sweden because every active board member must have a deputy board member to replace him if need be; those directors who control the firm most often choose a close relative as deputy. Nominating a relative as a replacement is however very unlikely if one does not own the firm, so that such family connections within the board are

[4] I choose this duration because 16 years old is the age at which a meaningful number of Swedes start having children. Choosing higher durations does not change my results either qualitatively or quantitatively.

likely sufficient proof of control. I then rank those connected board members in decreasing order of seniority: chairman, CEO, vice-chairman, vice-CEO, and I define the lead owner as the one with the highest seniority within the board. If no family connections are detectable in the board or only involve simple board members, I apply the same seniority ranking but this time on the whole set of directors of the firm and again define the lead owner as the one with the highest seniority within the board, i.e. the chairman. Following this procedure, it turns out that the lead owner is the chairman of the board in about 80% of the cases and the CEO in the remaining cases[5].

Once the identity of the lead owner of the firm is established, I can measure the existence of dynastic intentions on her side by looking at the composition of the board. I consider a firm to be under dynastic control if its board or the board of one of its subsidiaries includes children of the current lead owner. This has the advantage of being measurable in the cross-section of firms, not just when a firm decides to organize a transfer of control. However, a board may include a child of the current lead owner only if the latter has at least one child old enough to belong to the board. This is why I include one last sampling restriction: the current lead owner in a given year should have at least one child who is more than 24 years old[6]. This is by far the largest sample restriction as it cuts the sample by a bit less than half. Essentially, firms run by individuals too young to already have working-age children are excluded from the sample. As a result, the lead owners in excluded firms are 47 years old on average while they are 61 years old on average in the final sample. Owners with either young children or no children are less likely to host strong dynastic intentions and if they do have such intentions, the impact of dynastic control on firms' decisions should be quite attenuated since the expected control transfer would take place very far away in the future. Therefore, I expect estimations in my sample to over-estimate the impact of dynastic control if anything.

Conditional on all these restrictions, the proportion of lead owners with dynastic intentions is equal to 32%. This is twice higher than the proportion of US listed firms controlled by heirs of the founder, but there are several underlying reasons: dynastic management is likely more prevalent among unlisted firms; many owners with dynastic intentions may eventually not be

[5] Consequently, choosing alternative definitions of the lead owner, such as simply picking the chairman of the board for all firms, does not change my results significantly.

[6] I choose the threshold of 24 years old because a) this makes sure that any of the children of the lead owners above that age observable in 1970, 1980 or 1990 censuses b) this is the typical age at which most individuals should have finished their studies and enter the labor force (in the total population of Swedish firms, less than 0.3% of all directors are below 24 years old).

able to pass on the firm to their children; Swedish ownership structures are reputedly more biased towards families than in the US (Högfeldt, 2005).

Based on that cross-sectional sample, I also consider the impact of changes in the identity of lead owners over time. I restrict myself to a) transfers of control for which accounting information is available three years after the change in lead owner took place b) transfers of control that were not preceded by another change in control during the sample period. My sample of successions is made of 1,458 observations. I define a succession as dynastic if the new lead owner has a family connection with the former lead owner in either of the 1970, 1980 or 1990 censuses. There are 22.6% of successions in my sample which have this characteristic. This proportion is a bit smaller than what is found in Bennedsen et al. (2007) but this was to be expected given that I am dealing with significantly bigger firms.

2.2 Descriptive Statistics

Table 1 provides a set of descriptive statistics for the main sample. The demographic destiny of firms in my sample can be tracked for up to 14 years (from 2000 to 2014). Shorter periods would make it more difficult to assess whether dynastic intentions translate into actual consequences for ownership dynamics. In my sample, for a third of the observations the current lead individual owner will have disappeared from the board by 2014, thus triggering a decision to keep control over the firm in the family or not. This means I have a long enough period of observation to assess the dynastic character of firms not just in terms of intentions *ex ante* but also in terms of transfer decisions *ex post*. This will be essential in order to cross-check the quality of my control measure.

What is often overlooked when dealing with data on private firms is that a large proportion of the changes in the identity of the lead individual owner comes from the termination of the firm as an independent entity rather than from the arrival of a new individual at the top keeping the perimeter of the firm constant. Indeed, Table 1 shows that by the end of the sample period, 14% of firms initially in the sample had been taken over; since the lead owner was gone by that date in about a third of the cases, this means that more than 40% of exits by lead owners take place through takeovers. One consequence is that studying dynastic firms only from the angle of successions inherently implies a severe sampling restriction as one can only focus on the evolution of performance before and after succession for those firms that did not change perimeter around the succession.

In terms of firm characteristics, larger firms are overrepresented by construction yet, due to fat tails in the size distribution, half of the sample is made of firms with less than 40 employees so I retain a substantial number of SMEs[7]. However, in Sweden, such firms are often very competitive in export markets and can be a very significant employer in their local community. Many of those firms are also well-established in their market as half of them have been in existence for more than 26 years. In this sense, my results regarding the impact of ownership on performance carry substantial implications for a broad range of firms.

3 Results

3.1 Dynastic Control in the Cross-section

3.1.1 Descriptive Analysis

In table 2, I show sub-sample means of various outcomes of interest depending on whether firms are under dynastic control or not. Rows 1 to 3 in panel A confirm that my measure of dynastic control effectively captures dynastic intentions: in firms that I define as not dynastically controlled, the likelihood that the owning family will exit the firm by the end of my sample period is more than three times bigger than in firms that are dynastically controlled; the latter group of firms is also half as likely to be taken over by the end of the sample period. Another salient result is that the lead individual owner retires much less rapidly when he has a child in the board: by the end of my sample, lead owners are 40% less likely to be retired when they already host dynastic intentions in the year of observation.

The governance structure is also seriously affected by the dynastic intentions of the current owner. Dynastic firms are four times less likely to hire a professional CEO, that is, a CEO who does not belong to the board because he has no stake in the firm (table 2, panel A, row 6). More generally, those firms give very few leading positions (i.e. chairman or CEO in or outside the board) to individuals outside the family: 44.1% of firms whose main owner has no dynastic intention open a leading position to somebody who does not belong to the main owner's family; this is the case for only 16.8% of firms with dynastic concerns (panel A, row 9). In other words, the willingness to form a corporate dynasty leads current owners to delegate management to a much lesser extent even years before the actual succession takes place.

[7] In appendix table 3, I restrict my analysis of the impact of dynastic intentions to a much tighter set of firms, those with more than 100 employees. I do not find any evidence that dynastic firms behave differently in this group of much bigger firms.

As shown in row 5 of panel B in table 2, the raw difference in performance between dynastic and non-dynastic firms is almost non-existent. In fact, I can rule out with 95% confidence an effect (negative or positive) of dynastic control bigger than 4% of the standard deviation in OROA so this non-result turns out to be very precise: dynastic control simply does not correlate with performance.

At the same time however, dynastic firms tend to be smaller, by about 6% in terms of annual employment (row 2 of table 2, panel B). Dynastic firms are also significantly older (by about five years and therefore should have been bigger rather than smaller if they had chosen the same growth path as regular firms. Given that size and age are potential predictors of performance, the analysis of dynasties and performance should consider endogeneity issues very seriously.

My approach to this endogeneity concern is to use an instrument based on family composition. Just as in Bennedsen et al. (2007), I use the fact that dynasties often have a bias for male leadership. This means that the gender of the patriarch's children can have a substantial impact on the preservation of the firm in the family in the long-run. In Sweden, it is safe to assume that the gender of somebody's firstborn child is entirely left to chance. There is to my knowledge no existing practice of gender-dependent abortion. In my sample, the proportion of male firstborn children is at 52%; this number mimics the actual sex ratio observed in the entire population of most developed countries. This confirms that this variable is entirely decided by nature in my sample. One may also be worried that the gender of one's children directly impacts current performance through means other than the anticipation of a dynastic succession. Given that my main outcomes are purely cross-sectional, I can only test the validity of this exclusion restriction in indirect ways: my placebo tests consist in testing whether the characteristics of the location and/or the industry of each firm is correlated with the gender of its main owner's children. I show the results from these placebo tests in Appendix Table 1. Dynastic intentions are systematically correlated with industry and geographic characteristics; however, the gender structure of the owner's progeny does not lead her to self-select into specific industries or locations, which further reinforces the validity of these instruments.

In Table 3, panel A, row 1, the rationale for these biology-based instruments is entirely validated as the gender of the lead owner's firstborn child is a crucial predictor of dynastic control: firms' lead owners are 50% more likely to include one of their children in the board when their firstborn child is a boy rather than a girl. This sets a proper first stage for an IV estimation of the impact of dynastic control using gender of the firstborn child as an instrument. The remaining rows in table 3 proceed to such IV estimations. When it comes to ownership

dynamics, the IV results confirm that dynastic control observed in the cross-section is an extremely good predictor of actual dynastic persistence in the firm in the long-run. The relationship between dynastic intent and the absence of delegated management is also very strong using the IV. In fact, OLS estimates seem to underestimate these ownership and governance effects, suggesting some negative omitted variable bias: for example, firms in which the lead owner has a child in the board may also have bigger boards and therefore be more likely to be eventually transferred outside the family.

While size and age seemed to correlate with dynastic control in the naïve estimation, the IV estimate is in fact not statistically significant and very close to zero: there is in fact no causal effect of dynasties on size and age. More importantly, when I consider the causal impact of dynastic intentions on performance, I confirm the OLS result that there is simply no effect on accounting performance. By nature, the estimates are much more imprecise than the OLS analysis but I can rule out with 95% confidence a positive effect higher than 40% of a standard deviation and a negative effect lower than 20% of a standard deviation. What I conclude from this IV exercise is that while dynastic control matters a great deal for future firm dynamics, it does not seem to have any effect on the performance of the firm in anticipation of the ownership stability coming with dynastic control.

In Appendix Table 2, I use duration models to estimate the impact of dynastic intentions on the likelihood of a lead owner change, a family exit or a takeover taking place in the following year. The results from this analysis confirm the descriptive evidence above. Owners with dynastic intentions are 46% less likely to retire next year, the owning family as a whole is 74% less likely to exit and the firm is 61% less likely to be taken over when the lead owner has children in the board. Interestingly, the IV results (column 3) suggest these estimates are biased downwards, albeit not in a statistically significant way. The underlying reduced form results are themselves very telling: if the current lead owner has a boy as a firstborn child, the firm is 15% less likely to be taken over!

3.1.2 Regressions

The precision and robustness of my first results on control and firm performance needs to be further confirmed by regression analysis. In table 6, I present results from OLS regressions of performance on dynastic control. Dynastic ownership is unlikely to be randomly allocated across industries and it may not be constant over time; I have also shown that such firms tend to be older and choose a distinct size. Given that, it is striking to observe (in panel A) that

controlling for industry effects, business cycle effects, firm age and size, there is virtually no change in my estimates of the impact of dynastic control on OROA: in the worst-case scenario, I can rule out an effect of dynastic control that is bigger than 6% of a standard deviation with 95% confidence. Considering alternative measures of performance (in panel B), such as the level of output, labor productivity or the likelihood of bankruptcy in the next five years, there is still no meaningful effect of dynastic ownership.

In table 7, I present results from a series of IV regressions. In panel A, column 1, I recover the result documented above that dynastic control is not different from zero but with a significant margin of error. However, the instrumental variable that I used so far, the gender of the firstborn child, may not be the most powerful one. In columns 2 to 4, I consider alternative measures of family composition that might randomly affect the likelihood of having children in the board. First of all, no matter how dynastic control is instrumented, the estimates remain very close to zero. Interestingly, the F-statistic for the first-stage regression turns out to be much bigger when I use the number of sons or the share of sons among the offspring of the lead owner as an instrument. This means that IV estimates using such instruments should be more precise. This is indeed the case as, looking at columns 2 & 3, I can now rule out with 95% confidence an effect bigger than about a fourth of a standard deviation in OROA in absolute terms. Finally, in panel B of table 7, one can clearly see that IV effects confirm the OLS results as the non-effect of control on performance holds for other measures of performance. In other words, there is simply no first-order impact of the horizon of current owners on performance.

3.2 Dynastic Successions

3.2.1 Descriptive Analysis

While I show that dynastic intentions are neither a boost nor a hindrance for operating performance, it might still be that dynastic firms perform differently once a new leader needs to be chosen and dynasties finally reveal themselves. This is after all the main result from the analysis made by Bennedsen et al. (2007) in the Danish case. There may be multiple reasons for which I might find different results such as considering a different country, in a different period with a slightly different definition of leadership in the firm, but there is primarily a difference in sampling as I focus on much bigger firms.

In table 4, I show the average change in OROA between three years before a lead owner succession and three years after depending on the dynastic character of the succession. Prior to the succession, firms with dynastic successions have neither better nor worse performance.

However, once the succession takes place, there is a significant over-performance of family successions: dynastic successions outperform non-dynastic successions by 5 percentage points, i.e. about 17% of a standard deviation in OROA evolution before and after a succession. This contrasts with the negative OLS results from Bennedsen et al. (2007) but one should remember that they also find that family successions that family successions take place more often when the firm is doing reasonably well so my estimates might be severely biased upwards.

I will address this problem further using controlled regressions but a very compelling way to provide a causal estimation is to show the average change in OROA between three years before a lead owner succession and three years after depending on the gender of the firstborn child of the departing lead individual owner. These results are in table 5. The over-performance of family successions completely disappears in those IV estimations; in other words, I find the same result as in Bennedsen et al. (2007) on the optimization of the timing of successions by family firms. However, my own IV estimate is very close to zero and clearly not statistically significant, so I cannot conclude either that dynastic successions lead to significant value destruction.

My different results may come from the fact that I consider much bigger firms: in those firms, succession "accidents" are much more costly in absolute terms so patriarchs are much more willing to make the dynastic succession a smooth and successful process. One way in which they can do this is to stay on board for longer in order to groom the successor. This would be consistent with my earlier observation that firm leaders very significantly delay their retirement decision when they have dynastic intentions for their firm. I can test this directly through an investigation of lead owner successions taking place in firms more similar to the sample from Bennedsen et al. (2007), that is, firms with less than 20 employees. To make things as close as possible, I discard firms with no employees and assets below 1,000,000 SEK (about 150,000 USD). Results are available in Appendix table 4. They show very clearly that the impact of a family succession is significantly less favorable among very small firms. This is confirmed when we use the family composition instruments: among firms with less than 20 employees, ROA declines by 9 percentage points on average following a family succession, a number that is very close to what is found in Bennedsen et al. (2007). As I show here, such a sizeable negative effect seems restricted to the very small firms in the Swedish economy.

3.2.2 Regressions

In table 8, I provide a more exhaustive assessment of the impact of dynastic versus non-dynastic changes in lead owner using regressions. Panel A considers OLS specifications with a varying set of controls. It turns out that what really matters is to control for industry-specific business cycles: this leads to a reduction by 60% of the positive effect of dynastic successions on OROA. This is another confirmation that owners prepare successions within the family carefully by making sure the new lead owner arrives in good macroeconomic conditions. In fact, just accounting for this macro effect is enough to make the effect of dynastic successions very close to zero: we can then rule out with 95% confidence a negative effect on OROA of more than 5% of a standard deviation and a positive effect of more than 18% of a standard deviation.

IV regressions (in panel B) are useful in detecting whether there is an important bias in those initial OLS regressions. Those estimates do not show any systematic and significant divergence with the OLS regressions which include controls for industry cycles. When it comes to ruling out potential effect sizes, an important limitation is that my sample of successions is fairly limited and the power of first-stage regressions is not big enough to provide very narrow confidence bands for my estimates of the impact of a dynastic owner change. The most precise estimate should come from instruments that deliver the strongest first-stage effect, i.e. the highest F-statistic. In the case of successions, the best instrument under this metric is the gender of the firstborn child (column 1); the corresponding point estimate is very close to zero and we can rule out with 95% confidence a negative or a positive effect bigger than about three fourths of a standard deviation. This is a large confidence band but it is interesting to note that it rules out the kind of effect size found in Bennedsen et al. (2007) using IV regressions; their baseline IV point estimate for the impact of a family CEO succession on the evolution of OROA is greater than 100% of a standard deviation in evolution of OROA following a succession.

Summing up, my analysis of dynastic owner successions suggests that among medium-sized businesses there is no first-order effect on performance of organizing successions in lead ownership inside a family rather than outside. While dynastic control does not seem to provide benefits when the founder is in place, it does not seem to be a liability either when the founder's heirs are in charge.

4 Conclusion

In this paper, I shed new light on the impact of dynastic control on the efficiency of corporations. Thanks to newly accessible data from Sweden, I am able to propose a measure of

dynastic control that allows for the first time to estimate the impact of dynasties by anticipation, the so-called 'commitment' effect. While my empirical approach to dynastic control is validated in the data as I find strong effects of dynastic intentions on future ownership dynamics, I have not been able to detect any impact on current performance. At the same time, I have not found any evidence for a negative impact of dynastic successions on performance due to lack of talent at the top. In other words, dynastic control over a firm is a truly distinct ownership mode but such firms are neither at a competitive advantage or disadvantage in the market place. This suggests that the negative effects of dynastic ownership that are due to a limited talent pool can be offset by an efficient succession process, while the positive effects of dynastic commitment can be mimicked in other ways by non-dynastic firms. I leave the issue of how exactly firms can proceed to counteract or supplement the operational effects of owners' preferences for future research.

5 References

Adams, R., Keloharju, M. and Knupfer, S., 2015, Are CEOs Born Leaders? Lessons from Traits of a Million Individuals, SSRN working paper.

Anderson, R. and Reeb, D., 2003, Founding-Family Ownership and Firm Performance: Evidence from the S&P 500, *Journal of Finance* 58, pp. 1301-1327.

Amit, R., and Villalonga, B., 2006, How do family ownership, control and management affect firm value?, *Journal of Financial Economics* 80, pp. 385-417.

Amit, R., and Villalonga, B., 2010, Family control of firms and industries, *Financial Management* 39, pp. 863–904

Bandiera, O., Guiso, L., Prat, A. and Saddun, R., 2015, Matching Firms, Managers, and Incentives, *Journal of Labor Economics* 33, 623-681.

Bennedsen, M., Nielsen, K., Pérez-Gonzalez, F. and Wolfenzon, D., 2007, Inside the Family Firm: The Role of Families in Succession Decisions and Performance, *Quarterly Journal of Economics* 122, 647-691.

Burkart, M., Panunzi, F. and Schleifer, A., 2003, Family Firms, *Journal of Finance* 58 (5), 2167-2202.

Carlsson, R., 2007, Swedish Corporate Governance and Value Creation: owners still in the driver's seat, *Corporate Governance – An International Review* 15, pp. 1038-1055

Caselli, F., and Gennaioli, N., 2013, Dynastic management, *Economic Policy*.

Franks, J., Mayer, C., Volpin, P. and Wagner, H., 2012, The Life Cycle of Family Ownership: International Evidence, *Review of Financial Studies* 25, 1675-1712

Hall, A. and Nordqvist, M., 2008, Professional Management in Family Businesses: Toward an Extended Understanding, *Family Business Review* 21, pp. 51-69.

Högfeldt, P., 2005, "The History and Politics of Corporate Ownership in Sweden", in Morck, R., A history of corporate governance around the world: family business groups to professional managers, Chicago University Press.

Mehrotra, V., Morck, R., Shim, J. and Wiwattanakantang, Y., 2013, Adoptive expectations: Rising sons in Japanese family firms, *Journal of Financial Economics* 108, 840-854.

Pérez-Gonzalez, F., 2006, Inherited control and firm performance, *American Economic Review* 96, 1559-1588.

Shleifer, A., and Summers, L., 1988, Breach of Trust in Hostile Takeovers, in Auerbach, A. Corporate Takeovers: Causes and Consequences, University of Chicago Press.

Sraer, D., and Thesmar, D., 2007, Performance and Behavior of Family Firms : Evidence from the French Stock Market, *Journal of the European Economic Association* 5, 709-751.

Tables

Table 1: Descriptive Statistics

This table shows descriptive statistics on the sample used for the cross-sectional analysis of dynastic control. The source of the data is the Serrano database for the years 2000 to 2013, except for board members' family characteristics, which come from the Swedish censuses made in 1970, 1980 and 1990. All firms with more than 20 employers in each of the last three years and whose current lead owner (most often, the chairman, otherwise the CEO of the firm) has at least one child aged 24 or more are included. A CEO is professional if he does not belong to the board of directors. An outsider is somebody who does not belong to the same family as the lead owner. Dynastic control is when a firm's lead owner has one of her children included in the board of the firm or of one of its subsidiaries. In the sample of successions, a change in owner is considered to be dynastic when the new lead owner belongs to the same family as the incumbent owner. The currently owning family is considered to have exited the firm by 2014 if it does not have any member in the board of the firm by that date or if the firm has been dismantled. The current lead owner is said to have exited by 2014 if she is not a member of the board of the firm by that date or if the firm has been dismantled. OROA is defined as EBITDA over Total Assets and winsorized at the 1% level.

Panel A: Cross-sectional sample

	Mean	**s.d.**	**p25**	**p50**	**p75**	**N**
Governance characteristics:						
Dynastic control	32.0%					35150
Presence of a CEO	65.2%					35150
Presence of a professional CEO	9.3%					35150
Nb. of board members	3.3	2.2	1	3	4	35150
Share of non-family directors	37.8%	34.8%	0.0%	40.0%	71.4%	35150
Owner's relative is CEO or Chair	8.2%					35150
Outsider is CEO or Chair	35.4%					35150
Family characteristics:						
Number of children of lead owner	2.31	0.85	2	2	3	35150
Firstborn child of lead owner is a boy	52.0%					35150
Share of sons among lead owner's children	52.6%	0.35	0.33	0.5	1	35150
Ownership dynamics:						
Family exit by end of sample	26.8%					35150
Corporation taken over by end of sample	14.2%					35150
Lead individual owner exit by end of sample	33.5%					35150
Firm outcomes:						
Assets (th. $)	146,100	2,734,000	1,862	3,983	10,017	35150
Employment	253	2791	28	40	78	35150
Value added (th. $)	9,416	79,663	1,320	2,168	4,136	35150
Firm age	32.2	22.8	16.0	26.0	43.0	35150
OROA	0.105	0.147	0.017	0.099	0.174	35150
Prob. bankruptcy in next 5 years	2.77%					35150

Panel B: Sample of lead owner successions

	Mean	s.d.	p25	p50	p75	N
The owner succession is dynastic	22.6%					1458
Firstborn child of incumbent lead owner is a boy	51.1%					1458
3-year average OROA prior to succession	0.118	0.219	0.022	0.098	0.171	1458
3-year average OROA after succession	0.049	0.273	0.000	0.075	0.154	1458
Evolution of OROA from bef. to after succession	-0.069	0.298	-0.091	-0.012	0.036	1458
Employment level at succession time	562	6404	30	45	100	1458
Firm age at succession time	22.3	19.2	9.0	16.0	31.0	1458

Table 2: Impact of Dynastic Control in the Cross-Section – "Naïve" Estimates

This table shows averages of various outcomes of interest in two sub-samples: column 1 shows averages for firms under dynastic control while column 2 shows averages for firms not under dynastic control. Column 3 provides a difference-in-means estimator of the impact of being under dynastic control. Outcome variables are defined in table 1. Standard errors clustered at firm-level are in parentheses.

Panel A: Governance and Ownership Dynamics

	Dynastic firm	**Non-dynastic firm**	**Dynastic - Non-dynastic**
Family exit by end of sample	0.108	0.344	-0.236***
			(0.009)
Corporation taken over by end of sample	0.072	0.175	-0.103***
			(0.008)
Lead individual owner exit by end of sample	0.231	0.384	-0.154***
			(0.012)
Presence of a CEO	0.642	0.657	-0.016
			(0.013)
Nb. of board members	3.025	3.387	-0.362***
			(0.056)
Presence of a professional CEO	0.033	0.122	-0.089***
			(0.006)
Share of outside directors	0.146	0.447	-0.302***
			(0.007)
Owner's relative is CEO or Chair	0.215	0.020	0.195***
			(0.010)
Outsider is CEO or Chair	0.168	0.441	-0.273***
			(0.011)
N	11250	23900	

Panel B: Real Outcomes

	Dynastic firm	**Non-dynastic firm**	**Dynastic - Non-dynastic**
Log of assets	17.659	17.527	0.132***
			(0.042)
Log of employment	3.961	4.021	-0.060**
			(0.027)
Log of value added	16.974	17.013	-0.039
			(0.029)
Firm age	35.453	30.699	4.753***
			(0.655)
OROA	0.104	0.105	-0.001
			(0.003)
N	11250	23900	

Table 3: Impact of Dynastic Control in the Cross-Section – IV Estimates

This table shows averages of various outcomes of interest in two sub-samples: column 1 shows averages for firms whose lead owner has a son as a firstborn child while column 2 shows averages for firms whose lead owner has a daughter as a firstborn. Column 3 provides a difference-in-means estimator of the impact of having a son as a firstborn child. Column 4 provides the corresponding IV estimator for the causal impact of dynastic control using the gender of the firstborn child of the lead owner as an instrument; the first-stage equation results are displayed on the first row of the table. Outcome variables are defined in table 1. Standard errors clustered at firm-level are in parentheses.

Panel A: Governance and Ownership Dynamics

	First child is a boy	**First child is a girl**	**Boy - Girl**	**IV impact of dynastic control**
Dynastic control	0.380	0.255	0.125***	
			(0.012)	
Family exit by end of sample	0.244	0.294	-0.050***	-0.401***
			(0.011)	(0.085)
Corporation taken over by end of sample	0.130	0.154	-0.024***	-0.191***
			(0.008)	(0.066)
Lead individual owner exit by end of sample	0.316	0.356	-0.040***	-0.323***
			(0.012)	(0.096)
Presence of a CEO	0.651	0.654	-0.003	-0.026
			(0.013)	(0.102)
Nb. of board members	3.277	3.265	0.011	0.092
			(0.057)	(0.455)
Presence of a professional CEO	0.083	0.105	-0.022***	-0.177***
			(0.007)	(0.052)
Share of outside directors	0.331	0.372	-0.041***	-0.331***
			(0.009)	(0.066)
Owner's relative is CEO or Chair	0.103	0.059	0.043***	0.347***
			(0.008)	(0.058)
Outsider is CEO or Chair	0.329	0.381	-0.053***	-0.420***
			(0.012)	(0.094)
N	18275	16875		

Panel B: Real Outcomes

	First child is a boy	**First child is a girl**	**Boy - Girl**	**IV impact of dynastic control**
Log of assets	17.579	17.559	0.020	0.156
			(0.041)	(0.330)
Log of employment	4.002	4.003	-0.001	-0.008
			(0.026)	(0.208)
Log of value added	16.997	17.004	-0.007	-0.055
			(0.028)	(0.219)
Firm age	32.269	32.169	0.099	0.797
			(0.613)	(4.902)
OROA	0.105	0.103	0.002	0.014
			(0.003)	(0.023)
N	18275	16875		

Table 4: Impact of Dynastic Successions on Performance – "Naïve" Estimates

This table shows averages of various outcomes of interest in two sub-samples: column 1 shows averages for firms that have gone through a dynastic change in the identity of the lead owner (i.e. dynastic succession) while column 2 shows averages for firms that have gone through a non-dynastic change in the identity of the lead owner (i.e. non-dynastic succession). A succession is dynastic if the new lead owner has belonged to the same household as the former lead owner in the past. Column 3 provides a difference-in-means estimator of the impact of a dynastic succession. Row 1 considers the impact on accounting performance (OROA) in the three years prior to the succession. Row 2 considers the impact on accounting performance (OROA) in the three years after the succession. Row 3 considers the impact on the evolution of performance before and after the succession. Standard errors clustered at firm-level are in parentheses.

	Dynastic succ.	**Non-dynastic succ.**	**Dynastic - Non-dynastic**
3-year average OROA Pre-succession	0.130	0.115	0.015
			(0.011)
3-year average OROA Post-succession	0.099	0.035	0.064***
			(0.012)
Evol. OROA Post - Pre	-0.031	-0.081	0.049***
			(0.014)
N	330	1128	

Table 5: Impact of Dynastic Successions on Performance – IV Estimates

This table shows averages of various outcomes of interest in two sub-samples: column 1 shows averages for firms whose initial lead owner has a son as a firstborn child while column 2 shows averages for firms whose initial lead owner has a daughter as a firstborn. Column 3 provides a difference-in-means estimator of the impact of the initial lead owner having a son as a firstborn child. Column 4 provides the corresponding IV estimator for the causal impact of dynastic successions using the gender of the firstborn child of the lead owner as an instrument; the first-stage equation results are displayed on the first row of the table. Row 2 considers the impact on accounting performance (OROA) in the three years prior to the succession. Row 3 considers the impact on accounting performance (OROA) in the three years after the succession. Row 4 considers the impact on the evolution of performance before and after the succession. Standard errors clustered at firm-level are in parentheses.

	First child is a boy	**First child is a girl**	**Boy - Girl**	**IV impact of dynastic succession**
Succession is dynastic	0.291	0.158	0.133***	
			(0.022)	
3-year average OROA Pre-succession	0.123	0.114	0.009	0.065
			(0.011)	(0.087)
3-year average OROA Post-succession	0.053	0.045	0.008	0.059
			(0.014)	(0.107)
Evol. OROA Post - Pre	-0.070	-0.069	-0.001	-0.006
			(0.016)	(0.118)
N	745	713		

Table 6: Impact of Dynastic Control in the Cross-Section – OLS Regressions

This table shows results from OLS regressions of firm performance on the control status (dynastic or not) of firms. Labor productivity is the logarithm of value added over the number of employees in the firm. The bankruptcy outcome refers to whether or not the firm files for bankruptcy in the next five years. The leverage ratio is the ratio of total debt over total assets. Industry and year fixed effects are defined at the 4-digit level. Other dependent and independent variables are defined in table 1. Effect sizes are expressed in proportion to the standard deviation of the outcome in the sample. Standard errors clustered at firm-level are in parentheses.

Panel A: Alternative specifications

		(1)	(2)	(3)	(4)	(5)
Outcome:		**OROA**	**OROA**	**OROA**	**OROA**	**OROA**
Dynastic control		-0.001	0.002	0.000	0.002	0.004
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Log of assets				-0.012***		-0.004***
				(0.001)		(0.001)
Firm age					-0.001***	-0.000***
					(0.000)	(0.000)
Industry-year FE		No	Yes	No	No	Yes
N		35150	35150	35150	35150	35150
95% CI for size of dynastic effect (in % of s.d.)	Lower bound	-4%	-2%	-3%	-2%	-1%
	Upper bound	3%	5%	4%	5%	6%

Panel B: Alternative performance outcomes

		(1)	(2)	(3)	(4)
Outcome:		**Value added (log)**	**Labour productivity**	**Bankruptcy**	**Bankruptcy**
Dynastic control		-0.007	-0.002	-0.004	-0.000
		(0.030)	(0.022)	(0.004)	(0.003)
Leverage ratio					0.129***
					(0.009)
Industry-year FE		Yes	Yes	Yes	Yes
N		32009	32009	35150	35150
95% CI for size of dynastic effect (in % of s.d.)	Lower bound	-6%	-6%	N.A.	N.A.
	Upper bound	5%	5%	N.A.	N.A.

Table 7: Impact of Dynastic Control in the Cross-Section – IV Regressions

This table shows second-stage results from IV regressions of firm performance on the control status (dynastic or not) of firms. Labor productivity is the logarithm of value added over the number of employees in the firm. The bankruptcy outcome refers to whether or not the firm files for bankruptcy in the next five years. The leverage ratio is the ratio of total debt over total assets. Industry and year fixed effects are defined at the 4-digit level. The share of male offspring is the ratio of the number of sons of the current lead owner over the number of children she has. Other dependent and independent variables are defined in table 1. The F-statistic refers to the result of a Wald test for excluded instruments in the first-stage equation. Effect sizes are expressed in proportion to the standard deviation of the outcome in the sample. Standard errors clustered at firm-level are in parentheses.

Panel A: Alternative instruments

Outcome:		**(1) OROA**	**(2) OROA**	**(3) OROA**
Dynastic control		0.014	-0.005	-0.002
		(0.023)	(0.020)	(0.019)
Nb. of children				-0.003*
				(0.002)
Instrument:		Gender of firstborn child	Share of male offspring	Nb. of sons
F statistic		103.67	149.26	156.12
N		35150	35150	35150
95% CI for size of dynastic effect (in % of s.d.)	Lower bound	-20%	-30%	-27%
	Upper bound	40%	23%	25%

Panel B: Alternative outcomes

Outcome:		**(1) Value added (log)**	**(2) Labour productivity**	**(3) Bankruptcy**	**(4) Bankruptcy**
Dynastic control		-0.055	-0.029	-0.003	0.004
		(0.219)	(0.149)	(0.024)	(0.024)
Leverage ratio					0.127***
					(0.009)
Instrument:		Gender of firstborn child	Gender of firstborn child	Gender of firstborn child	Gender of firstborn child
F statistic		98.73	98.73	103.67	102.87
N		32009	32009	35150	35150
95% CI for size of dynastic effect (in % of s.d.)	Lower bound	-44%	-39%	N.A.	N.A.
	Upper bound	34%	32%	N.A.	N.A.

Table 8: Impact of Dynastic Successions on Performance - Regressions

This table shows results from OLS & IV regressions of the change in OROA from 3 years before a change in lead owner to three years after depending on the nature (dynastic or not) of the change in owner. Industry and year fixed effects are defined at the 2-digit level. All instrumental variables track the characteristics of the offspring of the incumbent lead owner. The share of male offspring is the ratio of the number of sons of the incumbent lead owner over the number of children she has. Other dependent and independent variables are defined in table 1. The F-statistic refers to the result of a Wald test for excluded instruments in the first-stage equation. Effect sizes are expressed in proportion to the standard deviation of the outcome in the sample. Standard errors clustered at firm-level are in parentheses.

Panel A: OLS regressions

		(1)	(2)	(3)	(4)	(5)
Outcome:		**Δ OROA**	**Δ OROA**	**Δ OROA**	**Δ OROA**	**Δ OROA**
Dynastic succession		0.049***	0.019	0.049***	0.049***	0.021
		(0.014)	(0.018)	(0.014)	(0.014)	(0.018)
Log of assets				-0.000		0.004
				(0.004)		(0.007)
Firm age					0.000	-0.000
					(0.000)	(0.000)
Industry-year FE		No	Yes	No	No	Yes
N		1458	1458	1458	1458	1458
95% CI for size of dynastic effect (in % of s.d.)	Lower bound	8%	-5%	7%	8%	-5%
	Upper bound	26%	18%	26%	26%	19%

Panel B: IV regressions

		(1)	(2)	(3)
Outcome:		**Δ OROA**	**Δ OROA**	**Δ OROA**
Dynastic succession		-0.006	0.084	0.105
		(0.118)	(0.114)	(0.106)
Nb. of children				-0.002
				(0.010)
Instrument:		Gender of firstborn child	Share of male offspring	Nb. of sons
F statistic		37.94	34.70	36.55
N		1458	1458	1458
95% CI for size of dynastic effect (in % of s.d.)	Lower bound	-79%	-46%	-35%
	Upper bound	75%	103%	105%

Appendix Table 1: Placebo Tests

This table shows results from OLS regressions of the impact of dynastic control and various family instruments for dynastic control on characteristics of the firm that are not under its control because they are defined at the level of the entire municipality or the entire industry (4-digit) they are located in. Industry characteristics are assessed every year using the entire universe of independent firms with more than 5 employees in the Serrano database. Asset tangibility is defined as the industry mean of the ratio of property, plant & equipment over total assets. Labor productivity is the industry mean of the logarithm of value added over total employment. Municipality-level variables come from Statistics Sweden, except for the business-friendliness index which comes from the Confederation of Swedish Enterprise. In column 4, we include the number of children as a control variable. Standard errors double-clustered at firm-level and industry/city-level are in parentheses.

		Marginal effect of:		
	Dynastic Control	**Gender of firstborn child**	**Share of male offspring**	**Nb of sons**
Industry-level characteristics:				
Asset tangibility	0.015***	0.001	0.004	0
Employment of 90th centile firm (log)	-0.014	-0.037	-0.056	-0.024
Labor productivity (log)	0.001	0.003	-0.006	-0.003
City-level characteristics:				
Business-friendliness (1 to 5)	0.002	-0.002	-0.004	-0.001
GDP per capita (th. SEK)	-36.581**	-6.331	-12.886	-4.329
Parent separations (per 100 families)	-0.065***	-0.01	-0.018	-0.009
Population density (hab. per sq. m.)	-280.609**	-54.095	-93.955	-33.005
Preschool enrollment (in %)	-1.135**	-0.173	-0.172	-0.084
Right-wing vote share (in %)	0.108	0.08	-0.183	-0.063

Appendix Table 2: Impact of Dynastic Control on Future Ownership Dynamics – Duration Models

This table shows results from the estimation of Cox duration models with proportional hazards using various ownership transitions as event variables. Reported effects are the hazard ratios of being currently under dynastic control (columns 1 & 3) and of the lead owner having a boy as firstborn child. In column 3, the hazard ratio for dynastic control is computed by dividing the coefficient in the reduced-form regression in column 2 by the marginal impact of child gender on the likelihood of dynastic control (table 3, row 1). Definitions of the event variables are in table 1. Standard errors clustered at firm-level are in parentheses.

	Relative hazard ratios of:		
Hazard type:	Dynastic control (OLS)	Gender of firstborn child	Dynastic control (Wald)
Lead owner retirement	0.541***	0.874***	0.34
	(0.027)	(0.036)	
Family exit	0.262***	0.814***	0.193
	(0.017)	(0.036)	
Corporate takeover	0.391***	0.844***	0.258
	(0.033)	(0.051)	
N	35150	35150	35150

Appendix Table 3: Cross-Sectional Impact of Dynastic Control on OROA – Bigger firms

This table shows results from OLS & IV regressions of firm performance (measured by OROA) on the control status (dynastic or not) of firms. The sample is restricted to firms with more than 100 employees in the last three years. Industry and year fixed effects are defined at the 4-digit level. Included controls (where applicable) are the logarithm of total assets and firm age. Effect sizes are expressed in proportion to the standard deviation of the outcome in the sample. Standard errors clustered at firm-level are in parentheses.

Outcome = OROA		**(1) OLS**	**(2) OLS**	**(3) OLS**	**(4) IV**	**(5) IV**	**(6) IV**
Dynastic control		0.007	0.010	0.008	-0.001	0.014	0.010
		(0.007)	(0.008)	(0.008)	(0.066)	(0.054)	(0.049)
Industry-year FE		No	Yes	Yes			
Controls		No	No	Yes			
Instrument					Gender of firstborn child	Share of male offspring	Nb. of sons
F-statistic					10.55	17.64	20.08
N		5616	5616	5616	5616	5616	5616
95% CI for size of dynastic effect (in % of s.d.)	Lower bound	-4%	-4%	-6%	-104%	-73%	-68%
	Upper bound	16%	20%	19%	103%	95%	83%

Appendix Table 4: Impact of Dynastic Successions on Performance – Entire universe of Swedish firms

This table shows results from OLS & IV regressions of the change in OROA from 3 years before a change in lead owner to three years after depending on the nature (dynastic or not) of the change in owner. All instrumental variables track the characteristics of the offspring of the incumbent lead owner. The F-statistic refers to the result of a Wald test for excluded instruments in the first-stage equation. Each regression is run in two sub-samples: one in which firms have more than 20 employees upon succession time and another in which employment is below 20 but strictly above zero at that date. Firms with less than 1,000,000 SEK in total assets are excluded. Standard errors clustered at firm-level are in parentheses.

	(1)	**(2)**	**(3)**	**(4)**
	OLS		**IV**	
Above 20 employees::	**Yes**	**No**	**Yes**	**No**
Dynastic succession	0.046***	-0.009	-0.003	-0.094*
	(0.013)	(0.006)	(0.116)	(0.054)
Instrument:	-	-	Gender of firstborn child	Gender of firstborn child
F statistic:	-	-	36.55	214.14
N	1449	12725	1449	12725