Do women have to choose between family and career?

Johanna Edebert , Terese Torenfält

Bachelor Thesis – Spring 2014

Stockholm School of Economics

Department of Finance

Abstract: In this study we aim at analyzing how parenthood affects the performance of a CEO. We analyze the question from a gender perspective. Due to social structures in our society, we postulate that combining family with career is a greater problem for women than for men. Our study is, as far as we know, the first one in Sweden to analyze the question from a financial perspective, which we find relevant in order to challenge the social structures and the perception that women have to choose between career and family. By using OLS-regressions we find that parenthood has a small positive effect on performance. Our findings are consistent with our hypothesis that parenthood is not negatively correlated with performance and should therefore not be an obstacle for any individual striving for CEO a position, regardless of gender.

Keywords: CEO, Firm performance, Firm risk, Parent, Children, Gender

Tutor: Laurent Bach

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1. Introduction

Still in 2014, women are underrepresented at leading positions in the corporate world *(SCB, Kvinnor och män i näringslivet 2013*). One of the primary causes discussed for why women are absent at top positions is a fundamental difference of expectations concerning family responsibilities depending on gender. In this study, we analyze if CEOs with children underperform, in regards to firm performance, compared to those without children. As family and career is often seen as a negative combination and a hinder for women reaching for top positions, it is interesting to see if these presumptions are based on any financial substance.

Our study assumes that the CEO does have influence over a firm's performance, regardless of being a parent or not. Evidence that the CEO matters are found in earlier studies (*Bertrand and Schoar 2003, Adams, Almeida, and Ferreira 2005, Bennedsen, Pérez-Gonzàlez, and Wolfenzon 2008*). For example, "Kaplan, Klebanov and Sorensen (2012)" examine how different characteristics of the CEO may influence performance, and find that success is positively and significantly correlated with efficiency, commitments, persistence, high standards and holding people accountable. However, the financial literature lacks empirical studies of how a characteristic such as parenthood affects a firm's success.

There is a consensus in the literature of gender and leadership that women have a systematical disadvantage when it comes to being appointed the CEO position. "Eagly and Steffen (1984) " write about how gender stereotypes keep women in lower status roles and that these stereotypes stem from perceivers' observations. What hinders women is not that they don't want the higher positions, but rather the social context. The effect of social structures and norms on how we think and act in everyday life is not always clear. Therefore, we argue that our question is not only interesting from the individual perspective of a potential CEO candidate, but also important from a recruiting and a firm perspective. It is impossible to avoid the subjective aspect when a recruiter evaluates different CEO candidates. The subjective assessment may therefore be affected by that individual's personal assumptions and ability to be norm criticizing. With the earlier evidence that social structures and norms, still today, are assuming women to take more responsibility at home and deprioritize work, it is not a very unrealistic guess that also recruitment teams to some

extent think and act upon similar norms. We develop our first hypothesis based on an idea that many women aspiring for higher positions, as well as the recruiters of higher positions, have underlying presumptions about women and leadership. Consequently, they may occasionally act without criticizing norms, and hence our first hypothesis reads as follows; *due to social structures in our society, combining family with career is a greater problem for women than for men.*

Sweden placed as number 4 in the Global Gender Gap Report of 2013[1]. Though this is a decrease in ranking from earlier years, comparing with the rest of the world, Sweden seems to be among the best at gender equality. Surely, most Swedish firms have today realized the potential profit gains of having a diverse company as well as the attractiveness of equality numbers to the public. However, looking at the leadership positions, the numbers are far more depressing (*SCB, Kvinnor och män i näringslivet 2013*). We believe that in order to see actual change in the percentage of women at top positions, it is not enough to establish gender equality plans within firms or to have firm specific female networks, which is how most companies handle the issue. Instead, social structures that may keep women from top positions need to be redesigned. As mentioned earlier, there are managerial studies examining how the gender inequality at higher positions is sustained due to social structures. These studies focus more on the reasons behind the problem and the moral perspective of inequality, and not so much on a financial perspective with potential gains. The purpose of this study is to challenge repressive social norms from a financial perspective. We believe that social norms and structures will change more rapidly if potential financial gains, which may follow from a more diversified top management, are highlighted.

Potential financial gains are the base of our second hypothesis. We assume the common idea regarding a negative relationship between having children and being a CEO, is more based on social norms and prejudices, rather than on financial knowledge. Our second hypothesis therefor suggests that; *having children as a CEO does not have a negative impact on the firm.* Instead, we believe that having children may be valuable to the firm - a theory supported in earlier managerial research (*Popper, M., Mayseless, Ofra 2003*). In these studies, positive personal development aspects of parenthood are examined, such as parents being better at compromising, listening and supporting. However, once again the

[1] http://www.weforum.org/issues/global-gender-gap

[2] In the future, referred to as ROA

studies are from a managerial perspective and the hypothesis still needs financial support. If our hypothesis holds it would imply that by acting upon present social norms and assumptions when appointing the CEO position, a firm wastes the potential of the rejected candidates and by that, also miss out on future financial gains.

The method we use consists of OLS regressions with multiple controls where we include Return on Assets[2] and profit margin as endogenous variables, to analyze the effect of parenthood on performance. Furthermore, we use solvency and quick ratio as endogenous variables to analyze the effect of parenthood on firm risk**.** The extension of our study, which includes solvency and quick ratio, is primarily an ambition to strengthen the hypothesis that parenthood does matter. We also look closer on how the effect of parenthood differs with the number of children, gender, sizes of firms and different industries.

A quick glance at our results and descriptive statistics indicates that our first hypothesis holds since only 44% of the female CEOs have children while the same percentage for male CEOs is 62%. This distribution is in line with our assumption that females are more negatively affected by the prejudice that a CEO cannot combine children and career.

The results from our regressions, demonstrates a small positive affect of parenthood on ROA, profit margin, solvency and quick ratio. The effects are statistically significant in regards to ROA, but the significance levels vary among the other performance and risk measures. The results support our second hypothesis, that having children and being a CEO are not negatively correlated. We believe there is a need for further research within this area to strengthen our findings. Social structures are not changed easily, but as more facts are gathered and presented, the speed of that development will hopefully increase. The results imply that policies to facilitate childcare for working parents are valuable to firms. We argue that, even if Sweden is a country known for its generous parental policies, there is more to be done. We also want to highlight the possible prejudices that recruiters may have when evaluating CEO candidates. With a more critical mindset towards prejudices in our society, and with further studies like our own where financial numbers are in focus, we hope that more women will be appointed the CEO position in the future.

[2] In the future, referred to as ROA

2. Data and Methodology

In this section, the method used to create the dataset we base our study upon, is described along with the methods used to perform the regressions.

2.1 Data sources

In our study we use the following data sources:

- *Serrano* from which we extracted accounting data for all Swedish firms between 1997 and 2013. This data included accounting items from balance sheet and income statement, organization numbers, group and ownership information, different geographical locations of the firms etc. Information about industries was in the form of 5-digit SNI-codes as well as a more general classification where the firms are divided into twelve different industry groups.
- We also used *Serrano* to extract information about board members and CEOs. This data contained information on the names and titles of board members and CEOs as well as the date they started and ended their employments. The data covered all Swedish firms between 1993 and 2013.
- *Riksarkivet*[3] was used to extract information about number of children of each CEO. The data was gathered by looking at the living situation of CEOs together with birth years of family members, and thereby drawing conclusions regarding number of children in the household. The information was collected in the period 1970-1999. There was no indication of when during this period the children were born. Besides number of children, the household data also contained information like gender and age of the CEOs.

[3] ”Sveriges befolkning 1970”, ” Sveriges befolkning 1980”, ”Sveriges befolkning 1990”

2.2 Merging the CEO-data with accounting information

All manipulation of the data was made using Stata.

We begin with the dataset containing board members and CEOs. As the study is focused on CEOs, we removed all observations regarding individuals with other titles. We also removed all CEOs employed for less than 6 months as we argued they would have little influence over firm outcomes. A missing value of the end date of CEO appointment was assumed to entail that the CEO is still employed by the firm, and the missing value was therefore replaced by the current date. A missing value of the start date of CEO appointment was in a similar way assumed to indicate that the CEO was already employed when the data was first gathered. We therefore replaced such missing values with the 1st of January 1993. We merged this adjusted dataset with the accounting information on only organization number. To adjust for time, we dropped observations where the year listed in the accounting data, was not part of the CEO employment time. With the objective of creating a somewhat balanced panel-dataset, meaning we wanted to have only one observation per year and firm, we had to make sure that there was only one CEO listed for each year. If a firm had switched CEO during a year, the accounting data for that year would be in duplicate. To be able to accomplish this we had to assume that the CEO initiating the year would stand as CEO for the entire year, regardless of if there had been a switch of CEO during that year. This assumption was based on the idea that the CEO initiating the year would have greater influence over year-end outcomes of the firm.

2.3 Merging the CEO and accounting data with the household information

We merged the previously created dataset with the household information on organization number and CEO name, and kept only the observations with a match. The majority of Swedish firms are small, privately owned firms with few employees. As we want to analyze how the CEO being a parent affects a firm, we want the CEO title to entail some leadership. To adjust for firm size, we therefore removed all firms that have a mean of employees during the entire analysis period of less than 20. As we based this limitation on mean values, there

will still be a few year-observations where the number of employees is less than 20. We argue that the CEOs running these fast growing firms, where number of employees has increases to that extent that the average number of employees is above 20 during the analysis period, will still have performed a great deal of leadership. These observations will therefore not interfere with our results.

Firms with less than 4 year-observations or years indicated as inactive was also removed. After analyzing the spread of CEO age, we dropped observations where the CEO is above 72 years old. The CEOs above this age limit, which judging on the spread of CEO age, were only a few individuals, were assumed to be rather inactive CEOs as they were reaching ages above 7 years after the normal pension age in Sweden. Besides this, it is probable that they had children a long time ago. Perhaps even to that extent that their children had managed to move out of the household before the gathering of our household data began in 1970.

Observations before 1999 and after 2008 were dropped. This period of analysis was chosen based on the availability of the different data. The household information was only updated until 2008 meaning that there was no information regarding the individuals appointed as CEOs during the years after 2008. Furthermore, as the household data didn't contain information on when the children were born during 1970-1999, we found it suitable to start our analysis after this period. Notice that this means that our analysis period of 1999-2008 is after the period when the household data was gathered (1970-1999). Thus, if a CEO has a child after 1999, it will not show in our data. We don't believe that this will cause a large bias in our study, as the majority of the CEOs are around 50 years old. The probability that their children were born before 2000 is thus likely.

2.4 Statistical method

In this subsection, the statistical method used in the regressions is described, including purpose and description of endogenous variables and controls.

2.4.1 Basic method

Our dataset is a panel dataset where the time variable is year (1999-2008) and the cross sectional variable is organization number. Our goal in this study is to isolate the causal effect of the CEO being a parent on each year-end outcome of a firm during the chosen time period. To do this we perform OLS-regressions using firm clustered standard errors. We use firm clustered standard errors to avoid the effect of a single CEO being multiplied due to his/her occurrence in multiple years.

We create a number of dummies crucial for our regressions. First and foremost is the dummy *parent,* which is a variable taking the value 1 if the CEO has children and 0 otherwise. This is our main exogenous variable. We also create dummies based on the number of children each CEO has. We divide number of children into three different groups, 1 child, 2-4 children or more than 4 children, to see if the effect differs depending on how many children the CEO has. We decide on these three groups as we argue that they will represent three different type of family constellations defined as small, medium or large family. In addition, to acknowledge the fact that there might be differences in the effect of having children depending on the gender of the CEO, we create a dummy representing gender, taking the value 1 if the CEO is a woman and 0 if the CEO is a man. This dummy is also used in other regressions as a control. We believe this is a crucial control, as gender of the CEO is likely correlated with both firm performance and parenthood. There could be differences in female versus male-leadership affecting performance as well as differences in how the CEOs are affected by parenthood.

2.4.2 Controls used in the regressions

In all of our regressions we use time fixed effects. We control for industry using two digit SNI-codes to account for potential industry based differences. This entails 52 different industry groups. To control for geographical differences, we use a variable describing what county each firm is registered in. The dataset contains 21 different counties, which means that all of Sweden's counties are represented. We control for the age of CEO by creating 5 different age groups with 10-year intervals (except for one group containing all CEOs above 60 years) starting at age 20. We find it important to control for CEO age as we argue it is likely correlated with both firm performance, because of seniority and competence, as well as with parenthood. The link we make between parenthood and age can be seen as a proxy for what we optimally would like to control for which is the ages of the children. We argue that it might be possible for the effect of parenthood on performance, to differ depending on how old the children are. Perhaps, being in the initial stages of parenthood where the children are very young, the family life demands more attention and time than when the children become older. Therefore, it could be possible that parenthood effects performance in a slightly more negative way in those years, compared to when the children are older or even adults. As we cannot control for the ages of children, we use CEO age instead in the belief that the two are closely correlated.

To control for firm size we use three different controls – total assets of firm, size categories based on number of employees and net sales. Firm size is an important control as it probably has an impact over differences in firm performance and capital structures. It is also likely that the size of a firm influence the degree of impact over firm outcomes the CEO has. In a small firm for example, it is probable that the CEO has more power over firm processes and decisions than in a larger firm. However in larger firms, the leadership aspect of being a CEO may play a greater role and parenthood might therefore in those cases show to have a greater effect on firm outcomes. Also, it could be possible that firm size is correlated with parenthood in the sense that parents might be drawn to some characteristics of firms, including some firm sizes.

Other controls we used were *group situation,* which is a variable indicating if a firm is part of a Swedish or a foreign group. In the performance study we control for firm risk by

adding for example debt-to-equity ratio to the regressions. In the firm risk studies on the other hand, we control for performance by adding for example profit.

2.4.3 Endogenous variables

The focus of the study lies on ROA, thus we perform most of our regressions using ROA as endogenous variable. For the other endogenous variables, we only perform some basic regressions in the objective of deepening our understanding of the effect of parenthood. Our endogenous variables are:

Performance study:

- Return on Assets (ROA) – calculated as operating profit/loss (after depreciation and amortization) including financial income divided by total assets. We choose to focus on ROA as a performance measure as we, as much as possible, want to avoid effects of managerial discretion and financing decisions. Also looking at similar research, ROA is a measure often used to study performance (*Shrader, Blackburn, and Iles, 1997*).
- Profit Margin – additionally in the performance study, we look at profit margin, calculated as total profit divided by net sales. We choose this endogenous variable, as it's a performance measure slightly different from ROA in the sense that profit margin in a greater extent relates to firm strategy. However, only a regression on *parent* is performed. No regressions divided on industry, size or gender are made.

Firm risk study:

- Solvency – To broaden the perspective of the study we want to analyze effects of parenthood on firm risk. The main dependent variable in this part of the study is solvency, calculated as total equity divided by total assets. We choose solvency as it describes the firm capital structure and captures the overall risk taking of the firm in a clear manner.
- Quick ratio – calculated as total current assets minus total inventories divided by total current liabilities. This dependent variable captures the risk behavior of the firm

in other ways than solvency since it describes liquidity and the more current risk behavior of the firm. However, only a regression on *parent* is performed. No regressions divided on industry, size or gender are made.

Regressions on ROA and solvency are divided upon gender to examine if the OLS-estimator on parent differs depending on gender of the CEO. For ROA, we also perform regressions divided upon industry and different size categories.

2.4.4 Typical regression

The typical regression looks as follows:

$$y_{i.t} = \beta_0 + \beta_1 parent_{i.t} + \beta_2\, controls_{i.t} + e_{i.t}$$

where $y_{i.t}$ is the dependent variable for firm i at time t, *parent* is the main independent variable and $e_{i.t}$ is the error term. The controls used, differs slightly depending on which dependent variable we regress.

In regards to our performance study, the null-hypothesis, which we would like to reject, is:

H_0^1: parents underperform in relation to non-parents

In regards to our firm risk study, the null-hypothesis, which we would like to reject, is:

H_0^2: parenthood does not have an effect on firm risk

3. Results, analysis and discussion

In this section we discuss and analyze the main findings of our study.

3.1 Descriptive statistics

The previously described method resulted in a dataset consisting of 45573 numbers of observations, 5567 numbers of different firms and 9624 numbers of different CEOs, of which 588 were females and 9036 were men. Table 1 - section 1, which can be found in the appendix, summarizes the number of employees of our firms, number of children of the CEOs and the age distribution of the CEOs. By looking at the mean-values one can say that the typical CEO profile is a man around the age of 50, having approximately 1 child and is managing a company with 168 employees. Already in our descriptive statistics we find several indicators in favor of our study. Looking at graph 1, that depicts how the number of children differs between female and male CEOs, the data indicates a support of our first hypothesis – which is that women to a larger extent than men, find it hard to combine career with family. 62 % of the male CEOs choose to combine children and career, while only 44% of the female CEOs make the same choice. Graph 2 enhances this presumption since the number of children range between 0-7 for male CEOs, but is a more narrow range of 0-4 for female CEOs. Looking at the population of Sweden, approximately 80% of men and 86% of women choose to have children, which implies that CEOs generally have less children (*SCB, Demografiska rapporter 2009:2, Barn eller inte? Resultat från en enkätundersökning om kvinnors och mäns inställning till barnafödande*). This is interesting as it points towards a pattern that women, in a larger extent than men, have the perception of an existing trade off between career and family. Due to those perceptions, many women might therefore choose not to aspire for leading positions, and thus, there is an inefficient resource allocation. If these women instead believed in the possibility to combine family life with a career, firms would gain, as there would be a greater reservoir of competence in the labor market.

Looking at table 1 - section 2, there is a vague pattern in the distribution of performance, measured by ROA, depending on how many children the CEO has. The mean

of ROA increases from 10% if having no children to 13% if having seven children. Also, the standard deviation is smaller for all mean ROAs of CEOs being parents. The pattern just described implies that the data also supports our second hypothesis; that CEOs with children do not underperform. The fact that the mean of ROA is not negative but instead increases with the number of children, could be seen in the light of, and strengthen, the earlier managerial studies referred to, which suggested that having children improves ones leadership ability. By having several children, it is reasonable to assume that the parenthood effect could increase in a cumulative way. A similar pattern is visible when looking at the mean of solvency for CEOs being parents. The mean of both quick ratio and profit margin supports the described pattern above with only small deviations.

3.2 Main statistical tests

As mentioned, we focus our study on ROA, which is therefore the central endogenous variable. We also use profit margin as dependent variable to widen the perspective of performance. In the objective of seeing effects on firm risk, we first and foremost use solvency as dependent variable but also make regressions using quick ratio.

All regressions are made with both robust and firm clustered standard errors. However, the results we present are all using firm clustered standard errors, as this is the method most suitable for our data and purpose. ROA and solvency are controlled for outliers by removing the first and 99^{th} percentile whilst we remove the 5^{th} and 95^{th} percentile of profit margin and quick ratio. The larger percentiles are due to a wider spread of profit margin and quick ratio.

Looking at our null-hypotheses, the objective with our regressions is not to pinpoint the exact effect of parenthood but instead to rule out a negative impact of parenthood. We therefore pay special attention to the standard errors of our beta-coefficients. A positive beta with a small standard error can indicate a rejection of H_0 , even at slightly higher significance levels.

3.2.1 The effect of parenthood

Table 2 shows the results from regressions on *parent* and our *child dummies* with different endogenous variables.

Looking at table 2 - regression 1, when we regress ROA on *parent,* we observe a small positive effect of 0,72%, significant at a 1% level. The standard error is 0,0027, which gives the beta a spread consistently above 0, indicating that we can reject our null-hypothesis in regards to ROA. These results, as the main findings of this study, support our second hypothesis discussed in the introduction, that the assumption of parenthood as something negative for a firm, is more based on social norms than on real numbers and facts. Being a parent as a CEO does not impact the firm's performance negatively and should therefore not be viewed as an obstacle for women aspiring to top-positions, neither an undesirable trait in the perspective of the recruiters.

Looking at the results of regression 3, when regressing solvency on *parent,* we observe a small positive effect of 0,73% of parenthood with a standard error of 0,0050. A positive effect thus implies that the overall risk of the firm decreases with parenthood, as equity increases in relation to assets. Although the results are not significant, cautiously drawn conclusions can be made comparing beta and standard error. It looks like the spread of the OLS-estimator for *parent* only hold levels different from 0, thus the effect of parenthood points towards a rejection of our null-hypothesis. The fact that the effect of *parent* on solvency is consistently above 0 when comparing beta and standard errors, imply that parents are slightly more risk averse than non-parents. However, we are hesitant to state that this is a solid conclusion that can be made, but rather a tendency of the data.

The regression results of regression 5 and 6, regressing profit margin and quick ratio on *parent,* although showing positive betas (profit margin 0,07% and quick ratio 15,54%), as they are not significant and the standard error is around the size of the beta itself, it is very risky to draw any conclusions at all. However, it is comforting that we do not find any significant results pointing in opposite directions than what our other regressions indicate.

3.2.3 Diverging effects depending on number of children

Instead of regressing on *parent* we also perform the same regressions on our child dummies representing different number of children. However, only using ROA and solvency as endogenous variables, not profit margin or quick ratio. The results of these regressions can be found in table 2 – regressions 2 and 4.

The most interesting results from these regressions concerns ROA. We can observe a pattern with an increasing beta for increasing number of children, when looking at the results of regressing ROA on our child dummies. The effect on ROA of having one child is 0,54%. Although it's not significant, it is likely to stay above 0 as the standard error is 0,0035. The effect of having 2-4 children is 0,79% and significant at a 1% level. The effect of having more than 4 children is 3,25 % and significant at a 10% level, with a standard error of 0,020. These results strengthen the pervious results of regressing ROA on *parent.* If the effect of parenthood increases positively with an increasing number of children, it supports our second hypothesis that parenthood does not have a negative effect on performance as having more children most probably mean that the CEO is more affected by his/her parenthood. The results also support a rejection of the null-hypothesis 1.

Furthermore, it could be argued, as we observe a quite large increase of beta, having more children means that the personal developments that goes along with parenthood creates superior leadership resulting in CEOs with larger families over-performing CEOs with small families. The increase of beta also demonstrates a strong correlation between parenthood and performance.

The results of the same regression but with solvency as dependent variable show no significant results other than beta for the dummy representing if the CEO has one child which is 1,2% and significant at a 10% level. The betas of the other two child dummies, besides not being significant, also have higher standard errors than the beta itself, giving us no indication of trends.

3.2.4 Differences in the effect of parenthood depending on gender

Table 3 shows the results when dividing the regressions of ROA and solvency on *parent* depending on gender. This regression is interesting as it might be possible that the positive effect of parenthood seen in previous regressions could differ a lot depending on gender. Results in previous regressions show the combined effect of parenthood from both female and male CEOs. Thus, a potential negative effect of parenthood for female CEOs, could be hidden by being outweighed by a positive effect of parenthood for male CEOs. It could be possible that because women are assumed to take more responsibility at home, they are more negatively affected by the downsides of parenthood combined with a CEO-position. For example, women could possibly feel obligated to spend more time at home because of social norms and expectations, which would therefore steal time and focus from their work - resulting in underperforming their male counterparts. As our study has a gender perspective and questions whether women have to choose between family and career, it is important that we rule out a scenario such as the above.

The results show that the effect of being a parent on ROA is 2,37% for female CEOs (significant at a 5% level) and 0,59% for male CEOs (significant at a 5% level). This implies that female parents actually outperform male parents. The results confirm that the positive effect of parenthood on ROA holds when looking at only women. These results are also interesting as they relate to our first hypothesis discussed in the introduction, that women more often question the possibility to combine career with family. They also relate to the discussion of the prejudices some recruiters may have towards recommending women as CEOs. With the assumption that mothers are more focused on family and might prioritize differently one had expected the beta of *parent* for female CEOs to be negative. Instead, the positive beta implies that the prejudices are most probably misallocated and women should not have to feel hesitant about potentially combining family and career.

3.2.5 Differences in the effect of parenthood depending on industry

We perform regressions divided up on industry with ROA as endogenous and *parent* as exogenous variable. The results of these regressions can be seen in table 4. It is not surprising to see that only two of our industry groups show significant results, as we start out with a quite small sample. Dividing the sample up into 12 groups leads to few observations in every group. The two industries showing significant results are "Shopping goods" and "Finance & Real estate" with a beta of 1,66% and 3,01% respectively. Both of these betas have standard errors relatively small compared to the size of beta. All other industries have standard errors approximately in the size as the beta itself. Together with the fact that these industries show no significant result, it is hard to draw any solid conclusions. What we can conclude from this part of the study is that none of the results stands in opposition to the main results of our study. We find no significant negative effect of parenthood, all significant results point in the same direction as our previous results.

It would have been interesting if we had found differences in the effect of parenthood depending on industry, as it would have indicated that some industries are better at encouraging and utilizing the effect of parenthood. Seeing as we observe a positive effect of parenthood in this study, less developed industries would gain on learning from the more advanced industries regarding ways to take advantage of the effect of parenthood.

3.2.6 Differences in the effect of parenthood depending on firm size

Table 5 shows the results from regressing ROA on *parent* divided on size category. The size categories used are based on number of employees. In the first two size categories where the number of employees ranges from 20-49 and 50-99 we find a small positive effect of parenthood, 0,76% (significant at a 5% level) and 1,26% (significant at a 1% level) respectively. These two size categories are the ones with the highest amount of observations. The other three size categories show no significant results and the sizes of betas together with the sizes of standard errors cannot rule out a negative effect of parenthood and thus we cannot reject our first null-hypothesis.

Looking only at the two first results, we see an increasing trend in the effect of parenthood with increasing firm size. However, this is just a comparison of two results and such a conclusion is thus drawn very carefully and without much certainty. Similarly as in the study where we divide the regressions upon industry, we are pleased to find no significant results that stand in opposition to our main result of the study. All significant results points towards a positive effect of parenthood.

It is interesting to look at differences depending on the size of firms, as it might be possible that it's easier to take advantage of the positive effects of parenthood in some sizes of firms. Perhaps being a CEO in a smaller firm demands more leadership skills than being CEO of a larger firm, leading to the positive effect of parenthood on leadership skills being more visible in smaller firms. Another scenario could be that being a CEO of a smaller firm demands more time and focus, making it hard to take advantage of the parenthood effect, and the effect would therefore be more visible in larger firms. Our study uses a sample too small for succeeding in this type of study.

3.2.7 General conclusions

The overall implication of our study points towards a positive relationship between parenthood and performance. However even more crucial, it does not point to a negative relationship and we can thus conclude that our results supports our second hypothesis that having children and being a CEO does not have a negative impact on the firm in terms of performance. The results of the regressions indicate that firms should value parenthood and encourage an environment with firm policies that make it possible to combine family with career. Firms should not view parenthood as something that's going to negatively affect their performance. In return, this implies that women should not have to feel hesitant towards the idea of combining family and career.

3.3 Robustness tests

To see how dependent our results are on our controls we perform robustness tests. Table 6 shows the results when regressing ROA on *parent* with different levels of controls. For example, in the first regression (level 1) we only control for time fixed effects, which results in a beta of 0,28%. The last regression (level 7) is the final regression and the beta has increased to 0,72%. All levels in between represent continuous addition of controls. By doing this we can distinguish the controls having the most impact on our results, as well as how our results differ depending on how many controls we use. The objective is to make sure that the results are not driven by any underlying structure of the data, which in that case would indicate our results not being very robust.

In table 6, we can see that the greatest absolute change of the beta of *parent,* between all levels, is 0,44%, from 0,28% in the first level to 0,72% in the final regression. Beta increases continuously with every level. The standard errors are all at a steady level around 0,0025. These results indicate that even without any controls other than year fixed effects; we get a result not far from our final result. This indicates that the results can be viewed to be fairly robust. Another positive aspect of the results from comparing betas and standard errors in the robustness test is that there is no regression indicating a negative impact of parenthood on performance.

We can also observe that the controls impacting our results the most are industry and CEO age. This could indicate that there are some trends in our dataset regarding parenthood in different industries and age groups. Looking instead at table 7, we display summary statistics of ROA, number of children and parent divided upon industry, size category and age group. From the division upon industry, no clear trends are visible. The percentage of parents is around 60 % and average number of children varies around 1,3-1,5. “IT & Electronics” and “Finance & Real estate” has the lowest average number of children with 1,04 and 1,13 respectively. The highest average number of children can be found in industry “Energy & Environment”. However, there is no clear relationship when relating this to ROA.

Focusing on firm size we find an interesting trend of decreasing average ROA together with increasing number of children as firm size gets bigger. That is, for smaller firms

the average ROA is higher and the average number of children is lower than for bigger firms. A similar pattern is found when looking at the age groups. Average ROA decreases together with an increasing average number of children, as CEOs gets older. That is, average ROA is higher and average number of children is lower for young CEOs. The trend regarding number of children in this case is not surprising as it is more unlikely for the young CEOs in our dataset to have children, as our household data only reports having children between 1970-1999. The CEOs in age group 20-30 during our analysis period 1999-2008 are thus unlikely to have had a child during those 30 years. This means that due to the composition of our data, the probability of a specific CEO being listed in our data to have children increases with the age of the CEO.

4. Implications and conclusions

The purpose of our study was to challenge general assumptions about leadership and parenthood from a financial perspective. As discussed in chapter 3, our data indicates that we can reject our null hypothesis: being a parent and a CEO has a negative effect on a firm's performance.

As our descriptive statistics show, female CEOs have fewer children than male CEOs. Thus, women seem to feel more reluctant to combine family and career. This opens up discussions whether it's a conscious choice among women who aspire to top positions or if they are forced to deprioritize family in order to succeed with their aspirations. As our regression results implies, there is no actual losses from the CEO being a parent regardless of gender, it is interesting to understand what causes the visible differences between men and women. We have discussed a theory concerning the cause being social norms. The image of a typical family during the fifties, with a stay-at-home housewife and a hard working husband, perhaps influences us more than we think and want even today. This causes women to feel less confident in the hopes of both having successful careers and also being able to have a family. Other repercussions as recruiter prejudice and women less often being recommended to top positions, also becomes a great obstacle for the women who actually try to break the norm.

Our research question has never before, as far as we know, been studied from a financial perspective. We believe that it is crucial for the development of changing the assumptions on which the structures and customs in society are based, to focus our attention more on facts than on prejudice. Through studying the actual impact through financial studies, instead of relying on assumptions, we can tackle the issues of inequality in new ways. Hence, we hope that the field of financial research will broaden and that questions like our own will be asked more frequently.

Due to time limits of our study, and the fact that there is no previous literature on the subject, we see possibilities for further studies in a numerous ways. In the big picture, we encourage further research upon subjects that empower repressive social structures and norms. In our own study, we see small but interesting trends between industries, which could be studied in a more detailed way. If some industries offer an environment that

facilitates the combination of being a CEO and a parent, it would be valuable information to other industries and to the corporate world as a whole. In our results, we also observed a higher effect of parenthood on ROA if the CEO is a woman. The gender perspective is difficult to employ since there are few women at top positions. Still, we believe it would be of interest if more financial studies tried to analyze the diverse effect of having a mixed corporate elite.

Establishing a positive relationship and changing how recruiters, women and our society relates to the combination of parenthood and being a CEO, and in that way also changing the conditions for aspiring women, will demand studies as described above. We hope our study will empower the discussion and raise the question in order to help future women balance out the inequality.

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Riksarkivet - Sveriges befolkning 1970, Sveriges befolkning 1980, Sveriges befolkning 1990.

Appendix

Table 1 - Descriptive statistics

Variable	N	Mean	Max	Min	Sd
Section 1					
No CEOs	9624				
No. Female CEOs	588				
No. Male CEOs	9036				
No. children	45573	1	7	0	1
N.o employee	45573	168	32681	0	674
CEO_age	45573	50	71	23	8
Section 2, Dependent variable					
ROA, parent = 0	15758	0,1008	0,5412	-0,4174	0,1331
ROA, parent = 1	29815	0,1007	0,5428	-0,4164	0,1198
ROA, no. Children=1	6805	0,0999	0,5411	-0,4084	0,1236
ROA, no. Children=2	15846	0,1009	0,5413	-0,4164	0,1199
ROA, no. Children=3	6139	0,1016	0,5428	-0,4140	0,1177
ROA, no. Children=4	887	0,0937	0,4254	-0,3223	0,1043
ROA, no. Children=5	107	0,1162	0,4832	-0,1985	0,1198
ROA, no. Children=6	14	0,1105	0,4386	-0,0595	0,1172
ROA, no. Children=7	17	0,1311	0,2290	0,3326	0,0646
Solvency, parent = 0	15254	0,3150	0,8320	0,1130	0,1840
Solvency, parent = 1	29090	0,3350	0,8330	0,1110	0,1890
Solvency, no. Children=1	6746	0,3370	1,0000	-0,0076	0,2014
Solvency, no. Children=2	15771	0,3372	1,0000	-0,0009	0,1991
Solvency, no. Children=3	6099	0,3356	1,0000	0,0007	0,1926
Solvency, no. Children=4	882	0,3587	1,0000	0,0002	0,2046
Solvency, no. Children=5	106	0,3425	0,7190	0,0077	0,1770
Solvency, no. Children=6	14	0,3622	0,7594	0,0640	0,2149
Solvency, no. Children=7	17	0,1763	0,2699	0,1063	0,0450
Quick ratio, parent = 0	15373	1,1820	6,0130	0,1780	0,6960
Quick ratio, parent = 1	29218	1,2200	6,0000	0,1780	0,7370
Profit margin, parent = 0	15300	0,0553	0,6717	-0,1982	0,0774
Profit margin, parent = 1	29007	0,0594	0,6766	-0,1989	0,0804

This table present summary statistics for our dataset, representing 5567 nr of Swedish firms. Accounting data was merged with household data on the firm's ceo, in the terms of parenthood and number of children. Each firm has multiple number of observations, during the time period 1999-2008, which is the reason for why the totalt number of observations adds up to 45573. The descriptive statistics consists of number of observations, mean, max value, min value and standard deviation of the observed variables in the left column. Parent is a dummy taking the value 1 if the CEO has a child and 0 otherwise.

Table 2 - ROA, Solvency, Profit margin & Quick ratio regressions

	Regression 1 - Model (1)		**Regression 2 -** Model (2)		**Regression 3 -** Model(1)		**Regression 4 -** Model(2)		**Regression 5 -** Model (1)		**Regression 6 -** Model (1)	
Endogenous variable	**ROA**		**ROA**		**Solvency**		**Solvency**		**Profit margin**		**Quick ratio**	
	Beta	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*
Main exogenous variable :												
Parent	0,0072***	0,0027			0,0073	0,0050			0,0007	0,0011	0,1554	0,1538
1 Child			0,0054	0,0035			0,0120*	0,0066				
2-4 Children			0,0079***	0,0028			0,0050	0,0053				
More than 4 Children			0,0325*	0,0198			0,0083	0,0280				
Control variables :												
Size category (employees)												
20-49												
50-99	0,0004	0,0029	0,0004	0,0029	-0,0017	0,0055	-0,0017	0,0055	-0,0001	0,0012	0,1366	0,3144
100-199	-0,0016	0,0058	-0,0017	0,0058	-0,0251**	0,0101	-0,0249***	0,0101	-0,0012	0,0025	0,5729	0,8073
200-1000	-0,0030	0,0037	-0,0030	0,0037	-0,0303***	0,0062	-0,0301***	0,0062	0,0012	0,0016	-0,3665***	0,1100
>1000	-0,0111	0,0077	-0,0111	0,0077	-0,0679***	0,0130	-0,0680***	0,0130	-0,0013	0,0037	-0,4204***	0,1438
County												
Stockholm (1)												
Uppsala (3)	-0,0001	0,0083	-0,0002	0,0083	-0,0099	0,0150	-0,0097	0,0150	-0,0039	0,0031	-0,0183	0,2965
Södermanland (4)	-0,0020	0,0084	-0,0019	0,0084	0,0116	0,0153	0,0117	0,0153	0,0021	0,0037	-0,4087*	0,2467
Östergötland (5)	-0,0031	0,0063	-0,0031	0,0063	-0,02311**	0,0118	-0,0230**	0,0118	-0,0010	0,0027	-0,2719	0,2030
Jönköping (6)	0,0131**	0,0053	0,0131**	0,0053	0,0259	0,0104	0,0261**	0,0104	0,0097***	0,0024	-0,1901	0,2273
Kronoberg (7)	0,0160**	0,0073	0,0158**	0,0073	0,0235	0,0141	0,0242*	0,0141	0,0063**	0,0032	-0,2310	0,1871
Kalmar (8)	0,0058	0,0075	0,0059	0,0075	-0,0058	0,0150	-0,0055	0,0150	0,0020	0,0033	-0,2536	0,1790
Gotland (9)	-0,0334**	0,0135	-0,0335	0,0135	-0,0208	0,0282	-0,0205	0,0283	-0,0055	0,0077	-0,6591***	0,2194
Blekinge (10)	0,0096	0,0099	0,0096	0,0099	-0,0050	0,0182	-0,0044	0,0182	0,0022	0,0038	-0,1726	0,1850
Skåne (12)	0,0002	0,0043	0,0001	0,0043	0,0005	0,0077	0,0007	0,0077	0,0002	0,0018	-0,1886	0,1888
Halland (13)	0,0057	0,0072	0,0058	0,0072	0,0237*	0,0138	0,0237*	0,0138	0,0030	0,0029	-0,1513	0,2151
Västra Götaland (14)	0,0011	0,0037	0,0011	0,0037	-0,0068	0,0068	-0,0066	0,0068	0,0007	0,0016	0,2890	0,4745
Värmland (17)	-0,0021	0,0064	-0,0022	0,0064	-0,0002	0,0138	0,0003	0,0138	0,0014	0,0033	-0,3082	0,1993
Örebro (18)	-0,0076	0,0067	-0,0076	0,0067	-0,0120	0,0144	-0,0116	0,0144	-0,0020	0,0031	-0,3525**	0,1753
Västmanland (19)	0,0065	0,0082	-0,0066	0,0082	-0,0026	0,0163	-0,0022	0,0163	-0,0010	0,0034	-0,3609*	0,2071
Dalarna (20)	0,0014	0,0072	0,0014	0,0072	0,0113	0,0152	0,0117	0,0152	0,0011	0,0034	-0,2208	0,1785
Gävleborg (21)	0,0014	0,0082	0,0015	0,0082	-0,0029	0,0144	-0,0027	0,0144	-0,0032	0,0032	-0,2529	0,1848
Västernorrland (22)	0,0092	0,0077	0,0091	0,0077	0,0022	0,0163	0,0024	0,0162	0,0059*	0,0033	-0,2219	0,1991
Jämtland (23)	-0,0067	0,0103	-0,0067	0,0103	-0,0259	0,0190	-0,0254	0,0190	0,0023	0,0045	-0,2390	0,2168
Västerbotten (24)	-0,0068	0,0077	-0,0067	0,0077	-0,0040	0,0155	-0,0037	0,0155	-0,0011	0,0035	-0,2288	0,1841
Norrbotten (25)	-0,0004	0,0079	-0,0004	0,0079	-0,0078	0,0180	-0,0079	0,0180	0,0022	0,0039	-0,2856	0,2190

Table 2 - continued

Endogenous variable	**Regression 1 -** Model (1) **ROA**		**Regression 2 -** Model (2) **ROA**		**Regression 3 -** Model(1) **Solvency**		**Regression 4 -** Model(2) **Solvency**		**Regression 5 -** Model (1) **Profit margin**		**Regression 6 -** Model (1) **Quick ratio**	
	Beta	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*
Group situation												
Swedish parent company	-0,0106	0,0033	-0,0105***	0,0033	0,0594***	0,0082	0,0592***	0,0082	0,0071***	0,0017	0,1873**	0,0845
Subsidiary in Swedish group	0,0108	0,0026	0,0108***	0,0027	-0,0264***	0,0061	-0,0264***	0,0061	0,0084***	0,0012	0,2355***	0,0882
Subsidiary in foreign group	-0,0100	0,0035	-0,0099***	0,0036	0,0025	0,0074	0,0025	0,0074	0,0057***	0,0016	0,7810*	0,4440
Age												
20-29	0,0079	0,0165	0,0080	0,0165	-0,0314	0,0206	-0,0315	0,0206	0,0042	0,0054	0,0584	0,2572
30-39	0,0108	0,0034	0,0109***	0,0034	-0,0054	0,0052	-0,0057	0,0052	0,0022*	0,0013	0,6179	0,4623
40-49	0,0040	0,0024	0,0041*	0,0024	0,0007	0,0031	0,0005	0,0031	0,0015	0,0009	-0,0414	0,1139
50-59	0,0035	0,0027	0,0032	0,0027	0,0162***	0,0040	0,0170***	0,0040	0,0023**	0,0011	-0,0662	0,1399
>60	0,0018	0,0035	0,0014	0,0035	0,0328***	0,0063	0,0338***	0,0064	0,0035	0,0015	0,6202	0,5160
Net sales	0,0000**	0,0000	0,0000**	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000*	0,0000
Total Assets	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Gender	-0,0053	0,0053	-0,0051	0,0052	0,0110	0,0095	0,0107	0,0095	-0,0026	0,0021	0,0125	0,1004
Quick ratio	0,0000	0,0000	-0,0000***	0,0000					0,0000	0,0000		
D/E-ratio	0,0000	0,0000	-0,0000*	0,0000					0,0000	0,0000		
Profit					0,0000***	0,0000	0,0000***	0,0000			0,0000	0,0000
Profit margin					0,0001***	0,0000	0,0001***	0,0000			0,0010	0,0014
Time fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Industry fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
No. Of observations	45038		45038		44003		44003		40384		45084	
R2	0.0534		0,0536		0,1024		0,1025		0,0677		0,0022	
Constant	0,0170	0,0520	0,0168	0,0520	0,3669***	0,0425	0,3674***	0,0431	0,0491***	0,0069	0,5360816	0,7103527
No. Of Clusters	5679		5679		5654		5654		5531		5676	

Model(1): OLS-regression with controls, main exogenous variable is parent, which is a dummy taking on the value 1 of the CEO has a child and 0 otherwise.

Model(2): OLS-regression with controls, main exogenous variables are child_1, child_more_1 and child_more_4. These are dummies taking on the value 1 if number of children equals 1, 2-4 or more than 4.

All regressions are made using firm clustered standard errors with time fixed effects and industry fixed effects. The industry fixed effects are based on 2-digit SNI-codes. We control for size using size categories, which are based on number of employees. The exogenous variable gender is a dummy taking on the value 1 if the CEO is female and 0 if the CEO is male. Age is controlled for using 5 different age groups.

***** = significance at a 1% level*

*** = significance at a 5% level*

** = significance at a 10% level*

Table 3 - ROA & Solvency regressions divided upon gender

Endogenous variable	**Regression 1 - ROA**				**Regression 2 - Solvency**			
	Female		Male		Female		Male	
	Beta	*St. Error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*
Main exogenous variable :								
Parent	0,0237**	0,0116	0,0059**	0,0028	0,0291	0,0229	0,0049	0,0053
Control variables :								
Size category (employees)								
20-49								
50-99	0,0043	0,0133	0,0004	0,0030	0,0422	0,0248	-0,0059	0,0058
100-199	-0,0107	0,0223	-0,0010	0,0060	-0,0390	0,0330	-0,0206*	0,0110
200-1000	-0,0160	0,0143	-0,0032	0,0038	0,0290	0,0290	-0,0362***	0,0065
>1000	-0,0128	0,0329	-0,0114	0,0078	-0,0174	0,0620	-0,0724***	0,0134
County								
Stockholm (1)								
Uppsala (3)	-0,0259	0,0246	0,0005	0,0087	-0,0122	0,0509	-0,0055	0,0163
Södermanland (4)	-0,0621**	0,0259	0,0000	0,0086	-0,1677***	0,0393	0,0193	0,0161
Östergötland (5)	0,0303	0,0283	-0,0044	0,0064	0,0333	0,0509	-0,0234*	0,0124
Jönköping (6)	-0,0354	0,0271	0,0142**	0,0054	-0,1152**	0,0545	0,0285***	0,0108
Kronoberg (7)	0,0244	0,0680	0,0161	0,0071	0,0060	0,0530	0,0227	0,0147
Kalmar (8)	0,0218	0,0387	0,0055***	0,0077	-0,0703	0,0687	-0,0040	0,0154
Gotland (9)	-0,0194	0,0411	-0,0362	0,0136	-0,0728	0,0553	-0,0173	0,0295
Blekinge (10)	0,0907	0,0793	0,0070	0,0098	-0,0570	0,0839	0,0014	0,0200
Skåne (12)	-0,0263	0,0172	0,0006	0,0044	-0,0339	0,0312	0,0010	0,0082
Halland (13)	-0,0059	0,0340	0,0056	0,0073	-0,0284	0,0746	0,0270*	0,0145
Västra Götaland (14)	-0,0031	0,0172	0,0011	0,0038	-0,0606*	0,0315	-0,0053	0,0072
Värmland (17)	0,0253	0,0334	-0,0026	0,0066	-0,0339	0,0571	0,0036	0,0148
Örebro (18)	-0,0287	0,0305	-0,0067	0,0068	-0,1135*	0,0595	-0,0123	0,0147
Västmanland (19)	0,0047	0,0230	-0,0080	0,0085	0,0101	0,0567	-0,0074	0,0169
Dalarna (20)	-0,0493*	0,0274	0,0031	0,0074	-0,0655	0,0401	0,0139	0,0157
Gävleborg (21)	0,0330	0,0449	0,0002	0,0083	0,0631	0,0860	-0,0085	0,0146
Västernorrland (22)	-0,0135	0,0354	0,0098	0,0078	0,0930	0,0902	0,0024	0,0166
Jämtland (23)	-0,1326***	0,0295	-0,0016	0,0100	-0,1513**	0,0716	-0,0247	0,0199
Västerbotten (24)	0,0353	0,0406	-0,0095	0,0075	0,0667	0,0691	-0,0095	0,0161
Norrbotten (25)	-0,0273	0,0411	0,0000	0,0080	-0,0745	0,0730	-0,0071	0,0186

Table 3 - continued

Endogenous variable	ROA				Solvency			
	Female		Male		Female		Male	
	Beta	*St. Error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*
Group situation								
Swedish parent company	-0,0042	0,0143	-0,0106***	0,0033	0,0528*	0,0300	0,0630***	0,0088
Subsidiary in Swedish group	0,0250**	0,0110	0,0112***	0,0027	-0,0351	0,0219	-0,0274***	0,0064
Subsidiary in foreign group	-0,0144	0,0172	-0,0088**	0,0036	-0,0197	0,0302	0,0054	0,0078
Age								
20-29	0,0609**	0,0240	0,0075	0,0178	-0,1502**	0,0719	-0,0089	0,0237
30-39	0,0073	0,0140	0,0115***	0,0035	-0,0222	0,0210	-0,0083	0,0056
40-49	0,0050	0,0099	0,0039	0,0024	0,0056	0,0130	-0,0004	0,0033
50-59	-0,0076	0,0121	0,0042	0,0028	0,0263	0,0191	0,0165***	0,0042
>60	-0,0092	0,0173	0,0034	0,0035	0,0362	0,0330	0,0368***	0,0066
Net sales	0,0000*	0,0000	0,0000**	0,0000	0,0000	0,0000	0,0000*	0,0000
Total Assets	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Quick ratio	0,0015	0,0012	0,0000**	0,0000				
D/E-ratio	-0,0009***	0,0002	0,0000*	0,0000				
Profit					0,0000	0,0000	0,0000***	0,0000
Profit margin					0,0410	0,0284	0,0000***	0,0000
Time fixed effects	Yes		Yes		Yes		Yes	
Industry fixed effects	Yes		Yes		Yes		Yes	
No. Of observations	2410		42628		2400		42384	
R2	0,12865		0,0534		0.2070		0,1065	
Constant	-0,4442***	0,0241	0,0161	0,0531	0,8778	0,0547	0,3697	0,0425
No. Of Clusters	502		5481		498		5474	

OLS-regressions with controls. Main exogenous variable is parent, which is a dummy taking on the value 1 if CEO has a child and 0 otherwise. Regressions are made divided on gender. All regressions are made using firm clustered standard errors with time fixed effects and industry fixed effect. The industry fixed effects are based on 2-digit SNI-codes. We control for size using size categories based on number of employees. Age is controlled for using 5 different age groups. The exogenouse variable gender is a dummy taking on the value 1 if the CEO is female and 1 if the CEO is male.

***** = significance at a 1% level*

*** = significance at a 5% level*

** = significance at a 10% level*

Table 4 - ROA regressions divided upon industry

	ROA											
Industry	Energy & Environm.		Materials		Industrial goods		Construction		Shopping goods		Convenience goods	
	Beta	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*
Main exogenous variable :												
Parent	0,0195	0,0193	0,0013	0,0103	0,0046	0,0048	-0,0090	0,0092	0,0166***	0,0057	0,0007	0,0103
Control variables :												
Size category (employees)												
20-49												
50-99	0,0089	0,0399	0,0090	0,0134	-0,0001	0,0049	-0,0124	0,0083	-0,0041	0,0062	0,0267	0,0123
100-199	0,0169	0,0534	-0,0520**	0,0230	0,0112	0,0102	-0,0095	0,0217	0,0038***	0,0131	-0,0027	0,0231
200-1000	-0,0124	0,0387	-0,0015	0,0146	0,0081	0,0069	-0,0024	0,0141	-0,0167	0,0089	-0,0184	0,0188
>1000	-0,0453	0,0324	-0,0350	0,0291	0,0345	0,0209	0,0124	0,0134	-0,0466	0,0223	-0,0546	0,0262
Age												
20-29	omitted		omitted		-0,0180	0,0192	0,0182	0,0313	-0,0491	0,0497	-0,0255	0,0231
30-39	0,0283	0,0374	0,0123	0,0189	0,0109*	0,0059	-0,0021	0,0105	0,0182	0,0068	-0,0168	0,0115
40-49	0,0235	0,0254	-0,0139*	0,0081	0,0096**	0,0039	-0,0050	0,0072	-0,0047	0,0055	-0,0069	0,0072
50-59	0,0203	0,0265	-0,0035	0,0091	0,0106**	0,0046	-0,0024	0,0078	0,0019	0,0058	0,0031	0,0095
>60	0,0362	0,0359	-0,0337*	0,0132	0,0098	0,0059	-0,0024	0,0095	-0,0020	0,0077	-0,0056	0,0141
Net sales	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total Assets	0,0000***	0,0000	0,0000	0,0000	0,0000*	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Gender	-0,0174	0,0275	0,0008	0,0231	-0,0128	0,0156	-0,0303***	0,0109	-0,0146	0,0104	0,0005	0,0240
Quick ratio	0,0137	0,0113	0,0000	0,0002	0,0000	0,0000	0,0001***	0,0000	0,0000	0,0000	0,0004	0,0008
D/E-ratio	-0,0005	0,0019	0,0000*	0,0000	-0,0009***	0,0002	-0,0002	0,0001	-0,0001***	0,0000	-0,0006**	0,0003
Time fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Industry fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
County fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Group situation controls	Yes		Yes		Yes		Yes		Yes		Yes	
No. Of observations	393		1961		13820		4086		7690		3258	
R2	0,3444		0,0816		0,0703		0,1004		0,0562		0,1809	
Alpha	-0,2265**	0,0760	0,0433	0,0354	0,0649***	0,0130	0,1287	0,0229	-0,0139	0,0115	0,1465***	0,0343
No. Of Clusters	66		285		1810		524		1062		420	

Table 4 - continued

	ROA											
Industry	**Health & Education**		**Finance & Real est.**		**IT & Electronics**		**Telecom & Media**		**Corporate services**		**Other**	
	Beta	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*
Main exogenous variable :												
Parent	0,0207	0,0130	0,0301*	0,0176	0,0190	0,0138	0,0312	0,0228	-0,0046	0,0067	-0,0227	0,0231
Control variables :												
Size category (employees)												
20-49												
50-99	0,0236	0,0157	0,0314	0,0201	-0,0003	0,0156	0,0051	0,0275	-0,0002	0,0079	-0,1015***	0,0313
100-199	-0,0196	0,0273	0,0133	0,0366	-0,0187	0,0234	-0,0091	0,0348	0,0034	0,0136	-0,0731***	0,0279
200-1000	0,0210	0,0166	0,0192	0,0246	-0,0171	0,0176	-0,0092	0,0259	-0,0090	0,0088	-0,0564	0,0423
>1000	0,0028	0,0234	0,0889***	0,0317	-0,0730***	0,0192	-0,0519	0,0462	-0,0114	0,0172	-0,0743	0,0566
Age												
20-29	0,1542***	0,0472	0,2143***	0,0388	0,0258	0,0427	0,0256	0,0374	0,0086	0,0299	omitted	
30-39	0,0146	0,0190	-0,0172	0,0195	0,0401**	0,0171	0,0627**	0,0293	0,0043	0,0089	-0,0706*	0,0396
40-49	0,0089	0,0135	-0,0020	0,0152	0,0236*	0,0126	0,0344*	0,0200	0,0075	0,0063	-0,0436*	0,0233
50-59	0,0109	0,0139	-0,0419***	0,0161	0,0020	0,0141	0,0430*	0,0258	-0,0013	0,0070	-0,0286	0,0284
>60	0,0016	0,0173	-0,0450*	0,0234	0,0141	0,0317	0,0745**	0,0308	0,0026	0,0091	-0,0491	0,0440
Net sales	0,0000	0,0000	0,0000	0,0000	0,0000***	0,0000	0,0000	0,0000	0,0000	0,0000**	0,0000	0,0000
Total Assets	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000*	0,0000	0,0000	0,0000	0,0000	0,0000
Gender	-0,0152	0,0132	0,0191	0,0271	-0,0403	0,0277	0,0114	0,0210	0,0101	0,0107	-0,0657	0,0761
Quick ratio	0,0049	0,0039	0,0000**	0,0000	-0,0001***	0,0000	0,0001***	0,0000	0,000**	0,0000	0,0040	0,0036
D/E-ratio	-0,0003*	0,0002	0,0000	0,0000	-0,0001***	0,0000	-0,0001	0,0003	0,0001*	0,0000	-0,0003	0,0010
Time fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Industry fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
County fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Group situation controls	Yes		Yes		Yes		Yes		Yes		Yes	
No. Of observations	2136			1086	2090		840		7197		441	
R2	0,1401			0,1604	0,1196		0,2034		0,0877		0,3142	
Constant	0,0707**	0,0294	-0,0216	0,0405	0,1252***	0,0452	0,0045	0,0462	0,1050***	0,0227	0,0674	0,0530
No. Of Clusters	339			190	359		129		1143		98	

OLS-regressions with controls. Main exogenous variable is parent, which is a dummy taking in the value 1 if the CEO has a child and 0 otherwise.
Regressions are made divided on industry. industry groups used for this is a more general industry-variable with fewer groups than the 2-digit SNI-codes used to control for industry. These industry groups consists of 12 different groups rather than 53. All regressions are made using firm clustered standard errors with time fixed effects, industry fixed effects, county fixed effects and group situation controls.
***** = significance at a 1% level*
*** = significance at a 5% level*
** = significance at a 10% level*

Table 5 - ROA regressions divided upon firm size

	ROA									
Nr of employees	20-49		50-99		100-200		200-1000		>1000	
	Beta	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*	*Beta*	*St.error*
Main exogenous variable :										
Parent	0,0076**	0,0035	0,0126***	0,0058	-0,0227	0,0139	0,0001	0,0070	-0,0027	0,0149
Control variables :										
Age										
20-29	0,0041	0,0158	-0,0171	0,0640	0,1876***	0,0401	0,1348	0,0922	omitted	
30-39	0,0090**	0,0041	0,0181**	0,0074	0,0323	0,0198	0,0021	0,0117	0,0004	0,0250
40-49	0,0020	0,0030	0,0053	0,0052	0,0294**	0,0145	0,0090	0,0071	-0,0110	0,0144
50-59	0,0019	0,0034	0,0065	0,0057	0,0414***	0,0151	0,0075	0,0078	-0,0193	0,0131
>60	0,0003	0,0044	0,0009	0,0076	0,0407**	0,0193	0,0187*	0,0106	-0,0248	0,0194
Net sales	0,0000	0,0000	0,0000	0,0000	0,0000**	0,0000	0,000*	0,0000	0,0000**	0,0000
Total Assets	0,0000*	0,0000	0,000***	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Gender	-0,0060	0,0067	-0,0074	0,0113	0,0155	0,0258	-0,0033	0,0134	0,0283	0,0343
Quick ratio	0,0000	0,0000	0,0001	0,0000	-0,0001	0,0000	-0,0006	0,0017	0,0086	0,0071
D/E-ratio	-0,0001	0,0000	-0,0001	0,0000	-0,0003***	0,0001	0,0000***	0,0000	-0,0002	0,0001
Time fixed effects	Yes		Yes		Yes		Yes		Yes	
Industry fixed effects	Yes		Yes		Yes		Yes		Yes	
County fixed effects	Yes		Yes		Yes		Yes		Yes	
Group situation controls	Yes		Yes		Yes		Yes		Yes	
No. Of observations	27857		9360		1446		5346		1029	
R2	0,0529		0,0851		0,1534		0,1142		0,3076	
Alpha	0,0727***	0,0099	-0,0199	0,0942	-0,0512	0,0434	0,0223	0,0267	0,1074	0,0836
No. Of Clusters	3548		1258		372		1054		181	

OLS-regressions with controls. Main exogenous variable is parent, which is a dummy taking the value 1 if the CEO has a child and 0 otherwise. Regressions are made divided on size categories created based on number of employees. All regressions are made using firm clustered standard errors with time fixed effects, industry fixed effects, county fixed effects and group situation controls.

***** = significance at a 1% level*

*** = significance at a 5% level*

** = significance at a 10% level*

Table 6 - Robustness test

Endogenous variable	ROA													
	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7	
	Beta	*St. Error*	*Beta*	*St. Error*	*Beta*	*St. Error*	*Beta*	*St. Error*	*Beta*	*St. Error*	*Beta*	*St. Error*	*Beta*	*St. Error*
Main exogenous variable :														
Parent	0,0028	0,0023	0,0030	0,0023	0,0054**	0,0022	0,0049**	0,0022	0,0072***	0,0027	0,0071***	0,0027	0,0072***	0,0027
Control variables :														
Size category (employees)														
20-49			-0,0022	0,0030	0,0001	0,0029	-0,0002	0,0029	-0,0001	0,0029	-0,0001	0,0029	0,0004	0,0029
50-99			-0,0012	0,0059	-0,0031	0,0058	-0,0025	0,0058	-0,0024	0,0058	-0,0024	0,0058	-0,0016	0,0058
100-199			-0,0063*	0,0037	-0,0044	0,0037	-0,0038	0,0037	-0,0036	0,0037	-0,0036	0,0037	-0,0030	0,0037
200-1000			-0,0077	0,0076	-0,0091	0,0073	-0,0082	0,0073	-0,0079	0,0073	-0,0081	0,0073	-0,0111	0,0077
>1000														
County														
Stockholm (1)														
Uppsala (3)							0,0016	0,0083	0,0017	0,0083	0,0016	0,0083	-0,0001	0,0083
Södermanland (4)							-0,0011	0,0085	-0,0012	0,0085	-0,0014	0,0085	-0,0020	0,0084
Östergötland (5)							-0,0009	0,0063	-0,0010	0,0063	-0,0011	0,0063	-0,0031	0,0063
Jönköping (6)							0,0170***	0,0053	0,0167***	0,0053	0,0166***	0,0053	0,0131**	0,0053
Kronoberg (7)							0,0177**	0,0072	0,0175**	0,0073	0,0174**	0,0073	0,0160**	0,0073
Kalmar (8)							0,0087	0,0076	0,0087	0,0076	0,0085	0,0076	0,0058	0,0075
Gotland (9)							-0,0310**	0,0136	-0,0306	0,0136	-0,0306**	0,0136	-0,0334**	0,0135
Blekinge (10)							0,0116	0,0100	0,0118	0,0099	0,0117	0,0100	0,0096	0,0099
Skåne (12)							0,0024	0,0043	0,0024	0,0043	0,0023	0,0043	0,0002	0,0043
Halland (13)							0,0073	0,0072	0,0073	0,0072	0,0071	0,0072	0,0057	0,0072
Västra Götaland (14)							0,0030	0,0037	0,0029	0,0037	0,0027	0,0037	0,0011	0,0037
Värmland (17)							-0,0018	0,0065	-0,0018	0,0065	-0,0020	0,0065	-0,0021	0,0064
Örebro (18)							-0,0065	0,0068	-0,0065	0,0068	-0,0067	0,0068	-0,0076	0,0067
Västmanland (19)							-0,0058	0,0084	-0,0058	0,0084	-0,0059	0,0084	0,0065	0,0082
Dalarna (20)							0,0022	0,0073	0,0021	0,0073	0,0019	0,0073	0,0014	0,0072
Gävleborg (21)							0,0045	0,0081	0,0048	0,0081	0,0046	0,0081	0,0014	0,0082
Västernorrland (22)							0,0120	0,0078	0,0120	0,0078	0,0117	0,0078	0,0092	0,0077
Jämtland (23)							-0,0023	0,0106	-0,0026	0,0106	-0,0027	0,0106	-0,0067	0,0103
Västerbotten (24)							-0,0015	0,0077	-0,0016	0,0077	-0,0017	0,0077	-0,0068	0,0077
Norrbotten (25)							0,0047	0,0078	0,0045	0,0078	0,0043	0,0078	-0,0004	0,0079

Table 6 - continued

Endogenous variable	ROA													
	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7	
	Beta	*St. Error*	*Beta*	*St. Error*	*Beta*	*St. Error*	*Beta*	*St. Error*	*Beta*	*St. Error*	*Beta*	*St. Error*	*Beta*	*St. Error*
Group situation														
Swedish parent company													-0,0106	0,0033
Subsidiary in Swedish group													0,0108	0,0026
Subsidiary in foreign group													-0,0100	0,0035
Age														
20-29									0,0101	0,0164	0,0101	0,0164	0,0079	0,0165
30-39									0,0104***	0,0034	0,0104***	0,0034	0,0108	0,0034
40-49									0,0041*	0,0024	0,0041*	0,0024	0,0040	0,0024
50-59									0,0036	0,0027	0,0035	0,0027	0,0035	0,0027
>60									0,0021	0,0035	0,0020	0,0035	0,0018	0,0035
Net sales													0,0000**	0,0000
Total Assets			0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Gender											-0,0042	0,0052	-0,0053	0,0053
Quick ratio													0,0000	0,0000
D/E-ratio													0,0000	0,0000
Profit														
Profit margin														
Time fixed effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Industry fixed effects					Yes		Yes		Yes		Yes		Yes	
No. Of observations	45573		45573		45420		45415				45415		45038	
R2	0,0118		0,0124		0,0433		0,0454				0.0458		0.0534	
Alpha	0,1003***	0,0025	0,1016***	0,0026	0,0187***	0,0497	0,0206	0,0497	0,0151	0,0495	0,0154	0,0495	0,0170	0,0520
No. Of Clusters	5681		5681		5681		5681		5681		5681		5679	

OLS-regression with controls. Endogenous variable is ROA and main exogenous variable is parent, which is a dummy taking the value 1 if the CEO has a child and 0 otherwise. All regressions are made using firm clustered standard errors with time fixed effects. With every level, as explained below, we add some control.
Level 1: no controls aside from year
Level 2: control for year, size
Level 3: control for year, size, industry
Level 4: control for year, size, industry, county
Level 5: control for year, size, industry, county, age
Level 6: control for year, size, industry, county, age, gender
Level 7: control for year, size, industry, county, age, gender, firm risk & group situation (all controls)

Table 7 - Summary statistics of ROA, Number of children and Parent

Variable	ROA				Nb of children		Parent
	Mean	Max	Min	Sd	Mean	Max	Mean
INDUSTRY							
Energy & Environm.	0,1049	0,4668	-0,2111	0,0943	1,67	5	71,8%
Materials	0,0978	0,5399	-0,3956	0,1080	1,44	4	70,1%
Industrial goods	0,0986	0,5413	-0,4149	0,1162	1,46	6	69,6%
Construction	0,1084	0,5363	-0,3557	0,1103	1,49	6	72,2%
Shopping goods	0,0892	0,5406	-0,4164	0,1170	1,30	7	63,0%
Convenience goods	0,1264	0,5311	-0,3935	0,1274	1,22	5	62,6%
Health & Education	0,1267	0,5359	-0,4070	0,1461	1,32	4	63,8%
Finance & Real est.	0,0840	0,5323	-0,4023	0,1260	1,13	4	57,5%
IT & Electronics	0,0943	0,5396	-0,4174	0,1648	1,04	4	54,2%
Telecom & Media	0,0841	0,5380	-0,4150	0,1419	1,35	4	67,8%
Corporate services	0,1012	0,5428	-0,4166	0,1334	1,23	7	60,9%
Other	0,0836	0,5172	-0,4130	0,1214	1,31	4	63,1%
SIZE							
20-49	0,1024	0,5428	-0,4166	0,1234	1,31	7	64,2%
50-99	0,0998	0,5414	-0,4164	0,1254	1,40	6	67,7%
100-200	0,0992	0,5299	-0,4026	0,1299	1,38	5	66,9%
200-1000	0,0960	0,5396	-0,4174	0,1286	1,38	5	66,1%
>1000	0,0925	0,5332	-0,4084	0,1187	1,45	5	72,6%
AGE GROUP							
20-29	0,1111	0,5160	-0,3962	0,1578	0,00	0	0,0%
30-39	0,1047	0,5402	-0,4129	0,1334	0,12	3	8,9%
40-49	0,1002	0,5414	-0,4174	0,1277	0,94	7	51,3%
50-59	0,1005	0,5428	-0,4166	0,1204	1,87	7	87,6%
>60	0,1010	0,5401	-0,4164	0,1141	2,06	6	93,3%

Summary statistics for ROA, number of children and parent divided upon industry, size category and age group. Parent is a dummy taking the value 1 of the CEO has a child and 0 otherwise.