From Playground to Boardroom:

Endowed Social Status and Managerial Performance

by

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ABSTRACT

By matching a CEO's place of residence in his or her formative years with U.S. Census survey data, I obtain an estimate of the CEO's family wealth and study the link between the CEO's endowed social status and firm performance. I find that, on average, CEOs born into poor families outperform those born into wealthy families, as measured by a variety of proxies for firm performance. There is no evidence of higher risk-taking by the CEOs from low social status backgrounds. Further, CEOs from less privileged families perform better in firms with high R&D spending but they underperform CEOs from wealthy families when firms operate in a more uncertain environment. Taken together, my results show that endowed family wealth of a CEO is useful in identifying his or her managerial ability.

DEDICATION

This dissertation is dedicated to my husband, Rujie Sun and little son, Louie. Thank you for your love, patience and support. I love you to the moon and back.

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INTRODUCTION

A growing literature in finance and economics shows that CEOs can significantly influence strategic firm decisions and performance (see, e.g., Bertrand and Schoar (2003); Bennedsen *et al.* (2007); Perez-Gonzalez (2006)). Further, a large part of the variation in CEOs' management style is explained by their personal traits and characteristics (Malmendier and Tate (2008); Kaplan *et al.* (2012)). Given the high cost of replacing a CEO, selecting the most talented CEO is of first-order importance for shareholders. Therefore it is essential to identify the personal characteristics of a firm's leader that translate into greater firm success.

In this study, I examine how a CEO's family social status in his or her formative years is associated with managerial ability demonstrated later in life. Evidence from economics and psychology research suggests that endowed social status has long-lasting effects on the behavioral and economic outcomes of individuals, such as propensity to obtain higher education and accumulate wealth (see, e.g., Bowles *et al.* (2001); Domhoff *et al.* (2013)). Further, the behavior and economic outcomes of children are strongly correlated with those of their parents (Blau and Duncan (1967); Solon (1992); Zimmerman (1992); Ashenfelter and Rouse (1998)). I therefore hypothesize that family background of a future CEO may be helpful in explaining the CEO's professional performance and management style. One reason to expect a relation is that the barriers to securing a prestigious job are significantly higher for individuals of lower social status (Rivera (2016); Domhoff *et al.* (2013)) so that only the most talented or the most hard-working among those individuals succeed in becoming CEOs.

The selection mechanism suggests a negative relation between CEOs' endowed social status and their managerial performance.[1]

On the other hand, a large literature in psychology suggests that people having high social status tend to develop valuable social connections in schools, prestigious clubs and work environments (see, e.g., Levine and Rubinstein (2017); DiMaggio and Garip (2012); Burt (1997); Lin (2000)). Social networks can add value to firms because they facilitate access to information and capital and may be a source of political influence (Engelberg *et al.* (2012); Borisov *et al.* (2016)). Thus, based on the social connections literature, I may expect a positive relation between a CEO's endowed social status and firm performance.

To study firm performance implications of CEOs' endowed social status, I first offer an empirical proxy for a CEO's endowed social status and show that it is strongly correlated with measures of barriers to entry to prestigious careers. To obtain a proxy for a CEO's endowed social status, I estimate the CEO's family wealth at the time he or she graduated from high school. I use a sample of all active CEOs of S&P 1,500 firms between 2004 and 2009 and collect their birth dates and parents' names from the Marquis Who's Who (R) Biographies on Lexis-Nexis database. I then use the CEOs' birth certificates and high school yearbooks to identify their places of birth and the names and locations of the high schools they attended. The CEO's family wealth is estimated as the median household income in the neighborhood where the

[1]Individuals from wealthy families can rise to prestigious positions with the help of their inherited wealth, for example, heirs of family-controlled firms face relative lower barriers to entry to leadership positions than other candidates. Perez-Gonzalez (2006) and Bennedsen *et al.* (2007) suggest that family-controlled firms tend to promote CEOs based on family ties rather than on merit and inherited control is associated with poor firm performance. In contrast, Mehrotra *et al.* (2013) find that Japanese family firms managed by non-blood heirs selected through adult adoptions or arranged marriages are star performers. They argue that the non-blood heirs are selected for talent.

CEO lived at the time he or she graduated from high school. This procedure allows me to obtain family wealth for 506 CEOs, who constitute my main empirical sample.

The estimated family wealth appears to be a reasonable proxy for a CEO's endowed social status. For example, I find that CEOs with lower family wealth are less likely to attend expensive private high schools, go to college, attend an Ivy League school, or obtain an MBA degree. Further, individuals with lower family wealth have less access to professional and social networks, as measured by the number of connections between the CEO and the members of the board of directors. I also find that individuals born into poor families become CEOs when they are more than six years older than individuals born into affluent families. This finding is consistent with individuals from poor families facing greater barriers to entry to prestigious jobs.

My main empirical finding is that on average, CEOs born into poor families outperform those born into wealthy families. The results are robust to controlling for a variety of CEO and firm-specific characteristics and also to using different measures of firm performance, such as the firm's operating return on assets, asset turnover, earnings surprises, stock returns, and the number and quality of M&A deals completed during the CEO's tenure in office. Further, for a subset of older CEOs, I obtain a high-precision measure of family wealth available through the 1940 Individual U.S. Census. The results are robust to using this alternative measure of family wealth, which indicates that measurement error is unlikely to taint my inference. The negative relation between a CEO's family wealth and performance is stronger in industries that allow for a high level of managerial discretion, in multi-segment firms, and in growth firms, as proxied by high R&D spending and market-to-book ratios. I next consider potential channels through which CEOs can affect firm performance. I

find that the effect of a CEO's endowed social status on firm performance is largely driven by differences in the CEOs' propensity to invest in human capital and develop successful innovation. In particular, CEOs endowed with lower family wealth do not lay off as many people when their firms' financial health temporarily deteriorates. Greater employee job security is conducive to a corporate culture of more integrity, and it motivates employees to invest more in firm-specific human capital and take on more innovative projects, which could be beneficial to firm shareholders. For example, Edmans (2011) finds that firms that treat their employees better tend to have higher stock returns.

I also consider the relation between a CEO's endowed family wealth and firm performance during periods of high economic policy uncertainty. I find that CEOs with a higher family wealth tend to perform better when their businesses face a significant amount of uncertainty. In another set of tests, I find that the better performance of CEOs from wealthy families is stronger in firms that are financially constrained or sensitive to political policy. The results lend support to the hypothesis that CEOs from wealthy families have advantages that may stem from having access to financial capital and being politically connected. Better access to information and valuable social connections could translate into better decision-making during periods of high economic policy uncertainty.

While my results are consistent with a view that on average, CEOs with a low endowed social status are able to create more value for their shareholders, there are several potential alternative explanations. First, there could be a systematic link between family wealth and the types of firms run by the CEOs.

To address such concern, I compare the profitability of firms run by the CEOs with high and low family wealth in the year before those CEOs joined their firms and do not find significant differences. However, it is also possible that the observed negative relation between a CEO's family wealth and firm performance arises because the CEO's place of residence is correlated with unobservable CEO characteristics (see, e.g., Jokela *et al.* (2014)). For example, CEOs who choose to live in relatively poor neighborhoods may be more entrepreneurial, risk-loving, open to new experiences, or very introverted, and these personality traits may be correlated with firm performance (Gow *et al.* (2015)). To alleviate this concern, I use an instrument for family wealth, which measures the per capita economic losses caused by natural disasters in the counties of CEOs' places of residence in their formative years. The identifying assumption is that natural hazards affect family wealth but are not fully anticipated by a CEO's family, and therefore are unlikely to be related to personal characteristics. As expected, the economic losses from natural disasters are significantly negatively correlated with the CEO's family wealth. Further, the negative relation between the CEO's family wealth and firm performance is robust when I use the instrument. This result is consistent with the view that the barriers to securing a CEO position are higher for less privileged candidates and that only the most talented individuals among them succeed. Further, I use the test proposed by Altonji *et al.* (2005) and developed by Oster (2017) to estimate the degree of omitted variable bias needed to explain the observed coefficients. I find that selection on unobservable variables has to be three to eighteen times as large as selection on observable variables in order to explain away the observed negative relation between CEOs' family wealth and firm performance. Given that my regressions already control for many determinants of firm performance, the selectivity bias is unlikely to affect the inference.

Another potential explanation for my results is that CEOs born into poor families do not have greater ability or effort, but instead pursue more risky investment strategies, take on more leverage, or are more aggressive in financial reporting. If risk-taking is positively correlated with firm performance, it could explain the observed negative relation between family wealth and performance. However, the conjecture that executives born into poor families take more risk is not supported by the data. Firms run by CEOs from poor families have similar leverage and a similar propensity to commit accounting fraud and to become a target of shareholder litigation as firms run by their peers from wealthy families.

In my final analysis, I examine why CEOs from wealthy families are selected by the board if they are, on average, underperform CEOs born into poor families. It is possible that board members are not able to gain a complete picture of a CEO's quality at the time he or she is selected and a better-connected candidate (i.e., an individual from a wealthy family) is more likely to be selected as a CEO because connections catalyze information flow. I find evidence consistent with this view. Underperforming CEOs from wealthy families are less likely to be selected by a board when there is more public information available about his or her past performance.

My study adds to a growing literature in corporate finance that emphasizes the influence of a CEO on firm performance and shows how managerial attributes and individual life experiences can have a large influence on firm decisions and outcomes (see, e.g., Bertrand and Schoar (2003); Bennedsen *et al.* (2007);Malmendier and Nagel (2011); Warner *et al.* (1989); Perez-Gonzalez (2006); Weisbach (1995)). I contribute to this literature by documenting that the endowed social status of a CEO is one important determinant of his or her on-job performance. My paper is also related to

the literature on the effect of family background on individual economic outcomes. For example, Chetty *et al.* (2014) find that a child's access to higher-quality primary school is associated with higher college attendance and later outcomes.

The work most closely related to my study is Chuprinin and Sosyura (2018), who use the 1940 Census data for individuals born before 1945 to analyze the relation between endowed family wealth and professional performance of mutual fund managers. Chuprinin and Sosyura (2018) find that mutual fund managers born into poor families deliver higher risk-adjusted returns than managers born into wealthy families. In contrast, my study focuses on CEOs of large public firms, who may need a different set of skills for success. In contrast to fund managers in financial firms who have the principal authority in managing fund's portfolio, CEOs from wealthy families may have an advantage in access to financial capital and benefit from the influence that stem from their political connections. Further, I show that CEOs from wealthy families perform better than their peers from less privileged families during periods of high economic policy uncertainty. The findings are consistent with the view that CEOs from wealthy families have better access to information and develop better connections, which could translate into better decision-making when their businesses face a large amount of uncertainty. Further, unlike Chuprinin and Sosyura (2018), my analysis is not restricted to individuals born prior to 1945, which may be important given the evidence of time trends in the correlation between wealth and access to education for general population.

The rest of the study is organized as follows. Chapter 2 discusses literature and motivates the link between CEO's endowed family background and firm outcomes. Chapter 3 describes data sources and sample construction. The main empirical anal-

ysis is presented in Chapter 4. CEOs' performance during periods of economic policy uncertainty is studied in Chapter 5. Alternative explanations are examined in Chapter 6. Chapter 7 discusses the mechanisms, Chapter 8 studies why underperforming CEOs from wealthy families are selected, and Chapter 9 concludes.

Chapter 2

MOTIVATION AND RELATED LITERATURE

My study lies at the intersection of the literature on economic inequality and the corporate literature on CEO characteristics and firm outcomes. With respect to the former, my focus is on a CEO's endowed family background and his or her opportunities in career advancement. With respect to the latter, my study relates to the large literature on CEOs' managerial ability and style.

In contributing to the literature on economic inequality, my results complement existing studies that explore whether endowed social status has long-lasting effects on the behavioral and economic outcomes of individuals. For example, Chetty *et al.* (2014) find that a child's access to higher-quality primary school is associated with higher college attendance and better later outcomes. Further, Black *et al.* (2005) and Bowles *et al.* (2005) argue that individuals are endowed with different opportunities at birth, and those born in poverty face limited access to receive good education and advance careers during their formative years. Several studies in psychology suggest that individuals from wealthy families are more likely to inherit wealth, to be members of prestigious clubs, and to belong to valuable social networks, which should make it easier to obtain employment conditional on having the same track record as candidates from less privileged backgrounds. For example, Domhoff *et al.* (2013) suggest that the unequal opportunities to receive elite education, to access to valuable social networks, and asymmetrical political influence present numerous barriers for individuals from lower social status to change the economic status. Further, Rivera (2016) provides evidence that individuals from upper-class have advantages in the

labor market. The experience of Howard Schultz, a CEO of Starbucks, and Frank C. Sullivan, a CEO and Chairman of RPM International Inc., help to illustrate these arguments. Schultz grew up in a relatively poor family; he was the first person in his family to go to college. Later he worked as a salesman and then joined Starbucks when it was a start-up. He thrived in the business by virtue of his talent and hard work and became the CEO of Starbucks at the age of 55. In comparison, Frank C. Sullivan had a privileged upbringing. At the age of 41 he succeeded his father as the third CEO of RPM International Inc., which was by then a $2 billion company.

In empirical methodology, my approach is similar to the literature that measures experience effects among individuals. Using data of Swedish twins, Cronqvist and Siegel (2015) find that socioeconomic status of an individual's parents is associated with his or her future savings behavior. Cronqvist *et al.* (2015) document that an individual's investment style has a biological basis. The idea that exposure to a particular experience has an effect on a CEO's managerial style and corporate policies is supported by a large number of studies in finance. This literature focuses on the correlation between CEOs' responses and shocks and find evidence of long-lasting effects of major negative shocks on executives' beliefs. For example, Malmendier *et al.* (2011) show that CEOs who grew up during the Great Depression are averse to debt and that military service is correlated with aggressiveness or risk-taking. Similarly, Schoar and Zuo (2017) use a time-series pattern to investigate the impact of entering the labor market in a recession on CEOs' management style. Dittmar and Duchin (2016) find that firms run by CEOs who experienced financial difficulties are more conservative and hold substantially more cash. Dessaint and Matray (2017) find that managers whose firms are located near a hurricane disaster area increase their corporate cash holdings. Based on a theory in social psychology, I hypothesize that the

socioeconomic environment in which a CEO grew up affects behavior, including his or her management style. However, what specific effects it has on a CEO's managerial style is an empirical question. On one hand, CEOs from poor families may be more conservative in making corporate decisions because they are more sensitized to risk. Alternatively, it is possible that poverty experienced in childhood increases a CEO's ability to deal with difficult situations and better adapt to a changing business environment. Such CEOs may develop a preference for more innovative projects and seek excitement and risk. Therefore it is not ex ante clear how a CEO's family background is associated with his or her managerial style. I don't find evidence of higher risk taking by CEOs from less privileged backgrounds. The results suggests that they are better able to preserve the firm's human capital during periods of financial distress and demonstrate greater ability to develop successful innovation.

My results also contribute to the literature that links CEO characteristics to firm outcomes. CEOs are arguably the single most influential individual in corporate decision-making process. For example, Mackey (2008) measures the percentage of the variance in firm performance explained by CEOs' heterogeneity and finds that the "CEO effect" is more important in explaining firm performance than industry and firm effects. Hambrick and Quigley (2014) use a refined methodology to measure the contribution of a CEO to firm performance and find that CEOs account for 35.5% of firm outcomes. These results imply that CEOs have a significant impact on firm performance. Indeed, CEO fixed effects explain a large part of the variation in corporate outcomes; see for example, Bertrand and Schoar (2003). While their results indicate the existence of a managerial "style" effect, they are silent on which specific executive characteristics are critical for firm policies and performance.

A growing literature seeks to identify the personal attributes of CEOs that are important determinants of firm performance. Several studies have examined CEOs' past experiences and credentials (Kaplan *et al.* (2012); Cai *et al.* (2015); Gow *et al.* (2015); Benmelech and Frydman (2015)). For example, Gow *et al.* (2015) find that a CEO's personality traits are associated with firm performance. Benmelech and Frydman (2015) study whether companies that have a CEO with a military background perform better. They find that CEOs with a military background are less likely to engage in fraudulent activity (perhaps because a military experience instills a greater sense of ethics) and that they perform better during times of industry distress. Most of these studies have focused on the role of CEOs' past experience, which is subject to selection issues. In contrast to previous work, I document how endowed family background is useful in identifying a CEO's managerial ability and style. Different from the literature studying how past experiences shape a CEO's managerial ability and behavior, my paper emphasizes the association between CEO characteristics and managerial performance based on selection.

Finally, this study adds to the discussion of the role of networks in business. Several studies suggest that individuals having higher social status are more likely to belong to resource- and opportunity-rich social networks (see, e.g., DiMaggio and Garip (2012); Burt (1997); Lin (2000)). Levine and Rubinstein (2017) find that most entrepreneurs have valuable connections that allow for access to financial stability. Hacker and Pierson (2010) indicate that higher social status is associated with greater political influence. Individuals from the wealthy families can use their wealth and social connections to influence policy. Some managerial literature focuses on the effect of social networks on corporate governance. Nguyen-Dang (2012) finds that CEOs with external connections through cross-directorships are less likely to be fired following

poor performance. Hwang and Kim (2009) analyze the effect of social connections on CEO compensation and find that CEO networks are a sign of bad governance. Social networks can be beneficial to firms because they facilitate information flow and political influence. Engelberg *et al.* (2012) demonstrate that firms with connections to banks enjoy reduced interest rate, which translates to better stock price performance. Borisov *et al.* (2016) find a positive relation between firm value and political influence. I complement their analysis of social networks in business by exploring the mechanism by which CEOs from wealthy families outperform their peers from less wealthy families during periods of high economic policy uncertainty. The empirical evidence is consistent with the view that CEOs from wealthy families are more likely to obtain valuable private information from their social connections, which could translate to better decision-making.

This paper is closely related to a study by Chuprinin and Sosyura (2018), who use 1940 Census data for individuals born before 1945 to analyze the relation between family wealth and professional performance of mutual fund managers. They find that mutual fund managers born into poor families deliver higher risk-adjusted returns than managers born into wealthy families. In contrast, my study focuses on CEOs of large public firms, who may need a different set of skills for success, such as the ability to manage large groups of people, communicate effectively, and obtain valuable information. CEOs from wealthy families may have an advantage in developing such skills, which add value to the firm. Further, I find that CEOs born into wealthy families perform better than their peers from less wealthy families during periods of high economic policy uncertainty. Environments perceived as highly uncertain are likely to be viewed as very risky. Decision-making under uncertainty requires information about the likelihood of alternative states, and how states and actions affect firm out-

comes (Boyd (1990)). My results are consistent with the argument that CEOs from wealthy families have better access to information and develop better connections, which could translate into better decision-making when economic policy uncertainty is high (see, e.g., DiMaggio and Garip (2012); Burt (1997); Lin (2000)). By exploring the wealth performance relation under different economic environments, I document that CEOs from wealthy families are valuable to firms during the periods of high uncertainty.

Chapter 3

DATA AND SAMPLE CONSTRUCTION

3.0.1 Sample Construction

I start with a sample of all S&P 1,500 firms covered by the Standard and Poor's ExecuComp database for the period from 2004 to 2009. I exclude all regulated firms (SIC codes 4900–4999) and firms that operate in the financial services industry (SIC codes 6000–6999). I then identify all executives who have the entry "CEO" in their "CEOANN" field and add those individuals who have "CEO" or "Chief Executive Officer" in their "Annual Title" field in ExecuComp.[1] All interim and acting CEOs, as well as CEOs whose tenure is less than three years, are removed from the sample.

Next, I use company CUSIP and ticker to establish a match between the initial sample of CEOs and the BoardEx database which contains detailed biographical information about executives. I screen these initial matches by requiring that executive names match in the two databases. From the BoardEx database I obtain the CEO's date of birth, employment history, connections, educational institutions attended, and degrees earned. When biographical data are not available in BoardEx, I use public sources, such as Wikipedia and NNDB.

Using the CEO's full legal name and age, I then merge with the Marquis Who's Who (R) Biographies on Lexis-Nexis database. The Lexis-Nexis database provides the individual's birth date and birth place. The output from the people search in

[1] I also manually examine other job titles for potential misclassification.

the database also typically includes a list of associated people, such as parents and spouse(s).

Finally, I search for the birth certificates and high school yearbooks of the CEOs through the interface provided by ancestry.com. I first collect a CEO's birth record by using his or her full legal name and date of birth. This process may sometimes generate multiple records for a search, especially for individuals with common first and last names (e.g., Richard Anderson, the CEO of Delta Airlines). In such cases, I also compare the state of birth and parents names listed on the birth certificate with those provided in the Lexis-Nexis Public Records database. This procedure leaves me with a sample of 601 unique CEOs of the 2,137 CEOs in the initial database.[2] I further exclude CEOs that were raised outside the United States. Overall, I am able to identify the birth records of 506 CEOs, and those CEOs constitute my main sample.

3.0.2 Family Wealth Estimate Based on the CEO's Place of Residence

I follow two steps to estimate a CEO's family wealth. First, I extract the CEO's record of high school yearbooks and establish a unique match by using the full name, as well as the year and place of birth. I am able to identify the high school name, location, and the year of graduation for 358 out of 506 CEOs in my sample. For these 358 CEOs, I then obtain the high school street address, zipcode, city name, and county name at the time of the CEO's graduation.[3] The CEO's family wealth

[2]The fraction of CEOs with available data is comparable to that reported in other similar studies. For example, Bernile *et al.* (2017), who examine the effect of CEOs' early life experiences on risk-taking behavior, are able to find the birth places of approximately 31% of the CEOs in their sample.

[3]Most of the CEOs in my sample attend high school when they were 12 to 18 years old. If a CEO attends a high school but does not obtain a high school diploma, I use the last known year of school attendance.

is estimated as the median household income in the neighborhood where the high school is located. This information is available through U.S. Census of Population and Housing at the Census Tract level, which is reported by the U.S. Census Bureau every ten years. The reports include important statistics, such as total population and household income, as well as various demographic and economic characteristics at the tract, city, county, and state levels. I estimate a CEO's family wealth at the time of the CEO's formative years using the median household income reported in the closest U.S. Census of Population and Housing file for census tract that the CEO's high school was located. For example, I match the location of the high school to the 1960 U.S. Census File if the CEO graduated from the high school between 1956 and 1965.[4]

Second, for 148 CEOs with missing high school yearbooks, I assume they continue to reside in their formative years in the same place they were born. This assumption is reasonable because for CEOs for whom I observe both locations (place of birth and location of high school), I find that the two locations coincide in 93% of cases. I then match the location of their birth place to the nearest U.S. Census of Population and Housing file following the same procedure as in the previous step.

3.0.3 Family Wealth Estimate Based on the 1940 Individual U.S. Census Report

To assess the accuracy of my estimates of family wealth, I cross check them with the measures of actual family wealth available for a subset of older CEOs from the 1940 U.S. Census file for individuals. I also repeat the empirical analysis using these alternative (higher precision) measures of family wealth.

[4]When census tract level household income data are not available, I substitute the city or county-level statistics.

The availability of the individual household income data is guided by the disclosure of individual census records.[5] I follow Chuprinin and Sosyura (2018) and match the CEOs with their family's record in the 1940 U.S. Census. This procedure necessarily limits the sample to individuals born prior to 1940, which yields an initial sample of 123 unique CEOs. I then exclude from this sample 15 CEOs who were born outside the United States because their families are not included in the U.S. Census. I further require a match by the CEO's parents, the CEO's date of birth, and the place of birth. These criteria generates a fairly good match because the census records identified in this process for each CEO are unique. In this way, I am able to identify family records for 108 CEOs. I then obtain from these records the information on the annual income of the CEO's father and mother, whether the family owned or rented home in 1940, the monthly rent (if rented), and the approximate house value (if owned). I define the household income as the sum of the father's and the mother's annual incomes reported in the family records.

3.0.4 Descriptive Statistics and Validity Tests

Table 1 reports the summary statistics for CEO and firm characteristics in my sample. The definitions of all variables are provided in Appendix C; the continuous variables are winsorized at the 1st and 99th percentiles of the distribution. The average *family wealth* is \$3,066 (in 1940 dollars), and the median is \$2,590. The family wealth estimates based on the 1940 Individual U.S. Census data are similar in magnitude, but are highly skewed. The mean and median *family wealth 1940* are \$2,336 and \$1,944, respectively. These summary statistics are comparable to the estimates

[5]The individual decennial census records can not be released until 72 years after when they were collected and the 1940 U.S. Census is the most recent available record.

by Chuprinin and Sosyura (2018), who use a similar procedure and report the average (median) annual income for the mutual fund managers' fathers of $2,273 ($2,000) in 1940. In Appendix D, I also show that estimated *family wealth* is positively and significantly correlated with *family wealth 1940* available through the individual U.S. Census. Further, *family wealth* is positively correlated with several measures of educational attainment. The spatial distribution of CEOs' family wealth is also plotted in Figure 1.

The average CEO in my sample is 57 years old, and only 3.5% of CEOs are female. Approximately 11% of CEOs attended private high schools, 93% hold a college degree, 29% attended an Ivy League school, 32% have an MBA degree, and 8% have a doctorate degree.The firms in my sample are large, profitable, and mature (see Panel B). For example, the average firm is 26 years old, has $ 11,253 million in annual sales and more than 30,000 employees, and has an ROA of 0.15.

In Table 2, I compare the means of all variables for CEO characteristics with high and low family wealth. Overall, CEOs raised in wealthy families tend to be younger and are more likely to have attended a private high school and an Ivy League school. Interestingly, female CEOs are also more likely to come from wealthy families, perhaps because the barriers to entry to prestigious positions, such as CEOs of S&P 1,500 firms, are particularly high for females during this time period.

In my main analysis, I estimate a CEO's family wealth as the median household income in the neighborhood of the CEO's place of residence in his or her formative years. This estimation is imperfect and does not give me a direct measure of CEOs' endowed family wealth. I attempt to validate this measure (*family wealth*) in several

ways. First, I verify that it is positively and significantly correlated with the measure of CEO family income obtained from the 1940 U.S. Census report (*family wealth 1940*). For example, Table A1 in Appendix D shows that the correlation between the two measures is 0.33, and it is significantly different from zero at conventional levels. Second, *family wealth* is positively correlated with CEOs' education. CEOs with high *family wealth* are more likely to attend private high schools, obtain a BA degree and attend an Ivy League school. All of these correlations suggest that *family wealth* is a reasonable measure of CEO endowed social status, and that low *family wealth* is likely to proxy for barriers to entry to prestigious jobs.

Third, I plot the spatial distribution of CEOs' family wealth in the Unites States (see Figure 1). CEOs with family wealth above the annual median are indicated with red dots in the figure, and those with family wealth below the annual median are indicated with blue stars. Chetty *et al.* (2014) argue that geography matters for intergenerational mobility in the United States and show that it is less likely for individuals to climb the income ladder in the Southeast and Midwest of the United states. However, the intergenerational mobility tends to be high among the Northeast and West, such as New York, Boston, California and Seattle. It can be seen from Figure 1 that more CEOs in my sample grew up in the East of the United States. CEOs from wealthy families are more likely to be from the northeast area, e.g., New York, New Jersey, and Pennsylvania, whereas the distribution of CEOs from poor families is more evenly dispersed across the country. CEOs from poor families tend to grow up in areas with few opportunities and low mobility, and they are at a disadvantage to obtain prestigious education and connect with influential people.

Fourth, I collect the CEOs' employment history from different sources, includ-

ing the LinkedIn, Bloomberg, Forbes, and BoardEx databases. I obtain information about the different companies in which a manager worked over his or her career, the position(s) held in each firm, and the dates of employment. If my measure of family wealth indeed proxies well for the endowed social status of a CEO, I should expect the CEO's family wealth to be correlated with measures of barriers to entry to prestigious careers. For example, CEOs from wealthy families may be more likely to inherit greater wealth, be members of prestigious clubs, and belong to the social networks of their parents, and thus more likely to start their professional careers earlier. The analysis of CEOs' career paths and social networks generally supports this conjecture (see Panel B of Table 2). On average, the CEO from a wealthy family starts his or her first job at the age of 26, whereas the CEO from a poor family starts at the age of 27. I find that the age gap between CEOs from wealthy and poor backgrounds becomes bigger as the positions become more prestigious. For example, individuals with high family wealth become CEOs when they are 47 years of age, as compared with 53 for individuals with low family wealth.

A similar picture emerges when I look at the CEOs connections to firm directors. Individuals from wealthier families are more likely to develop valuable connections, which could make it easier for them to obtain employment conditional on having the same track record as candidates from less privileged families. I construct several proxies of network connections between directors and the CEO: (1) prior employment–i.e., directors and CEOs have overlapping prior employment in the same company; (2) education–i.e., directors and CEOs are alumni of the same school and graduated within one year of each other; and (3) social activities–i.e., connections between directors and the CEO through shared membership in other organizations with active participation in the organization. I sum the number of connections between directors and

the CEO and calculate the percentage of directors who are connected to the CEO for each fiscal year in my sample. The results are reported in Panel C of Table 2. CEOs from poor families are more likely to have worked with the directors of their firms in the past, which may indicate that they are more likely to get promoted from inside the firm rather than be hired in the capacity of CEO from outside. In contrast, CEOs from wealthy families are more likely to be connected to firm directors through prior education and social activities.

Chapter 4

FAMILY WEALTH AND FIRM PERFORMANCE

4.0.1 Main Results

I analyze whether a CEO's endowed family wealth is related to his or her ability to create value for shareholders. I estimate this relation via panel OLS regressions. All specifications include industry and year fixed effects to control for unobserved heterogeneity across industries and time. Specifically, I estimate the following model

$$y_{i,t} = \mu_t + \gamma_k + \beta * \textit{family wealth}_j + \delta * X_{j,t} + \theta * Z_{i,t} + \epsilon_{i,t}, \tag{4.1}$$

where index t refers to time, i to firms, j to CEOs, and k to industries (defined by two-digit SIC codes). Variable $y_{i,t}$ is the measure of a firm's performance, *family wealth*$_j$ is the measure of the CEO's family wealth in his or her formative years, $X_{j,t}$ is a vector of personal CEO characteristics, such as female indicator, prior industry experience, prior CEO experience, BA degree, MBA degree, and PhD degree, and $Z_{i,t}$ is a vector of firm characteristics that includes firm size, market-to-book ratio, leverage, firm age, R&D expenses, capital expenditures, and firm governance variables (CEO-chair, board size, and board independence). The definitions of all variables are provided in Appendix C. In all specifications, the standard errors are clustered by the firm.[1]

Following the extensive corporate literature, I use the operating return on assets (ROA) as my main measure of firm performance. This variable is calculated as the

[1]My results are robust if instead I cluster the standard errors by the executive.

ratio of operating income to the book value of assets. One advantage of using ROA is that it captures the current profitability of the firm, but is not affected by the firm's capital structure decisions (Denis and Denis (1995); Hochberg and Lindsey (2010)). As additional measures of firm performance, I use asset turnover, calculated as the firm's sales divided by the book value of assets (Schoar and Zuo (2017)), stock return, and the number and quality of M&A deals announced during the CEO's tenure in office (Malmendier and Tate (2008)).

Table 3 shows the results of the estimation using ROA. As controls, I first include only firm characteristics, then add CEO characteristics, and finally add corporate governance variables. Most control variables enter with expected signs. For example, larger firms, firms with low leverage, and firms with high capital expenditures are more profitable. In contrast, firms that do R&D have lower profitability, perhaps because the research and development costs have to be expensed in the current period under the U.S. accounting rules, while they may represent the firm's investment for the long term. In my sample, CEOs born into poor families are older than CEOs from wealthy families. It is possible that CEOs from poor families have better performance because they are more experienced than their peers from wealthy families. I, therefore, control for the CEO's past work experience in the same industry (two-digit SIC code) and his or her past CEO experience. Most CEO and firm governance characteristics are not significantly related to firm performance.

Both measures of a CEO's endowed social status, *family wealth* and *high family wealth*, are negatively related to the operating return on assets, with the coefficients being statistically different from zero. The results also appear to be economically important. For example, the coefficient on family wealth of -0.022 in the first spec-

ification implies that a one standard deviation increase in family wealth translates into a 0.009 decrease in the firm's ROA, which corresponds to a 6.0% decline relative to the mean ROA of 0.15. The estimation with a *high family wealth* indicator yields similar results. Overall, my results suggest that CEOs from wealthy families underperform those from poor families. Further, I construct an alternative measure of family wealth which is estimated as the median household income reported in the closest U.S. Census of Population and Housing file for the city that the CEO's high school was located. In Table A3, I find that the estimate of a CEO's family wealth is strongly negatively associated with firm performance. The coefficients on family wealth remain statistically significant at the conventional level, and the magnitudes are similar to those in Table 3 across all specifications.

While certainly suggestive, this evidence is insufficient to draw a causal conclusion. In fact, several alternative explanations for the existence of a relation between CEO's measured family wealth and firm performance are possible. First, it could be that CEOs from families with different social status join different types of firms (selection on observable and unobservable variables). Alternatively, some omitted variables (e.g., CEO characteristics) could drive firm performance and be correlated with the CEOs' family wealth. Second, it could be that the measurement error in my explanatory variable affects the inference. Third, it is possible that CEOs endowed with different social status do not have different ability or exert different amount of effort, but rather they have different styles. For example, the negative relation between CEO's family wealth and firm performance could arise if CEOs from poor families systematically choose more risky financing policies and investment strategies (that tend to be more profitable), or if they are more aggressive in financial reporting. I address these and other related issues in Chapter 6 and Chapter 7. In the next

section, I discuss the measurement error in my variable and also present results that rely on a more precise measure of family wealth.

4.0.2 Empirical Analysis Based on the 1940 U.S. Census Income Data

In this section, I address a potential concern that a CEO's family wealth based on the place of residence is measured with error. If the true measure of family wealth is uncorrelated with the regression residual, then the estimated coefficient on the noisy proxy of family wealth that I observe will be attenuated. Therefore, I will tend to underestimate the effect of family wealth on firm performance. To examine this issue more directly, I analyze a smaller sample of 108 CEOs born before 1940 for whom a highly reliable measure of family wealth is available through the 1940 Individual U.S. Census. If indeed my results are affected by the measurement error in family wealth, I should expect to see a more pronounced relation between a highly precise measure of a CEO's family wealth and firm performance.

Table 4 shows the results of the estimation in this limited sample. Notably, the negative relation between a CEO's family wealth and the firm's ROA is observed in all specifications. The point estimates are very similar to those reported in Table 3. For example, the point estimate of -0.027 in column 1 of Table 4 can be compared to -0.022 in the corresponding column 1 of Table 3. However, the economic magnitude increases. Overall, these results suggest that while measurement error may cause me to underestimate the true magnitude of the effect, it is unlikely to affect my results to a large extent.

4.0.3 Alternative Measures of Firm Performance

In this subsection, I consider some alternative measures of firm performance. In the original tests, I focus on the operating ROA, which is less subject to accounting manipulation. The results remain almost identical if I repeat my earlier tests using an alternative measure of ROA defined as earnings before interest, tax, depreciation and amortization scaled by total assets.

Next, I estimate a firm's performance on generating revenues; I use asset turnover as the measure of the firm's efficiency in deploying its assets to generate revenue. The results for this measure are reported in Table 5 and confirm the negative relation between a CEO's endowed family wealth and firm performance. Following Livnat and Mendenhall (2006), I also use the standardized earnings growth as the measure of firm performance. Earnings surprise is calculated from the Compustat database and is defined as earnings per share before extraordinary items minus adjusted earnings per share in the last period, scaled by the price per share. The empirical results suggest a negative relation between the family wealth and earnings surprise. I next measure firm performance using stock market performance–relative stock return which measures the firm's abnormal return over the industry benchmark. Jenter and Kanaan (2015) find that a large part of the variation in firm performance is explained by factors beyond the CEO's control. Their study suggests that a better measure of firm performance (or CEO quality) should be the firm-specific component of firm performance only. Following their methodology, I decompose firms' stock market performance into a peer-firm performance component and a firm-specific component. Peer-firm performance is defined as the value-weighted stock return for firms in the same two-digit SIC category. The sample firm is excluded from its own industry

benchmark. The firm-specific component of stock market performance is the residual value estimated from regressing the firm's gross return on the peer firms' return. The results presented in Table 5 show a negative relation between a CEO's family wealth and the firm's stock market performance. The evidence supports the argument that the high performance of CEOs from poor families is not attributable to industry shock or pure "luck".

In addition, I study the CEOs' performance on investment activities–i.e., mergers and acquisitions. Mergers and acquisitions are a good setting in which to examine a CEO's ability to identify and negotiate good deals. To conduct these tests, I identify merger deals announced between 1992 and 2015 in which the target is a publicly listed firm in the United States. I exclude spin-offs, buybacks, self-tenders, exchange offers, and repurchases. My sample ends up with 1,319 merger announcements. I next estimate several regressions in order to study whether the CEO's family wealth has an impact on firm acquisition activities and performance. Industry and year fixed effects are included in all models. Standard errors are clustered at the acquiring firm level. The results are presented in Table 6.

Columns 1 through 4 display the model estimation for the relation between a CEO's family wealth and the number of announced acquisitions. Across all four specifications, the effect of a CEO's endowed family wealth on firm acquisition activities is statistically significant. Specifically, in model 4, the estimates imply that CEOs born into wealthy families tend to make 0.06 more M&A deals that their peers from poor families. Next I examine how the market reacts to the announcements of deals. The dependent variable is the announcement CAR, calculated over the trading days (-1,+1) around the deal announcement date using the market model.

The OLS regression estimates for the relation between a CEO's family wealth and acquisition announcement CAR are reported in columns 5 to 8. I also include a vector control variable that measures factors affecting the merger outcomes such as the natural logarithm of deal size, the target firm's market-to-book ratio, cash merger, friendly merger, tender offer, and diversifying merger (for brevity, these estimates are not shown here). The evidence in column 8 indicates that the market reacts more favorably to the deals announced by acquirers whose CEOs are from less privileged families. Such deals earn 1.4% higher announcement returns.

The lower returns associated with CEOs endowed with high social status may be due to their lack of expertise in target-specific business and it is hard for them to realize synergistic gains when venturing into diversified acquisitions. Indeed, I find a positive correlation between *high family wealth* and the diversifying merger indicator. Moreover, in diversifying mergers, the merger announcements by acquirers with CEOs who were born into wealthy families earn significantly lower announcement CAR; in non-diversifying deals, however, the earnings of CEOs from wealthy families are not significantly different from those of their peers from poor families.

4.0.4 Heterogeneous Effects

To further exploit the effects of wealth on performance, I consider whether the relation between a CEO's family wealth and firm performance varies in different environments.

I examine heterogeneity with respect to several firm characteristics by introducing a few interaction terms to the main analysis. Columns 1 to 5 of Table 7 present the results of heterogeneous effects of a CEO's family wealth on firm performance.

The wealth-performance relation is stronger for diversified firms and firms with more growth options. In columns 1 and 2, the coefficients of interaction terms suggest that the effect of family wealth on performance is stronger in firms with high R&D expenses and market-to-book. The interaction term coefficient in column 3 is significant at 5% and increases the unconditional effect more than threefold. The results are consistent with the argument that diversified and high-growth firms are likely to require a higher level of CEO-specific human capital and that a CEO's talent is more valuable in these types of firms.

Following the methods developed by Hambrick (1995) and Adams *et al.* (2005), I compute the rating of managerial discretion for the selected industries (two-digit SIC code industry) and further define a variable (*High discretion industry*) which takes the value of one if the firm operates in an industry in the top 40% of the distribution of the score of managerial discretion and equals to 0 if the firm belongs to an industry in the bottom 40% of the same distribution. [2] Model 4 of Table 7 reports the results of interacting High-discretion industry with the measure of a CEO's family wealth. SIC industry dummies are omitted from the regressions to avoid the possible multicollinearity with the industry ratings. Consistent with the idea that the wealth effect is stronger in industries where the CEO is more influential and their human capital is more valuable, I find a negative and significant coefficient on the interaction term. Moreover, the negative relation between a CEO's family wealth and firm performance is weaker in firms with a larger board, perhaps because the involvement of many executives in the decision-making process in these organizations dilutes the CEO's influence on firm strategy and performance.

[2]Following prior literature, I eliminate the firms in industries that rank from the 40th to the 60th percentile of the distribution, because of the potential measurement error in managerial discretion in such industries.

Chapter 5

PERFORMANCE DURING PERIODS OF POLICY UNCERTAINTY

Individuals born into wealthy families are more likely to be members of prestigious clubs and to belong to the social networks of their parents. These connections should make it easier for them to obtain employment conditional on having the same track record as candidates from less privileged backgrounds (see Rivera and Tilcsik (2016); Rivera (2016)). Social ties between CEOs and board of directors of a firm can result in agency conflicts and therefore be detrimental (Fracassi and Tate (2012); Hwang and Kim (2009); Nguyen-Dang (2012)). However, social networks can be beneficial to firms if they facilitate information exchange and political influence: for example, contacts that can be sources of useful business relationships (e.g., clients, suppliers) or sources of other economic benefits and resource exchange (e.g., personal and political favors). Several studies in psychology suggest that people from wealthy families tend to develop valuable connections (see, e.g., DiMaggio and Garip (2012); Burt (1997); Lin (2000)). Access to valuable social networks may benefit individuals who become influential corporate decision-makers.

Engelberg *et al.* (2012) demonstrate that firms with connections to capital suppliers enjoy more favorable lending terms, improved credit ratings, and better stock price performance. Boyd (1990) finds that among firms facing an uncertain business environment, firms with more connections tend to perform better in terms of sales improvements and return on equity. Decision-making under uncertainty requires information about the likelihood of alternative states, and how states and actions combine to affect firm outcomes. CEOs from wealthy families are more likely to obtain

valuable information from their social connections, which could translate into better decision-making when a business is operating in an uncertain environment. To evaluate this conjecture, I test whether there are differential effects on firm outcomes during periods of economic policy uncertainty by CEO type.

My measure of economic policy uncertainty is the monthly index developed by Baker *et al.* (2016) (BBD). The index is constructed as a weighted average of four different components. The main component is derived from news discussing policy-related uncertainty. The other three components capture tax policy uncertainty, uncertainty about fiscal policy and uncertainty about future government spending. The weights assigned to these components are 1/2, 1/6, 1/6, and 1/6 respectively. I further annualized this index by taking the average of the monthly values within each year. For example, for every firm i in year t, the annual policy uncertainty index is defined as average of the monthly values of the index in the firm's fiscal year ending in *t-1*.

In Table 8, I refine the analysis by interacting the estimate of a CEO's family wealth with an indicator variable for whether the firm faces a more uncertain business environment during the year. I classify the firm as operating under high policy uncertainty when it is in the top 25% of the distribution of the BBD index for the reporting periods. As Table 8 shows, the measure of *high policy uncertainty* is associated with lower firm performance, but it is not statistically significant. Based on the estimates in column 1, I find that the coefficient on the interaction term between *family wealth* and *high policy uncertainty* is positive and significant, implying that the negative wealth effect is weaker when firms face high policy uncertainty. In addition, I find that the linear combination of the coefficient on *family wealth* and the inter-

action term is -0.005, suggesting that a CEO's endowed family wealth is negatively associated with firm performance. Indeed, when I control for CEO characteristics and board characteristics the linear combination of the coefficient on *family wealth* and the interaction between *family wealth* and *high policy uncertainty* is positive, implying that CEOs' family wealth is positively associated with firm performance when firms face a more uncertain environment. The finding of better performance by CEOs from wealthy families stands when I control for board characteristics.

5.0.1 Constrained Firms vs. Unconstrained Firms

I further explore the mechanism by which CEOs from wealthy families outperform their peers from less wealthy families during periods of economic policy uncertainty. Several papers (e.g., Gilchrist *et al.* (2014); Arellano *et al.* (2010); Pastor and Veronesi (2012)) have argued that policy uncertainty can cause credit markets to tighten and increase the cost of external financing. Firms that are more financially constrained more likely to forgo profitable investment projects when external financing becomes more costly. CEOs from wealthy families are more likely to get a lower cost of debt for firms to finance corporate investment from their social contacts (Engelberg *et al.* (2012)). Hence, I expect the differential effects on firm outcomes during period of high policy uncertainty by CEO type to vary with a firm's financial constraint status. To test this conjecture, I split the sample of firms in two based on the firms' financial constraint status, which is measured using the index developed by Hadlock and Pierce (2010). The model in column 4 includes firms in the top 25% of the distribution of the Hadlock and Pierce (2010) index; the model in column 5 includes other firms in the sample. Based on the estimates in column 4, I find that the coefficient on the interaction term between *family wealth* and *high policy uncertainty* is positive and significant and the linear combination of the coefficient on *family wealth* and

the interaction term is 0.022. Column 5 reports the same analysis for unconstrained firms. The coefficient on the interaction term between *family wealth* and *high policy uncertainty* is positive but statically insignificant. The estimation results suggest that CEOs' endowed family wealth is positively associated with firm performance during periods of high policy uncertainty, and the effect is stronger for financially constrained firms.

5.0.2 Policy-Sensitive Firms vs. Policy-Neutral Firms

A large literature in corporate finance studies the effects of economic policy uncertainty on firm outcomes (Durnev (2010); Gulen and Ion (2016); Jens (2017)). Akey and Lewellen (2017) further examine how sensitivity to policy uncertainty affects performance within the cross-section of firms. They classify firms into two categories: firms that are highly sensitive to policy uncertainty and firms that are less sensitive to policy uncertainty. Their empirical evidence suggests that policy sensitive firms respond more strongly to the resolution of economic policy uncertainty than policy neutral firms.

A firm more sensitive to economic policy uncertainty should place a higher value on the influence or informational advantages that may stem from having connections to government policy-makers. Evidence from several studies suggests that high social status is associated with greater political influence. Individuals from the wealthy families are more likely to influence policy by using their wealth and social networks (Hacker and Pierson (2010); Gilens and Page (2014)). I therefore hypothesize that CEOs from wealthy families have an information advantage over their peers from less privileged families during periods of economic policy uncertainty among firms highly sensitive to political policy.

I first identify policy-sensitive firms. I define an indicator variable with a value of one for firms that operate in industries with high lobbying expenditures. An industry is classified as policy sensitive if it is among the top 20 industries with the highest lobbying expenses, as ranked by the Center for Responsive Politics from 1998 based on data from the Senate Office of Public Records. I next examine CEOs performance during periods of economic policy uncertainty within the cross-section of firms. Columns 6 and 7 of Table 8 report the results. Consistent with the view that CEOs from wealthy families benefit from the influence and informational advantages that stem from their political connections, I observe a positive relation between CEOs endowed family wealth and firm performance during periods of economic policy uncertainty in firms that belong to most policy-sensitive industries.

My results in this chapter suggest that, on average, a CEO's endowed family wealth is negatively associated with firm performance. However, CEOs from wealthy families perform better than their peers from less privileged families during periods of high policy uncertainty. The result is consistent with the view that CEOs from wealthy families have advantages in access to valuable information, which could translate to better decision-making.

Chapter 6

ALTERNATIVE EXPLANATIONS

6.0.1 Omitted Variables

In this section, I investigate the validity of alternative explanations and the robustness of the empirical results to omitted variables. One concern is the potential systematic link between U.S. regions and CEO's performance. For example, certain regions of the country have better economic growth or public education, this could be associated with the CEO's managerial ability. A related concern is that, the cost of living in the U.S. can vary drastically from state to state. The barriers to securing a prestigious job for individuals is linked to his or her relative wealth in formative years. In my tests, I address these concerns by including in all models fixed effects for the CEO's state of residence during formative years, which absorb state-level time-invariant factors. The evidence in Table A5 in Appendix D indicates that CEO's endowed family wealth is negatively associated with firm performance.

Another concern is the potential systematic link between family wealth and the type of firm. Specifically, the observed firm performance might be attributed to the allocation of CEOs to specific firms. To better investigate the link between CEOs' family wealth and firm performance, I examine firm characteristics around CEO turnover events for both types of CEOs. I follow the CEO turnover literature (e.g. Denis and Denis (1995); Huson *et al.* (2004); Bennedsen *et al.* (2007)) to identify CEO turnover events. For each firm in year t, if the CEO does not hold the CEO title in year *t-1*, I record a turnover event for that firm in year *t*. I exclude turnovers

related to special corporate events, such as merger and acquisitions or spin offs. In Table A6 of Appendix D, I report the firm characteristics at year t-1 for CEOs with high family wealth and those with low family wealth for 331 CEO turnover events in my sample. CEOs with high family wealth tend to join firms with high market to book ratio and R&D expense, and low leverage. However, the mean differences in firm size, profitability, and capital expenditures are not statistically significant. The evidence supports the view that the two types of CEOs are allocated to observably similar firms and the firm characteristics are unlikely to explain the performance differential.

The other concern is the omitted variables that could drive firm performance and be correlated with the CEO's family wealth. For example, individuals from wealthier families may genetically inherit certain skills from their parents, have better connections and access to resources. However, all these effects would favor a positive relationship between the endowed family wealth and performance and they are unlikely to explain the results. To further alleviate potential concerns that unobservable omitted variables drive my results, I follow the method developed by Altonji *et al.* (2005) and Oster (2017) to evaluate the selectivity bias. Oster (2017) shows that the omitted variable bias can be evaluated by examining coefficient stability and the movements in R-squared with the inclusion of more control variables. She calculates a metric for the selection on unobservables, δ, such that $\delta > 1$ indicates that the bias arising from the selection on unobservables cannot explain away the coefficient of interest to zero. I use her developed estimator under the assumption of $R_{max} = 1$ and $R_{max} = 1.3\widetilde{R}$, where $\widetilde{R}$ is the observed R-squared in the regression model. The results for each model estimated in this section are shown in Table 9. For example, column 1 suggests that in model 3 of Table 3, selection on unobservables would need

to be 18.7 times as strong as selection on observables to account for the observed negative relation between CEO's family wealth and firm performance. δ in all specifications is greater than one, which is the bound value suggested by Oster (2017). The results following this procedure indicate that any remaining omitted variables bias in my model is relatively small, and the estimation satisfies the standard for robustness proposed by Oster (2017).

6.0.2 Instrumental Variable Estimation

Recent studies in geographic psychology demonstrate variation in commonly observed personal traits of people living in different regions. For example, Jokela *et al.* (2014) map the Big Five personality traits (extroversion, neuroticism, openness to experience, agreeableness, and conscientiousness) of 216 London neighborhoods; they find that people high in openness to experiences tend to live in the city center and that residents of East Ham and Hanwell are introverted. Further, Gow *et al.* (2015) measure the personality of CEOs and find positive associations between introversion and disagreeableness and operating performance, and between introversion and growth. Therefore, if a CEO's place of residence during the formative years proxies for some unobservable CEO characteristics that drive firm performance, the OLS estimates will be inconsistent and the wealth effect will be overstated.

To understand whether an omitted variable that is correlated with the estimate of CEO family wealth drives my results, I use an instrumental variables approach to examine whether CEOs with low family wealth are able to perform better in the firm. An ideal instrumental variable would be strongly correlated with the estimate of CEO family wealth but unrelated to his or her ability. I use the per capita economic loss caused by fatalities in the county where a CEO resided during his or her formative

years. Intuitively, the per capita economic damage in one county is negative correlated with the CEO's family wealth, which is estimated from the median household income in the neighborhood. However, the ability of a CEO appears to be uncorrelated with his or her disaster experience, suggesting that the economic loss caused by a natural disaster might be a valid instrumental variable. Most events in a natural disaster affect wealth, including some relatively common events such as windstorms, thunderstorms, and floods, and some less common but more damaging events such as earthquakes, hurricanes, tornadoes, and fires. I focus on less frequent events such as earthquakes, fires, and hurricanes because they are less likely to be anticipated and they tend to have large economic damages. I use the natural logarithm of the estimated per capita dollar economic losses related to natural disaster events in 2015 dollars as the instrumental variable for my analysis. My data source of natural disaster events is from the United States Spatial Hazard Events and Losses Database (SHELDUS), which includes the date, location and relevant economic loss, recorded at the county level from 1960 to 2010.

Using the disaster events database, I calculate the total per capita economic loss related to crop and property damage from the natural disaster for each county-year. Next, I match the disaster events with the U.S. Census of Population and Housing file, from which I obtain the estimate of CEO family wealth. For example, the county-level economic loss caused by natural disasters between 1971 and 1980 is matched to the county-level median household income from the U.S. Census of Population and Housing in 1980.

My model is estimated by the two-stage least squares (2SLS). The results are presented in Table 10. Columns 1 and 2 present the estimates of the first- and second-

stage regressions and include year and industry fixed effects (2-digit SIC code) and all control variables from model 1 in Table 3. The estimation in columns 3-4 (5-6) includes year and industry fixed effects and all control variables from model 2 (model 3) in Table 3. In the first stage, I see that the per capita economic damage caused by natural hazard is negatively correlated with the estimate of CEO family wealth, as suggested by the high t-statistics, R-squared, and F-statistics of weak identification test. In the second stage, I observe a negative and statistically significant relation between the exogenous variation in a CEO's family wealth and firm performance. The results are similar using different sets of control variables. Overall, my results do not support the view that CEO family wealth proxies for some unobservable firm or CEO characteristics. Instead, the negative relation between CEOs' family wealth and firm performance is more consistent with the story that the barriers to a CEO position are higher for less privileged candidates and that only the most talented individuals succeed.

Overall, my results do not support the view that CEO's family wealth proxy for some unobservable firm or CEO characteristics. Instead, the negative relation between CEO's family wealth and firm performance is more consistent with the story that the barrier to CEO position is particularly higher for less privileged candidates and only the most talented individual can succeed.

Chapter 7

MECHANISMS

I next consider potential channels through which CEOs can affect firm performance. I explore the impact that endowed family wealth can have on the management style of executives when they become CEOs later in life. Prior research shows that CEOs' management style explains a large part of the variation in firm outcomes (Bertrand and Schoar (2003); Malmendier and Tate (2008)). I first examine whether CEOs family background is associated with his or her risk-taking behavior. A potential explanation for the observed wealth effect on firm performance is that CEOs born into poor families do not have greater ability or effort, but instead pursue more risky investment strategies, take on more leverage, or are more aggressive in financial reporting. If risk-taking is positively correlated with firm performance, it could explain the observed negative relation between family wealth and performance. It is also possible that CEOs born into poor families may be more conservative in making corporate decisions because they are more sensitized to the risk. Thus it is not clear how family background affects individual decision-making later in life.

Following the literature on CEO styles, I match the CEO's family wealth to the annual firm data for the time that the CEO was at the helm. I focus on the corporate outcomes related to financial policies, as well as equity risk, shareholder litigation, and earnings restatement. I regress firm outcomes on the CEO's family wealth to test whether decisions vary systematically. The results from these tests are presented in Table 11. The correlation between family wealth and leverage is not significant. In addition, I find that CEOs from less wealthy families are associated with significantly

lower annualized stock return volatility and idiosyncratic stock volatility than their peers born into wealthy families. Columns 4 and 5 report linear probability model regression estimates for the relation between CEO family wealth estimates and the propensity the CEO's firm to become a target of shareholder litigation and to revise financial statements. The firms with CEOs from poor families are not different from CEOs from wealthy families in issuing earnings restatements or becoming a target of shareholder litigation. The results are not supportive of the risk-taking hypothesis. CEOs from less privileged social status do not have a higher tendency to engage in risky business practices. Further, I plot the firm characteristics around CEO turnover (see Figure 2).[1] CEOs with family wealth above the annual median are indicated by gray lines in the figure, and those with family wealth below the annual median are indicated by blue lines. Year 0 refers to the year of a new CEO's appointment. Figure 2 shows that CEOs from poor families tend to join highly leveraged firms, but firm leverage decreases over the CEO's tenure. The stock return volatility and idiosyncratic stock return volatility of firms with CEOs from poor families are lower than in firms with CEOs from wealthy families. In addition, firms with CEOs from poor families issue earnings restatements less frequently than firms with CEOs from wealthy families. Firm characteristics around CEO turnover presented in Figure 2 are consistent with the regression analysis reported in Table 11. Both suggest that CEOs from lower social status do not have a higher tendency to engage in risky business practices.

Table 12 focuses on firms' innovation and employee job security. I use patent counts and citations as my main measures of innovation. My sample of U.S. patents comes from Kogan *et al.* (2017) and consists of all utility patents issued by the U.S.

[1]The definitions of firm leverage, stock return volatility and idiosyncratic stock return volatility are presented in Appendix C. In each year, the shareholder class action lawsuits is defined as the average of lawsuits in past three years. Earnings restatement is defined in the same way.

Patent and Trademark Office for the period 1926 to 2010. The first measure of innovation is the number of patent applied for by a firm in a given year. The second measure of innovation is the total number of citations to the patents that a firm applied for in a given year. Following Acemoglu *et al.* (2014), I end the sample period in 2006 to address the time truncation problem of patent citations since patents filed in a later time period naturally have fewer citations. Columns 1-4 examine the relation between filed patents and citations and the family wealth of the CEO. I add interaction terms between R&D expenses and CEO family wealth estimates. The coefficients on the interaction terms are negative and statistically significant, suggesting that firms operated by CEOs from less wealthy families are able to develop more patentable innovations with a one standard deviation increase in R&D expenditure. The estimations suggest that a CEO's family wealth is associated with his or her ability to produce innovation, which is consistent with the result that the negative relation between CEOs' family wealth and managerial performance is stronger for R&D-intensive firms.

Next I investigate whether CEOs' family background affects how they treat employees. Edmans (2011) documents that firms that treat their employees better, as measured by the inclusion of a firm in *"The 100 Best Places to Work For"* list, earn higher risk-adjusted returns. Moreover, Bernstein *et al.* (2017) present evidence that a negative shock to individual employees has a significant negative impact on firm innovation. Therefore I study the relation between a CEO's family wealth and employee turnover during times of distress. I construct a hiring rate variable for each firm as $\frac{Employee(t)-Employee(t-1)}{Employee(t-1)}$ following Bazdresch *et al.* (2014). Employee turnover is coded as zero if the hiring rate is positive, and it takes the absolute value of the hiring rate otherwise. I introduce an interaction between ROA(t-1) and the CEO's family wealth

in the estimation regression and present the results in columns 5 and 6 of Table 12. CEOs from poor families are more likely to keep their employees than their peers from wealthy families. They do not lay off as many people when the firm's financial health deteriorates. Greater employee job security is conducive to a corporate culture of integrity, and it motivates employees to invest more in firm-specific human capital and take on more innovative projects, which is beneficial to firm shareholders.

Taken together, the results suggest that firms with CEOs from less privileged backgrounds are more likely to produce innovation. These CEOs are better at making decisions under pressure and offer higher job security for employees, which is viewed as intensifying a firm's competitiveness by motivating employees and lowering production costs.

Chapter 8

ANALYSIS OF CEO SELECTION

If a CEO's family wealth signals his or her managerial ability, does the board of directors observe this signal and use it when selecting a CEO? Why do boards select CEOs from wealthy families if they, on average, underperform CEOs born into poor families? To shed light on this question I start by investigating the factors that affect a firm's decision to hire a CEO. Empirical studies such as those by Parrino (1997) and Heckman (2005) categorize succession outcomes based on whether the newly appointed CEO is recruited internally or externally. They note that there is an increasing trend to hire CEOs from outside the firm and attribute this fact to firms' desire to make strategic changes and to pressure from regulators or institutional investors.

Social connections between directors and candidates play a more important role in outside hiring than in inside hiring. Information asymmetry is greater when firms recruit from external candidates. Networks ties tend to facilitate information flow and reduce search costs. A well-connected candidate benefits from being a member of a strong network and from sharing a network with board members. Thus, I hypothesize that individuals from wealthy families are more likely to be selected when firms recruit from external candidates. I identify internal and external CEO candidates based on their profiles in BoardEx and record the CEO turnover events. Next, I estimate a Probit regression with the dependent variable taking the value of one when the new CEO is appointed externally and zero when the CEO is promoted internally. The results in Table A7 suggest that CEOs from wealthy families are more likely to

be recruited externally.

There are two potential explanations for the observed relation. First, direct connections between a CEO candidate and board members might weaken corporate governance.[1] For example, individuals from wealthier families have better connections to influential people (e.g., boards of directors) and access to resources, which should make it easier for them to obtain employment conditional on having the same track record as candidates from less privileged backgrounds.

Second, it is possible that board members are not able to gain a complete picture of a CEO's quality at the time he or she is selected, and they learn more about his or her ability from public information over time (Hermalin and Weisbach (1998) and Hirshleifer and Thakor (1994)). A better-connected candidate (i.e., an individual from a wealthy family) is more likely to be selected as a CEO because connections catalyze information flow.

To study this question I examine whether a CEO candidate was connected to members of the nominating committee of the board before being appointed to the leadership position. The nominating committee is typically composed of three to five board members who oversee the CEO succession process, review the candidates, and provide advice throughout. Individuals connected to the nominating committee members are more likely to obtain employment conditional on having the same track record as other candidates. I create a dummy variable that equals one if a CEO is connected to the nominating committee though prior education or employment expe-

[1]Nguyen-Dang (2012) find that socially connected CEOs are more likely to find new and better employment after being dismissed, a result that is not due to CEO ability.

rience. I control for this indicator in the baseline regressions in Table 3. The results are presented in Table A8 in Appendix D. The point estimate in the full specification (column 3) is smaller than the coefficient reported in Table 3, but all results are statistically significant at the conventional level. The evidence suggests that agency story is relevant to the observed relation between wealth and performance. However, the agency story can not explain the results completely.

Next I examine whether the observed results are driven by first-time CEOs or seasoned CEOs. Board members are less likely to observe a candidate's managerial ability when he or she has no prior CEO experience; when they have limited information about candidates, they tend to select a candidate to whom they have a personal or professional connection. After hiring a CEO, the board updates its assessment of the CEO's ability when more information is revealed. The effectiveness of a board in selecting a CEO increases when more public information about the manager's performance is available (i.e., when a candidate has prior CEO experience). Boards of directors can learn from a seasoned CEO's past performance and therefore select the high type candidate.

I split the sample based on CEOs' past experience. First-time CEOs are identified as chief executives without prior CEO experience. Seasoned CEOs are those with CEO experience. The results are presented in Table 13. I find a negative relation between family wealth and firm performance among first-time CEOs. However, such relation doesn't hold among seasoned CEOs. The empirical evidence is consistent with the view that a board is less effective in choosing a CEO when there is asymmetry of information. I further investigates the effectiveness of boards of directors in monitoring CEOs and I focus on first-time CEOs because the wealth-performance

effect is only observed among them. In this paper, I show that CEOs from wealthy families are more likely to connect with board of directors. Social ties between a CEO and board members might have mixed prediction for corporate governance. On one hand, they might facilitate access to information. On the other hand, pre-existing social ties can diminish the effectiveness of corporate governance. To evaluate whether a CEO's endowed social status is associated with board effectiveness, I examine the effects of CEOs' endowed family wealth on the sensitivity of CEO turnover to firm performance. Following existing literature (Nguyen-Dang (2012)), I examine whether the sensitivity of CEO turnover to prior performance varies with CEO's family wealth using a probit regression model. The dependent variable is a CEO turnover dummy, which takes the value of one if there is a CEO turnover and equal to zero if there is no CEO turnover. I use one year lagged ROA as the proxy for firm performance and I further interact prior firm performance with the measure of the CEO's family wealth. The empirical results reported in Table A9 provide evidence that CEO turnover is negatively related to firm performance. Further, I find that the coefficient on the interaction of firm performance and family wealth is positive and statistically significant, indicating that a CEO's family wealth is negatively correlated with the sensitivity of CEO turnover to performance. This result is consistent with the view that CEOs from wealthy families are less likely to be dismissed for poor performance.

Overall, the results suggest that the effectiveness of board in selecting a CEO is likely to be affected by its knowledge about the CEO's ability. Underperforming CEOs from wealthy families are less likely to be selected when adverse information is possessed by the board.

Chapter 9

CONCLUSION

This paper studies the relation between a CEO's family wealth in his or her formative years and the CEO's managerial ability and style. By matching a CEO's place of residence in his or her formative years with U.S. Census survey data, I obtain an estimate of the CEO's family wealth. I find that, on average, CEOs born into poor families outperform those born into wealthy families. My evidence is consistent with the argument that less advantaged individuals face dramatically higher barriers to entry into managerial positions and so that only the most skilled and motivated candidates among them succeed.

The results are robust to controlling for a variety of CEO and firm-specific characteristics and also to using several proxies for firm performance. The negative relation between a CEO's endowed social status and firm performance is stronger in firms where a CEO's human capital is more valuable, such as high-growth firms and multi-segment firms, and is weaker in firms with larger managerial teams, which may dilute the CEO's influence on firm strategy and performance. However, CEOs from wealthy families perform better than their peers from less wealthy families during periods of economic policy uncertainty. The result is consistent with the view that CEOs from wealthy families could add value to firms by obtaining private information from their social contacts.

To shed light on mechanisms through which a CEO's family wealth is associated with firm performance. I show that CEOs with low family wealth offer greater job

security to employees when their firms' financial health deteriorates. These factors motivate employees to invest more in the firm-specific human capital and to take on more innovative projects.

The evidence in this paper might have implications for the debate on the effectiveness of board of directors. My findings suggest that regulators consider both visible and less observable governance features in setting disclosure rules. More broadly, this paper provides guidance for policy makers to makes education more affordable for general population, i.e., provide more merit-based scholarships. Access to elite education might offer talented but less privileged individuals pathways to success.

REFERENCES

Acemoglu, D., U. Akcigit and M. A. Celik, "Young, restless and creative: Openness to disruption and creative innovations", Working paper, NBER (2014).

Adams, R. B., H. Almeida and D. Ferreira, "Powerful CEOs and their impact on corporate performance", Review of Financial Studies **18**, 1403–1432 (2005).

Akey, P. and S. Lewellen, "Policy uncertainty, political capital, and firm risk-taking", Working paper, University of Toronto and London Business School (2017).

Altonji, J. G., T. E. Elder and C. R. Taber, "Selection on observed and unobserved variables: Assessing the effectiveness of Catholic schools", Journal of Political Economy **113**, 151–184 (2005).

Arellano, C., Y. Bai and P. Kehoe, "Financial markets and fluctuations in uncertainty", Working paper, Federal Reserve Bank of Minneapolis (2010).

Ashenfelter, O. and C. Rouse, "Income, schooling, and ability: Evidence from a new sample of identical twins", Quarterly Journal of Economics **113**, 253–284 (1998).

Baker, S. R., N. Bloom and S. Davis, "Measuring economic policy uncertainty", Quarterly Journal of Economics **131**, 1593–1636 (2016).

Bazdresch, S., F. Belo and X. Lin, "Labor hiring, investment, and stock return predictability in the cross section", Journal of Political Economy **122**, 129–177 (2014).

Benmelech, E. and C. Frydman, "Military CEOs", Journal of Financial Economics **117**, 43–59 (2015).

Bennedsen, M., K. M. Nielsen, F. Perez-Gonzalez and D. Wolfenzon, "Inside the family firm: The role of families in succession decisions and performance", Quarterly Journal of Economics **122**, 647–691 (2007).

Bernile, G., V. Bhagwat and P. R. Rau, "What doesn't kill you will only make you more risk-loving: Early-life disasters and CEO behavior", Journal of Finance **72**, 167–206 (2017).

Bernstein, S., T. McQuade and R. R. Townsend, "Does economic insecurity affect employee innovation?", Working paper, Stanford University (2017).

Bertrand, M. and A. Schoar, "Managing with style: The effect of managers on firm policies", Quarterly Journal of Economics **118**, 1169–1208 (2003).

Black, S. E., P. J. Devereux and K. G. Salvanes, "The more the merrier? The effect of family size and birth order on childrens education", Quarterly Journal of Economics **120**, 669–700 (2005).

Blau, P. M. and O. D. Duncan, *American Occupational Structure* (New York: John Willey and Sons, 1967).

Borisov, A., E. Goldman and N. Gupta, "The corporate value of (corrupt) lobbying", Review of Financial Studies **29**, 1039–1071 (2016).

Bowles, S., H. Gintis and M. O. Groves, "The determinants of earnings: A behavioral approach", Journal of Economic Literature **39**, 1137–1176 (2001).

Bowles, S., H. Gintis and M. O. Groves, *Unequal Chances: Family Background and Economic Success* (2005).

Boyd, B., "Corporate linkages and organizational environment: A test of the resource dependence model", Strategic Management Journal **11**, 419–430 (1990).

Burt, R., "A note on social capital and network content", Social Networks **19**, 355–373 (1997).

Cai, Y., M. Sevilir and J. Yang, "Made in CEO factories", Working paper, Kelley School of Business Research Paper No. 15-13 (2015).

Chetty, R., N. Hendren, P. Kline and E. Saez, "Where is the land of opportunity? The geography of intergenerational mobility in the united states", Quarterly Journal of Economics **129**, 1553–1623 (2014).

Chuprinin, O. and D. Sosyura, "Family descent as a signal of managerial quality: Evidence from mutual funds", Review of Financial Studies, Forthcoming (2018).

Cronqvist, H. and S. Siegel, "The origins of savings behavior", Journal of Political Economy **123**, 123–169 (2015).

Cronqvist, H., S. Siegel and F. Yu, "Value versus growth investing: Why do different investors have different styles?", Journal of Financial Economics **117**, 333–349 (2015).

Denis, D. J. and D. K. Denis, "Performance changes following top management dismissals", Journal of Finance **50**, 4, 1029–1057 (1995).

Dessaint, O. and A. Matray, "Do managers overreact to salient risks? evidence from hurricane strikes", Journal of Financial Economics **126**, 97–121 (2017).

DiMaggio, P. and F. Garip, "Network effects and social inequality", Annual Review of Sociology **38**, 1, 93–118 (2012).

Dittmar, A. and R. Duchin, "Looking in the rearview mirror: The effect of managers' professional experience on corporate financial policy", Review of Financial Studies **29**, 565–602 (2016).

Domhoff, G. W., C. Staples and A. Schneider, *Who rules America?: Triumph of the corporate rich* (Mcgraw-Hill Education, 2013).

Durnev, A., "The real effects of political uncertainty: Elections and investment sensitivity to stock prices", Working paper, University of Iowa (2010).

Edmans, A., "Does the stock market fully value intangibles? Employee satisfaction and equity prices", Journal of Financial Economics **101**, 3, 621–640 (2011).

Engelberg, J., P. Gao and C. A. Parson, "Friends with money", Journal of Financial Economics **103**, 169–188 (2012).

Fracassi, C. and G. Tate, "External networking and internal firm governance", The Journal of Finance **67**, 153–194 (2012).

Gilchrist, S., J. Sim and E. Zakrajek, "Uncertainty, financial frictions, and investment dynamics", Working paper, National Bureau of Economic Research (2014).

Gilens, M. and B. I. Page, "Testing theories of american politics: Elites, interest groups, and average citizens", Perspectives on Politics **12**, 564–581 (2014).

Gow, I., S. Kaplan, D. Larcker and A. Zakolyukina, "CEO personality and firm policies", NBER Working Paper No. 22435 (2015).

Gulen, H. and M. Ion, "Policy uncertainty and corporate investment", Review of Financial Studies **29**, 523–564 (2016).

Hacker, J. S. and P. Pierson, *Winner-take-all politics: How Washington made the rich richer and turned its back on the middle class* (NY: Simon Schuster, 2010).

Hadlock, C. J. and J. R. Pierce, "New evidence on measuring financial constraints: Moving beyond the kz index", Review of Financial Studies **23**, 1909–1940 (2010).

Hambrick, D. C. and T. J. Quigley, "Toward more accurate contextualization of the CEO effect on firm performance", Strategic Management Journal **46**, 473–491 (2014).

Hambrick, E., D.C. andAbrahamson, "Assessing managerial discretion across industries: A multi-method approach", Academy of Management Journal **38**, 5, 1427–1441 (1995).

Heckman, J., "Sample selection bias as a specification error", Econometrica **47**, 153–161 (1979).

Heckman, J., "Trends in corporate governance", Journal of Finance **60**, 2351–2384 (2005).

Hermalin, B. and M. S. Weisbach, "Endogenously chosen boards of directors and their monitoring of the ceo", American Economic Review **88**, 96–118 (1998).

Hirshleifer, D. and A. Thakor, "Managerial performance, boards of directors and takeover bidding", Journal of Corporate Finance **1**, 63–90 (1994).

Hochberg, Y. V. and L. Lindsey, "Incentives, targeting, and firm performance: An analysis of non-executive stock options", Review of Financial Studies **15**, 1283–1324 (2010).

Huson, M. R., P. H. Malatesta and R. Parrino, "Managerial succession and firm performance", Journal of Financial Economics **74**, 237–275 (2004).

Hwang, B.-H. and S. Kim, "It pays to have friends", Journal of Financial Economics **93**, 138–158 (2009).

Jens, C., "Political uncertainty and investment: Causal evidence from u.s. gubernatorial elections", Journal of Financial Economics **124**, 563–579 (2017).

Jenter, D. and F. Kanaan, "CEO turnover and relative performance evaluation", Journal of Finance **70**, 2155–2183 (2015).

Jokela, M., W. Bleidorn, M. Lamb, S. Gosling and P. Rentfrow, "Geographically varying associations between personality and life satisfaction in the London metropolitan area", Proceedings of the National Academy of Sciences **112**, 725–730 (2014).

Kaplan, S. N., M. M. Klebanov and M. Sorensen, "Which CEO characteristics and abilities matter?", Journal of Finance **67**, 973–1007 (2012).

Kogan, L., D. Papanikolaou, A. Seru and N. Stoffman, "Technological innovation, resource allocation, and growth", Quarterly Journal of Economics **132**, 665–712 (2017).

Levine, R. and Y. Rubinstein, "Smart and illicit: Who becomes an entrepreneur and do they earn more?", Quarterly Journal of Economics **132**, 963–1018 (2017).

Lin, N., "Inequality in social capital", Contemporary Sociology **29**, 785–795 (2000).

Livnat, J. and R. R. Mendenhall, "Comparing the postearnings announcement drift for surprises calculated from analyst and time series forecasts", Journal of Accounting Research **44**, 177–205 (2006).

Mackey, A., "The effect of CEOs on firm performance", Strategic Management Journal **29**, 1357–1367 (2008).

Malmendier, U. and S. Nagel, "Depression babies: Do macroeconomic experiences affect risk taking?", Quarterly Journal of Economics **126**, 373–416 (2011).

Malmendier, U. and G. Tate, "Who makes acquisitions? CEO overconfidence and the market's reaction", Journal of Financial Economics **89**, 20–43 (2008).

Malmendier, U., G. Tate and J. Yan, "Overconfidence and early-life experiences: The effect of managerial traits on corporate financial policies", Journal of Finance **66**, 1685–1731 (2011).

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

Nguyen-Dang, B., "Does the rolodex matter? corporate elite's small world and the effectiveness of boards of directors", Management Science **585**, 236–252 (2012).

Oster, E., "Unobservable selection and coefficient stability: Theory and evidence", Journal of Business & Economic Statistics Forthcoming (2017).

Parrino, R., "Ceo turnover and outside succession a cross-sectional analysis", Journal of Financial Economics **46**, 165–197 (1997).

Pastor, L. and P. Veronesi, "Uncertainty about government policy and stock prices", Journal of Finance **67**, 1219–1264 (2012).

Perez-Gonzalez, F., "Inherited control and firm performance", American Economic Review **96**, 1559–1588 (2006).

Rivera, L. A., *Pedigree: How elite students get elite jobs* (Princeton University Press, 2016).

Rivera, L. A. and A. Tilcsik, "Class advantage, commitment penalty: The gendered effect of social class signals in an elite labor market", American Sociological Review **81**, 6, 1097–1131 (2016).

Schoar, A. and L. Zuo, "Shaped by booms and busts: How the economy impacts CEO careers and management styles", Review of Financial Studies **30**, 1425–1456 (2017).

Solon, G., "Intergenerational income mobility in the United States", American Economic Review **82**, 393–408 (1992).

Warner, J. B., R. L. Watts and K. Wruck, "Stock prices and top management changes", Journal of Financial Economics **20**, 461–492 (1989).

Weisbach, M., "Ceo turnover and the firm's investment decisions", Journal of Financial Economics **37**, 159–188 (1995).

Zimmerman, D. J., "Regression toward mediocrity in economic stature", American Economic Review **82**, 409–429 (1992).

Figure 1: Spatial Distribution of CEOs' Places of Residence During Their Formative Years

The sample consists of 506 CEOs for whom I am able to estimate family wealth in their formative years. See Chapter 3 for details on sample construction. For 358 CEOs with high school information, I calculate the CEO's family wealth as the median household income in the census tract located nearest to the CEO's high school when the CEO was 15 years old. The household income data are from the U.S. Census of Population and Housing file. For 148 CEOs without high school information, I use the median household income in the census tract nearest to the CEO's place of birth. Blue stars in the figure correspond to CEOs with family wealth estimates below the median and red dots denote for CEOs with family wealth estimates above the median.

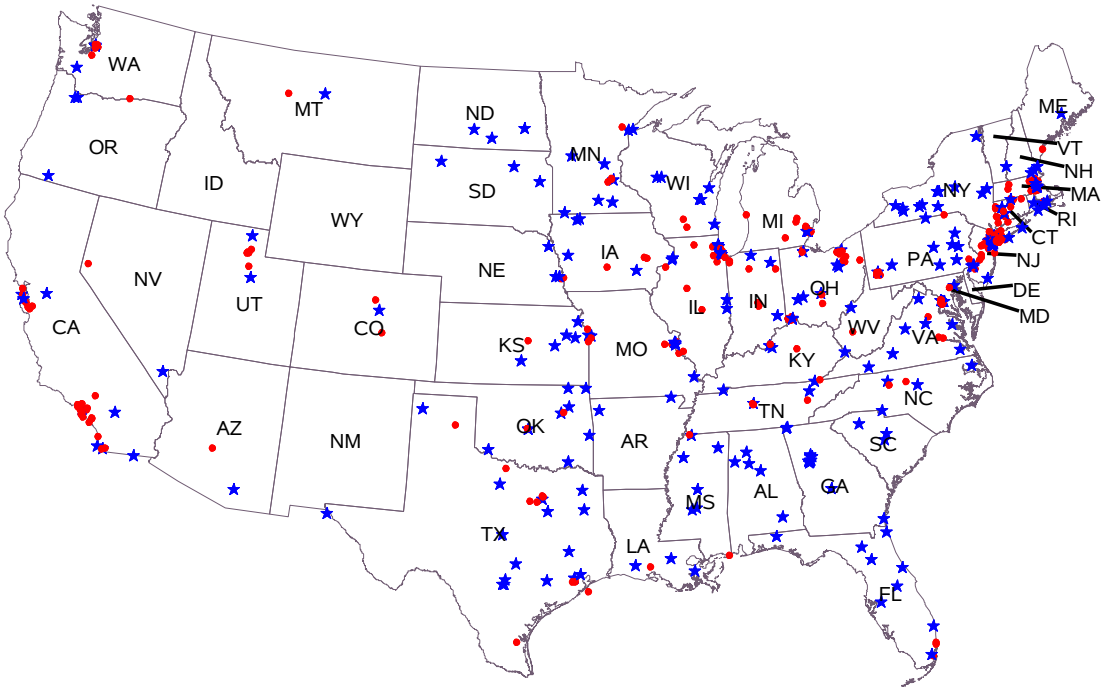


Figure 2: Firm Characteristics Around CEO Turnover

The figure plots firm characteristics around CEO turnover. Year 0 refers to the year of a new CEO's appointment. Blue lines in the figure correspond to CEOs with family wealth estimates below the sample median, and gray lines correspond to CEOs with family wealth estimates above the sample median. Figure a refers to the leverage dynamics around CEO turnover. Figure b refers to cash holdings around CEO turnover. Figure c refers to equity volatility around CEO turnover. Figure d stands for idiosyncratic volatility around CEO turnover. Figure e stands for shareholder litigation around CEO turnover. Figure f stands for earnings restatements around CEO turnover.

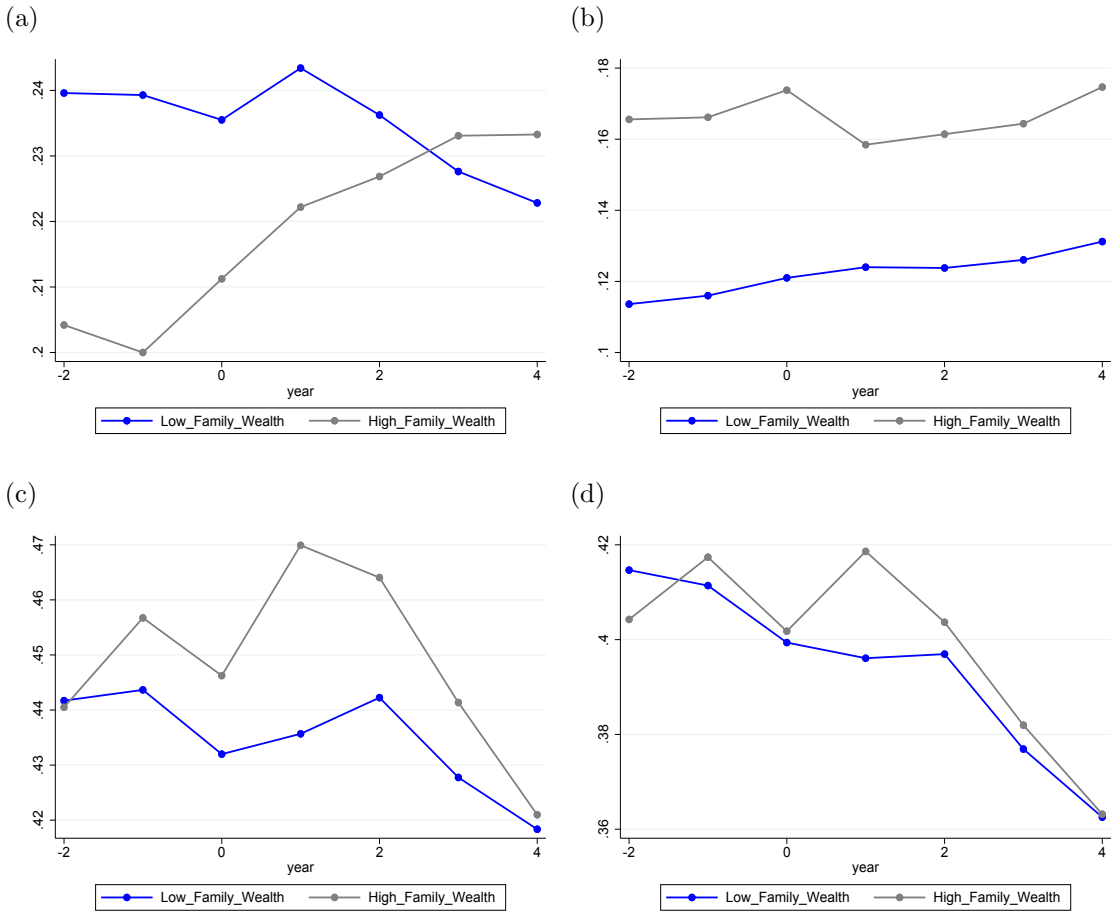
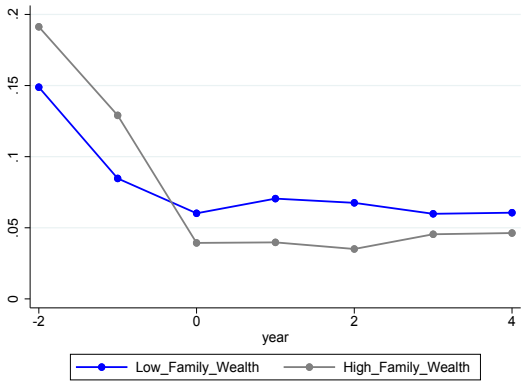


Figure 2: Firm Characteristics Around CEO Turnover (continued)

The figure plots firm characteristics around CEO turnover. Year 0 refers to the year of a new CEO's appointment. Blue lines in the figure correspond to CEOs with family wealth estimates below the sample median, and gray lines correspond to CEOs with family wealth estimates above the sample median. Figure a refers to the leverage dynamics around CEO turnover. Figure b refers to cash holdings around CEO turnover. Figure c refers to equity volatility around CEO turnover. Figure d stands for idiosyncratic volatility around CEO turnover. Figure e stands for shareholder litigation around CEO turnover. Figure f stands for earnings restatements around CEO turnover.

(e)



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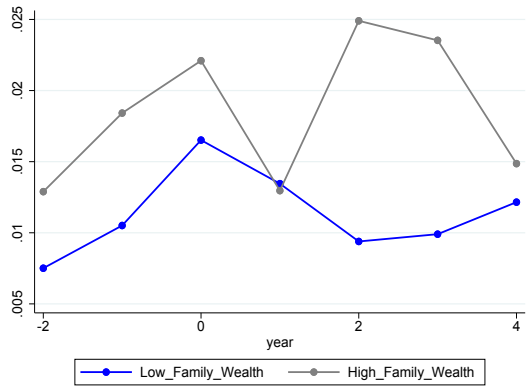

Table 1: Descriptive Statistics

Panel A reports summary statistics for CEO characteristics. The unit of observation is firm-year. Family wealth (in $000's) denotes the median household income of the CEO's place of residence at his or her formative year, adjusted for 1940 dollars.

	Obs.	Mean	Std.Dev.	P10	P50	P90
Panel A: CEO Characteristics						
Family wealth (in $000's)	4,231	3.066	2.764	1.403	2.590	4.602
Family wealth (Logarithm)	4,231	1.301	0.392	0.877	1.278	1.723
Family wealth 1940 (in $000's)	710	2.336	1.588	0.65	1.944	5
Year of birth	4,231	1947	8.959	1937	1946	1960
CEO age	3,971	57.407	8.364	46	58	68
Female	4,231	0.035	0.184	0	0	0
Private high school	4,231	0.108	0.311	0	0	0
BA degree	4,231	0.93	0.255	1	1	1
MBA degree	4,231	0.323	0.468	0	0	1
Ph.D. degree	4,231	0.081	0.272	0	0	0
Ivy League school	4,231	0.294	0.456	0	0	1
Prior industry experience	4,231	0.197	0.398	0	0	1
Prior CEO experience	4,231	0.073	0.260	0	0	0

Table 1: Descriptive Statistics (continued)

Panel B reports summary statistics for firm characteristics. The unit of observation is firm-year. Family wealth (in $000's) denotes the median household income of the CEO's place of residence at his or her formative year, adjusted for 1940 dollars.

	Obs.	Mean	Std.Dev.	P10	P50	P90
Panel B: Firm Characteristics						
Sales (in $ million)	5,216	11,253.4	23,907.8	314.9	2,444.9	28,356
Employees (in 000's)	5,188	36.291	64.499	1.3	9.8	100.3
Firm age	5,216	26.363	20.891	6	20	60
Market-to-book	5,216	2.173	1.392	1.06	1.71	3.907
ROA	5,216	0.151	0.089	0.059	0.145	0.257
R&D expenses	5,216	0.04	0.072	0	0	0.151
Asset turnover	5,215	1.217	0.81	0.422	1.009	2.348
Leverage	5,216	0.216	0.175	0	0.197	0.451
Capital expenditures	5,216	0.055	0.052	0.01	0.038	0.115
M&A deal	3,692	0.148	0.571	0	0	0
CAR	546	-0.006	0.048	-0.061	-0.004	0.039
Earnings surprise	5,174	-0.000	0.027	-0.011	0.001	0.010
Stock return	5,216	0.159	0.469	-0.342	0.097	0.679
Relative stock return	5,216	-0.013	0.415	-0.454	-0.057	0.439
Volatility	5,216	0.409	0.192	0.213	0.364	0.663
Idiosyncratic volatility	5,216	0.351	0.174	0.173	0.313	0.580
Class action lawsuits	4,961	0.028	0.171	0	0	0
Earnings restatements	3,636	0.138	0.345	0	0	1
CEO-chair	3,923	0.489	0.5	0	0	1
Board independence	3,923	0.707	0.167	0.5	0.727	0.9
Board size	3,923	9.653	2.555	7	10	13

Table 2: CEO Family Background and CEO Characteristics

This table reports summary statistics for the CEO's family wealth, age, gender, and education (Panel A), career advancement (Panel B), and connections to directors (Panel C) for the sample of CEOs with high family wealth (those with *family wealth* above the annual median) and CEOs with low family wealth(those with *family wealth* below the annual median). The standard errors are clustered at the firm level, with t-statistics reported in the table.

	Low Family Wealth	*High Family Wealth*	*Differences in Means*	*t-stat*
Panel A: CEO Characteristics				
Family wealth (in $000's)	1.891	4.544	-2.653***	-8.71
CEO age	61.070	54.490	6.58***	8.72
Female	0.023	0.044	-0.021	-1.32
Private high school	0.066	0.146	-0.08**	-2.53
BA degree	0.921	0.935	-0.014	-0.53
MBA degree	0.314	0.320	-0.016	-0.12
Ph.D. degree	0.092	0.067	0.025	0.89
Ivy League School	0.256	0.341	-0.085 *	1.92
Panel B: CEO Career Advancement				
Age to start a first job	27.199	25.838	1.361*	1.91
Age to start a first job in a public firm	36.169	32.264	3.905***	3.10
Age to become a CEO	52.596	46.515	6.081***	5.87
Panel C: CEO Connections to Directors				
Connected to directors	0.172	0.202	-0.030***	-2.77
Connected through employment	0.069	0.049	0.020***	2.79
Connected through education	0.009	0.014	-0.006**	-2.51
Connected through social activities	0.113	0.154	-0.041***	-4.64

Table 3: CEO Family Background and Firm Performance

This table reports OLS regression estimates of models where the dependent variable is ROA at the fiscal year-end. Year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications. Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Family wealth	-0.022***	-0.017**	-0.018**			
	(-3.25)	(-2.29)	(-2.55)			
High family wealth				-0.011**	-0.009*	-0.012**
				(-2.24)	(-1.74)	(-2.50)
Firm size	0.012***	0.012***	0.010***	0.011***	0.012***	0.009***
	(5.00)	(5.27)	(4.08)	(4.81)	(5.10)	(3.93)
Market-to-book	0.030***	0.031***	0.034***	0.030***	0.031***	0.034***
	(12.46)	(13.83)	(14.15)	(11.98)	(13.47)	(14.01)
Firm age	0.000	0.000	0.000	0.000	0.000	0.000*
	(0.65)	(0.39)	(1.21)	(1.19)	(0.81)	(1.69)
Leverage	-0.039**	-0.033**	-0.016	-0.038**	-0.032**	-0.015
	(-2.38)	(-2.01)	(-0.91)	(-2.34)	(-1.98)	(-0.84)
R&D expenses	-0.377***	-0.373***	-0.261***	-0.379***	-0.374***	-0.259***
	(-3.15)	(-2.95)	(-3.17)	(-3.09)	(-2.90)	(-3.17)
Capital expenditures	0.418***	0.367***	0.324***	0.426***	0.372***	0.327***
	(5.05)	(5.93)	(5.28)	(5.09)	(6.05)	(5.36)
Female		-0.007	-0.015		-0.007	-0.015
		(-0.51)	(-1.13)		(-0.55)	(-1.12)
Prior industry experience		-0.002	-0.003		-0.001	-0.002
		(-0.23)	(-0.49)		(-0.11)	(-0.36)
Prior CEO experience		-0.034***	-0.026**		-0.035***	-0.026**
		(-3.36)	(-2.47)		(-3.42)	(-2.50)
BA degree		-0.001	0.001		-0.002	-0.001
		(-0.07)	(0.11)		(-0.24)	(-0.05)
MBA degree		0.002	0.003		0.002	0.003
		(0.37)	(0.62)		(0.44)	(0.68)
Ph.D. degree		-0.001	0.001		0.000	0.003
		(-0.14)	(0.19)		(0.02)	(0.43)
CEO-Chair			-0.001			-0.001
			(-0.19)			(-0.13)
Board independence			0.002			0.002
			(0.14)			(0.15)
Board size			-0.016			-0.015
			(-1.27)			(-1.22)
Observations	4,225	4,050	3,059	4,225	4,050	3,059
R-squared	0.417	0.440	0.481	0.414	0.438	0.480

Table 4: CEO Family Background and Firm Performance, 1940 Census Sample

This table reports OLS regression estimates of models where the dependent variables is ROA at the fiscal year-end. The sample consists of 108 CEOs with personal household income in the 1940 U.S. Census report. Year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications. Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Family wealth	-0.027**	-0.023**	-0.037**			
	(-2.33)	(-2.03)	(-2.50)			
High family wealth				-0.028**	-0.026**	-0.036**
				(-2.53)	(-2.19)	(-2.14)
Firm size	0.013**	0.009*	0.008	0.014**	0.010*	0.007
	(2.49)	(1.82)	(0.91)	(2.58)	(1.95)	(0.81)
Market-to-book	0.036***	0.032***	0.023***	0.036***	0.032***	0.024***
	(8.95)	(8.27)	(4.79)	(9.25)	(8.70)	(5.18)
Firm age	-0.001*	-0.001***	-0.001**	-0.001*	-0.001***	-0.001**
	(-1.92)	(-2.89)	(-2.36)	(-1.95)	(-2.96)	(-2.31)
Leverage	-0.041	-0.020	0.015	-0.041	-0.015	0.026
	(-1.62)	(-0.92)	(0.42)	(-1.62)	(-0.67)	(0.71)
R&D expenses	-0.685***	-0.751***	-0.751***	-0.655***	-0.729***	-0.736***
	(-4.63)	(-5.54)	(-5.61)	(-4.44)	(-5.36)	(-5.33)
Capital expenditures	0.148	0.025	0.130	0.151	0.025	0.117
	(1.45)	(0.23)	(1.00)	(1.56)	(0.23)	(0.92)
Prior industry experience		0.009	0.026**		0.008	0.025**
		(0.91)	(2.05)		(0.76)	(2.17)
Prior CEO experience		-0.048***	-0.069***		-0.048***	-0.073***
		(-3.95)	(-3.36)		(-3.85)	(-3.90)
BA degree		0.079***	0.057**		0.072***	0.057**
		(4.31)	(2.14)		(3.77)	(2.21)
MBA degree		0.020*	0.027**		0.023**	0.032**
		(1.84)	(2.09)		(2.14)	(2.30)
Ph.D. degree		0.045**	0.076***		0.052**	0.086***
		(2.08)	(3.22)		(2.26)	(3.32)
CEO-Chair			-0.022			-0.019
			(-1.54)			(-1.43)
Board independence			-0.017			-0.001
			(-0.69)			(-0.05)
Board size			-0.021			-0.020
			(-1.01)			(-1.04)
Observations	710	672	449	710	672	449
R-squared	0.609	0.661	0.708	0.613	0.666	0.712

Table 5: Alternative Measures of Firm Performance

This table reports OLS regression estimates of models where the dependent variables are asset turnover, earnings surprise, and relative stock return, respectively. Year fixed effects are included in all specifications. Industry fixed effects, defined by two-digit SIC codes, are included in all specifications except column (5) and (6). Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Asset Turnover		Earnings Surprise		Relative Return	
	(1)	(2)	(3)	(4)	(5)	(6)
Family wealth	-0.126*		-0.002*		-0.048***	
	(-1.85)		(-1.72)		(-2.77)	
High family wealth		-0.097**		-0.001**		-0.038***
		(-2.00)		(-1.97)		(-2.78)
Log(Market Value)	-0.098***	-0.098***	0.002***	0.002***	0.011**	0.011**
	(-5.05)	(-5.01)	(4.13)	(4.31)	(2.52)	(2.41)
Market-to-book	0.037	0.038	-0.001***	-0.001***	0.074***	0.075***
	(1.51)	(1.54)	(-2.99)	(-2.71)	(8.74)	(8.74)
Firm age	0.002	0.003	0.000***	0.000***	0.001**	0.001**
	(1.13)	(1.27)	(2.78)	(3.48)	(2.12)	(2.28)
Leverage	-1.013***	-1.003***	-0.031***	-0.028***	-0.174***	-0.171***
	(-4.77)	(-4.71)	(-5.74)	(-5.16)	(-3.17)	(-3.12)
R&D expenses	-2.982***	-2.944***	-0.019	-0.019	-1.293***	-1.293***
	(-3.59)	(-3.50)	(-1.53)	(-1.51)	(-7.28)	(-7.26)
Capital expenditures	1.781***	1.812***	-0.017	-0.022*	-0.638***	-0.619***
	(3.86)	(3.93)	(-1.46)	(-1.89)	(-4.01)	(-3.99)
Lagged volatility	-0.170	-0.169	0.021***	0.022***	0.523***	0.524***
	(-1.33)	(-1.32)	(3.90)	(4.04)	(8.44)	(8.44)
Sales growth	0.275***	0.269***	0.025***	0.024***	0.366***	0.363***
	(4.41)	(4.28)	(7.16)	(6.89)	(8.11)	(8.04)
Female	-0.203	-0.197	-0.001	-0.001	-0.051	-0.050
	(-1.33)	(-1.27)	(-0.44)	(-0.46)	(-1.30)	(-1.27)
Prior industry experience	-0.045	-0.036	0.001	0.002*	0.033**	0.034**
	(-0.81)	(-0.67)	(1.48)	(1.96)	(1.99)	(2.06)
Prior CEO experience	-0.105	-0.112*	0.000	-0.002	0.015	0.014
	(-1.63)	(-1.76)	(0.44)	(-0.81)	(0.54)	(0.48)
BA degree	0.074	0.063	-0.000	-0.001	0.058**	0.054**
	(0.77)	(0.67)	(-0.41)	(-0.71)	(2.26)	(2.13)
MBA degree	-0.013	-0.006	0.000	-0.000	-0.005	-0.003
	(-0.21)	(-0.09)	(0.10)	(-0.14)	(-0.31)	(-0.19)
Ph.D. degree	0.015	0.022	-0.001	-0.001	-0.009	-0.004
	(0.15)	(0.23)	(-0.62)	(-0.70)	(-0.36)	(-0.17)
Observations	3,881	3,881	3,863	3,863	3,628	3,628
R-squared	0.582	0.583	0.085	0.085	0.176	0.176

Table 6: CEO Family Background and M&As

This table reports the estimates from the OLS regression of the number and quality of M &A deals on CEO family background. In columns 1 to 4, the dependent variable is the number of M&A deals announced by the firm during the fiscal year. In columns 5 to 8, the dependent variable is the acquirer's cumulative abnormal announcement return, estimated over the three-day window (-1,+1) around the M &A announcement using the market model. Models 5 to 8 also include deal controls, such as the natural logarithm of the deal size, target's market-to-book ratio, method of financing, tender offer, friendly merger indicator, and diversifying deal indicator; the estimates are not shown for brevity. Year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications.Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Family wealth	0.124**	0.128**			-0.015**	-0.015**		
	(2.07)	(2.16)			(-2.58)	(-2.17)		
High family wealth			0.056**	0.058**			-0.012*	-0.014*
			(2.12)	(2.17)			(-1.92)	(-1.67)
Firm size	0.085***	0.085***	0.086***	0.087***	0.006**	0.006*	0.006**	0.006*
	(5.42)	(5.29)	(5.41)	(5.30)	(2.16)	(1.87)	(2.07)	(1.73)
Leverage	-0.135*	-0.132*	-0.148**	-0.144*	0.003	0.004	0.009	0.007
	(-1.92)	(-1.79)	(-1.98)	(-1.87)	(0.10)	(0.11)	(0.29)	(0.23)
Market-to-book	0.049***	0.049***	0.050***	0.050***	0.000	0.000	0.001	0.001
	(2.73)	(2.71)	(2.81)	(2.80)	(0.09)	(0.22)	(0.40)	(0.40)
Capital expenditures	-0.292	-0.305	-0.317	-0.336	-0.220**	-0.251**	-0.206*	-0.228**
	(-0.82)	(-0.86)	(-0.90)	(-0.96)	(-2.12)	(-2.31)	(-1.94)	(-2.07)
Stock return	0.013	0.014	0.013	0.014	0.014	0.014	0.012	0.013
	(0.57)	(0.62)	(0.56)	(0.60)	(1.50)	(1.54)	(1.32)	(1.37)
Female		0.032		0.035		0.018		0.016
		(0.45)		(0.48)		(0.78)		(0.69)
Prior industry experience		-0.025		-0.030		-0.007		-0.007
		(-0.60)		(-0.72)		(-0.81)		(-0.73)
Prior CEO experience		0.000		0.005		-0.002		-0.005
		(0.01)		(0.09)		(-0.18)		(-0.45)
BA degree		-0.041		-0.034		0.005		-0.002
		(-0.61)		(-0.51)		(0.63)		(-0.22)
MBA degree		0.013		0.009		0.003		0.002
		(0.43)		(0.28)		(0.30)		(0.19)
Ph.D. degree		0.085		0.077		0.014		0.018*
		(1.13)		(1.04)		(1.58)		(1.98)
Observations	3,692	3,678	3,692	3,678	275	275	275	275
R-squared	0.157	0.158	0.154	0.155	0.345	0.354	0.339	0.350

Table 7: Heterogeneity by Firm Characteristics

This table reports how the effect of the CEO's family wealth on firm ROA varies with different characteristics. The control variables are the same as in Model 3 of Table 3 (omitted here for brevity). Year fixed effects are included in all specifications. Industry fixed effects, defined by two-digit SIC codes, are included in all specifications except column (4). Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
Family wealth	-0.013	0.012	-0.023**	-0.012	-0.168**
	(-1.11)	(0.62)	(-2.18)	(-0.83)	(-2.48)
R&D expenses*family wealth	-0.260**				
	(-2.19)				
Market-to-book*family wealth		-0.017**			
		(-2.00)			
Multi-segment firm*family wealth			-0.051*		
			(-1.79)		
Multi-segment firm			0.065*		
			(1.69)		
High discretion*family wealth				-0.051**	
				(-2.23)	
High discretion industry				0.064**	
				(2.18)	
Board size*family wealth					0.064**
					(2.19)
R&D expenses	0.030	-0.285***	-0.293***	-0.292***	-0.287***
	(0.22)	(-5.41)	(-5.57)	(-4.99)	(-5.62)
Market-to-book	0.034***	0.055***	0.034***	0.032***	0.034***
	(14.87)	(5.36)	(14.75)	(8.80)	(14.72)
Board size	-0.015	-0.014	-0.014	0.005	-0.092**
	(-1.21)	(-1.15)	(-1.14)	(0.33)	(-2.47)
Observations	3,059	3,059	3,059	1,930	3,059
R-squared	0.500	0.501	0.498	0.432	0.500

Table 8: CEO Performance and Economic Policy Uncertainty

This table reports how the effect of the CEO's family wealth on firm ROA varies with economic policy uncertainty. The measure of economic policy uncertainty is the index developed by Baker *et al.* (2016) (BBD). The index is constructed as a weighted average of four different components. *High policy uncertainty* is an indicator which takes the value of one if the firm is in the top 25% of the distribution of the BBD index in the reporting period. The control variables are the same as in Table 3(omitted here for brevity). I then split the sample of firms based on the firm's financial constraint status which is measured as the index developed by Hadlock and Pierce (2010). The model in Column 4 includes firms in the top 25% of the distribution of the Hadlock and Pierce (2010) index and the model in Column 5 includes other firms in the sample. Column 6 includes policy sensitive firms. A firm is defined as policy sensitive if it belongs to the top 20 industry with the highest total lobbying expenses. Other firms are categorized as policy-neutral firms and included in Column 7. Year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications. Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

				Constrained	Unconstrained	Policy Sensitive	Policy Neutral
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Family wealth	-0.027***	-0.019**	-0.017*	-0.012	-0.015	-0.014	-0.015*
	(-3.54)	(-2.34)	(-1.79)	(-0.54)	(-1.44)	(-1.08)	(-1.89)
Family wealth * High	0.022***	0.020***	0.019**	0.034*	0.014	0.036**	0.009
policy uncertainty	(3.26)	(2.92)	(2.08)	(1.84)	(1.38)	(2.49)	(1.07)
High policy uncertainty	-0.024**	-0.019*	-0.012	-0.049	-0.004	-0.041*	0.001
	(-2.17)	(-1.72)	(-0.87)	(-1.05)	(-0.28)	(-1.82)	(0.06)
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CEO Controls	No	Yes	Yes	Yes	Yes	Yes	Yes
Board Controls	No	No	Yes	Yes	Yes	Yes	Yes
Observations	4,225	4,050	3,059	638	2,421	879	2,025
R-squared	0.383	0.400	0.460	0.542	0.569	0.452	0.516

Table 9: Selection on Unobservables and the Omitted Variable Bias

This table reports δ, which measures the degree of omitted variable bias using the test proposed by and developed by Oster (2017); $\delta > 1$ ($\delta < 1$) implies that selection on unobservable variables must be greater (smaller) than selection on observable variables in order to explain away the coefficient of interest by the omitted variable bias. Each entry corresponds to a particular regression specification in Tables 3 and Table 4. I calculate δ under the assumption of the maximum possible R-squared suggested by Oster (2017), i.e., $\mathrm{R}_{\max} = 1.3\tilde{R}$, where $\tilde{R}$ is the observed maximum R-squared in the regression model, and under the more stringent assumption the $\mathrm{R}_{\max} = 1$.

		Regression Specification	
Input $R_{\max}$	*Explanatory Variable*	*Table 3, Model 3*	*Table 4, Model 3*
$1.3\widetilde{R}$	*Family wealth*	18.705	
$1.3\widetilde{R}$	*Family wealth 1940*		5.922
1	*Family wealth*	5.325	
1	*Family wealth 1940*		3.927

Table 10: CEO Family Background and Firm Performance: Instrumental Variables Approach

The table presents the results of a 2SLS estimation of firm performance and family wealth. Columns 1, 3, and 5 present the results of the first stage, where the dependent variable is the CEO's family wealth. Columns 2, 4 and 6 present the estimates of the model with family wealth endogenized. The excluded instrument is the natural logarithm of per capita economic losses caused by natural disasters in the county of a CEO's residence during his or her formative years. In columns 1 and 2, the estimation includes year and industry fixed effects (defined by two-digit SIC codes) and all control variables from specification 1 in Table 3. The estimation in columns 3 and 4 (5 and 6) includes year and industry fixed effects and all control variables from specification 2 (3) in Table 3. Standard errors are clustered at the firm level. T-statistics are in parentheses. Significance at the 1%, 5%, and 10% levels is denoted by ***, **, and *, respectively.

	Family Wealth (1st stage)	ROA (2nd stage)	Family Wealth (1st stage)	ROA (2nd stage)	Family Wealth (1st stage)	ROA (2nd stage)
Economic damage from natural disasters	-0.085*** (-5.85)	-0.094*** (-2.61)	-0.087*** (-5.68)	-0.081** (-2.37)	-0.084*** (-4.32)	-0.078** (-2.23)
Observations	1,774		1,721		1,302	
First-stage R squared	0.316		0.369		0.430	
(first-stage joint F-test	34.22 (p-val<0.001)		32.24 (p-val<0.001)		18.65 (p-val<0.001)	
Weak identification test (Craigg-Donald F-stat)	291.11(p-val<0.001)		299.50(p-val<0.001)		178.80(p-val<0.001)	

Table 11: CEO Family Background and Firm Risk

This table reports OLS regression estimates of models where the dependent variables are measures for a variety of corporate outcomes. Year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications. Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	Leverage	Volatility	Idiosyncratic volatility	Class action lawsuits	Earnings restatements
Family wealth	0.010	0.025*	0.026**	0.145	0.018
	(0.59)	(1.96)	(2.28)	(1.11)	(0.09)
Log(Market Value)	-0.009	-0.026***	-0.029***	0.097**	-0.108**
	(-1.58)	(-6.62)	(-8.06)	(2.11)	(-1.99)
Market-to-book	-0.020***	0.010**	0.008**	-0.036	-0.013
	(-3.17)	(2.21)	(2.01)	(-0.73)	(-0.18)
Sales growth	0.050**	-0.062***	-0.041***	-0.522*	0.024
	(2.41)	(-3.51)	(-2.60)	(-1.79)	(0.10)
Firm age	0.001**	-0.001***	-0.001***	-0.001	0.001
	(2.46)	(-4.29)	(-3.98)	(-0.48)	(0.43)
Leverage		0.030	0.031	0.122	-0.442
		(0.94)	(1.09)	(0.38)	(-1.05)
Female	-0.031	0.006	0.012	-0.275	-0.191
	(-0.82)	(0.12)	(0.26)	(-0.72)	(-0.75)
Prior industry experience	0.028*	0.009	0.004	-0.001	-0.047
	(1.77)	(0.77)	(0.33)	(-0.01)	(-0.25)
Prior CEO experience	0.003	0.030*	0.035**	-0.119	-0.007
	(0.10)	(1.77)	(2.24)	(-0.54)	(-0.03)
BA degree	0.048*	-0.002	-0.004	-0.117	0.005
	(1.85)	(-0.13)	(-0.25)	(-0.59)	(0.02)
MBA degree	-0.002	-0.005	-0.004	0.045	-0.011
	(-0.11)	(-0.44)	(-0.38)	(0.41)	(-0.08)
Ph.D. degree	0.009	-0.001	-0.003	0.069	-0.315
	(0.34)	(-0.05)	(-0.23)	(0.39)	(-1.08)
CEO-Chair	-0.005	0.012	0.014*	0.039	-0.095
	(-0.45)	(1.45)	(1.90)	(0.29)	(-0.76)
Board independence	0.083**	0.031	0.024	0.098	-0.481
	(1.98)	(1.07)	(0.94)	(0.29)	(-1.14)
Board size	0.121***	-0.055**	-0.050**	0.196	-0.305
	(4.17)	(-2.57)	(-2.56)	(0.72)	(-0.95)
Observations	3,064	3,064	3,064	2,362	2,106
R-squared/Pseudo R-squared	0.375	0.563	0.571	0.098	0.156

Table 12: CEO Family Background and Managerial Style

This table reports OLS regression estimates of models where the dependent variables are the natural log of the number of patent applications, the natural log of citations , and employee turnover. Included controls in Panel B are as follows: Columns 1 to 4: firm size, market-to-book ratio, sales growth, leverage, cash holdings, female, prior industry experience, prior CEO experience, BA degree, MBA degree, and Ph.D. degree. Columns 5 and 6: lagged firm size, lagged market-to-book ratio, lagged leverage, female, prior industry experience, prior CEO experience, BA degree, MBA degree, and Ph.D. degree. Year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications. Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Log(Patents)		Log(Citations)		Employee Turnover	
	(1)	(2)	(3)	(4)	(5)	(6)
Family wealth	0.895*		1.532***		0.011	
	(1.97)		(2.79)		(0.86)	
High family wealth		0.434**		0.612***		0.013**
		(2.40)		(2.82)		(2.13)
R&D expenses*family wealth	-3.971*		-9.245*			
	(-1.76)		(-1.75)			
R&D expenses*high family wealth		-4.261*		-3.568		
		(-1.72)		(-1.21)		
R&D expenses	9.671***	8.236***	17.615***	8.452***		
	(4.58)	(4.83)	(2.64)	(3.27)		
ROA_{t-1}*family wealth					-0.124**	
					(-2.07)	
ROA_{t-1}*high family wealth						-0.058*
						(-1.89)
ROA_{t-1}	-0.813	-0.891	-1.429	-1.369	0.071	-0.051*
	(-1.08)	(-1.17)	(-1.49)	(-1.46)	(0.90)	(-1.92)
Observations	1,035	1,035	957	957	4,045	4,045
R-squared	0.734	0.734	0.710	0.710	0.108	0.108

Table 13: First-time CEOs and Seasoned CEOs

This table reports OLS regression estimates on the relation between CEO family wealth and firm performance. The sample is split in two. First-time CEOs are CEOs without prior CEO experience. Seasoned CEOs are those who had CEO experience. Year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications. Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	First-time CEOs			Seasoned CEOs		
	(1)	(2)	(3)	(4)	(5)	(6)
Family wealth	-0.020**	-0.021***	-0.020***	-0.011	-0.004	-0.005
	(-2.56)	(-2.65)	(-2.65)	(-0.44)	(-0.19)	(-0.24)
Firm size	0.010***	0.010***	0.009***	0.017***	0.017***	0.010*
	(4.29)	(4.38)	(3.29)	(4.36)	(4.07)	(1.82)
Market-to-book	0.032***	0.032***	0.033***	0.025***	0.026***	0.032***
	(13.72)	(13.87)	(13.26)	(4.57)	(5.02)	(5.53)
Firm age	0.000	0.000	0.000	0.001*	0.001*	0.000
	(0.40)	(0.34)	(0.93)	(1.92)	(1.70)	(1.26)
Leverage	-0.031*	-0.030	-0.014	-0.062*	-0.056	-0.029
	(-1.75)	(-1.65)	(-0.67)	(-1.80)	(-1.59)	(-0.98)
R&D expenses	-0.240**	-0.214**	-0.228***	-0.621**	-0.640**	-0.231
	(-2.38)	(-2.27)	(-2.62)	(-2.23)	(-2.35)	(-0.99)
Capital expenditures	0.277***	0.275***	0.265***	0.683***	0.683***	0.521***
	(4.32)	(4.29)	(4.38)	(4.11)	(4.08)	(2.73)
Female		-0.005	-0.009		-0.027	-0.054
		(-0.39)	(-0.73)		(-0.79)	(-1.50)
Prior industry experience		-0.011	-0.008		-0.002	-0.004
		(-1.46)	(-1.12)		(-0.10)	(-0.27)
BA degree		-0.006	-0.007		-0.004	0.004
		(-0.58)	(-0.64)		(-0.16)	(0.16)
MBA degree		0.002	0.003		-0.005	-0.006
		(0.32)	(0.63)		(-0.37)	(-0.42)
Ph.D. degree		-0.010	-0.002		0.010	0.022
		(-1.01)	(-0.19)		(0.54)	(1.48)
CEO-Chair			-0.007			0.021**
			(-1.28)			(2.22)
Board independence			-0.002			-0.001
			(-0.14)			(-0.02)
Board size			-0.012			-0.025
			(-0.89)			(-0.95)
Observations	3,139	3,139	2,431	911	911	628
R-squared	0.432	0.435	0.472	0.596	0.599	0.611

APPENDIX A

VALIDATION OF SAMPLING STRATEGY

A potential problem with my sampling strategy concerns the coverage of CEO biographies in public sources, such as the Lexis Nexis database. One might reasonably expect CEOs of larger and more prominent firms to garner greater public interest and therefore to be more likely to be included in public databases. While my estimation controls for firm size and other firm characteristics, a particular concern in my setting is that CEOs of poorly performing firms are more likely to be omitted from public databases if they are also born into poor families. To obtain a more representative sample, I supplement the data collection with birth certificates and high school yearbooks from the interface provided by ancestry.com. However, I observe that CEOs of larger and more profitable firms are more likely to be covered in public data sources.

To assess the importance of sample selection bias for my results, I implement the two-stage sample selection model of Heckman (1979). In the first stage, I estimate a probit model predicting the likelihood of the entity selecting into my sample. The dependent variable in this model is equal to 1 if a CEO is included in my main sample (i.e., he or she is one of 506 CEOs for whom I observe family wealth) and 0 if a CEO drops out of my sample. My initial sample consisted of 2,137 unique CEOs. After excluding 1,631 CEOs who were foreign-born and for whom the estimates of endowed family wealth were not available, my final sample consisted of 506 CEOs. The independent variables are firm size, market-to-book ratio, R&D expenses, and CEO age. In the second stage, I include the inverse Mills ratio computed from the first-stage model to control for sample selection bias. Specifically, I replicate the models in Table 3, but include the inverse Mills ratio as a control variable. In both stages, I include industry and year fixed effects. The standard errors are clustered at the firm level.

The first- and second- stage equations share the same predictors, The predicted value from the first-stage regression correlates strongly with the control variables in the second stage model, and high collinearity could yield inconsistent estimates. To alleviate the potential concern about high collinearity, I introduce an instrumental variable to the estimation. It is a dummy variable (*Before 1940*) that takes the value of 1 if the CEOs in the pool were born before 1940, and 0 otherwise. This instrument variable should influence the selection into the sample because individual records from the U.S. Census Survey are available for CEOs born before 1940; these provide more demographic information such as parents names, home address, and birth date. It is useful to link the information available from different public resources. Thus the likelihood of CEOs born before 1940 selecting into the sample condition is high; however, the dummy *Before 1940* is unlikely to correlate with firm performance, which suggests that it might be a valid instrumental variable. I apply the two-stage Heckman correction model by including the exclusion restriction variable in the first stage. The results are reported in Table A2 in Appendix D. The results show that the coefficients for the inverse Mills ratio are not statistically different from zero and the coefficients on family wealth are of similar magnitude and significance as those reported in Table 3, suggesting that sample selection is not important.

Overall, these results suggest that the sample selection bias is unlikely to affect the observed relation between CEOs' endowed family wealth and firm performance.

APPENDIX B

ALTERNATIVE MEASURES OF FAMILY WEALTH

I construct an alternative measure of CEOs endowed family wealth. For each of the 358 CEOs in my sample whose high school yearbook is available, I match the city of the high school that the CEO attended with the nearest city level U.S. Census file. The *family wealth* is estimated as the median household income of the city. For 148 CEOs with missing high school yearbooks, I assume they continue to reside in their formative years in the same city they were born.

APPENDIX C

OTHER VARIABLE DEFINITIONS

Panel A: CEO Characteristics	
Variable	Description
Family wealth	The logarithm of one plus the median household income in the census tract that a CEO resided in his or her formative years, adjusted for 1940 dollars.
High family wealth	An indicator variable equal to 1 if *Family Wealth* is above the annual median, 0 otherwise.
Family wealth 1940	The logarithm of one plus the total household income of the CEO's family in 1940 (1940 Census record).
High family wealth 1940	An indicator equal to 1 if *Family Wealth 1940* is above the annual median, 0 otherwise.
Prior industry experience	An indicator equal to 1 if the CEO has worked in in publicly traded firms in the same industry (two-digit SIC) , 0 otherwise. (BoardEx).
Prior CEO experience	An indicator equal to 1 if the individual has a prior CEO experience , 0 otherwise. (BoardEx).
Age	CEO's age at the end of fiscal year (Execucomp).
Female	An indicator variable equal to one if the CEO is a female, 0 otherwise (Execucomp).
BA degree	An indicator variable equal to 1 if the CEO has a BA college degree or equivalent, 0 otherwise (BoardEx).
MBA degree	An indicator variable equal to 1 if the CEO has an MBA degree, 0 otherwise (BoardEx).
Ph.D. degree	An indicator variable equal to 1 if the CEO has a Ph.D. degree, 0 otherwise (BoardEx).
Ivy League school	An indicator variable equal to 1 if the CEO attended an Ivy League school (Brown University, Columbia University, Cornell University, Dartmouth College, Harvard University, Princeton University, University of Pennsylvania, and Yale University) at any academic level, 0 otherwise (BoardEx).
Private high school	An indicator variable equal to 1 if the CEO attended a private high school, 0 otherwise.

Panel B: Firm Characteristics	
Variable	Description
Firm size	The logarithm of the firm's sales (Compustat).
Firm age	The number of years since the first date of the firm's incorporation. (Compustat).
ROA	Operating income before depreciation scaled by the book assets (Compustat).
Asset turnover	The firm's sales scaled by the book assets (Compustat).
Leverage	Total book debt scaled by the book assets (Compustat).
Capital expenditures	Net capital expenditures scaled by the book assets (Compustat).
Market-to-book	Market value of assets scaled by the book assets (Compustat).
R&D expenses	Research and development expenses scaled by the book assets (Compustat).
M&A deal	The number of M&A deals announced by the firm during the fiscal year
CAR	The acquirer's cumulative abnormal return over the window (-1,+1) around the merger announcement based on the market model
Multi-segment firm	Dummy variable that takes a value of one if a firm has more than one business segment, and zero otherwise (Compustat).
Earnings surprise	Earnings per share before extraordinary items minus adjusted earnings per share in the last period, scaled by the price per share (Compustat).
Stock return	The annualized stock return from the CRSP daily file over the period (t-365,t-28)
Relative stock return	The residuals from regressing the firm stock return on the value weighted industry stock return. Industries are defined using two-digit SIC code
High policy uncertainty	Dummy variable that takes a value of one if a firm is in the top 25% of the distribution of the BBD index.
Volatility	The standard deviation of the firm's daily stock return over the period (t-365,t-28)
Idiosyncratic volatility	The standard deviation of the residuals from regressing the firm's daily stock return on the market model over the period (t-365,t-28)
Class action lawsuit	The number of shareholder litigation of which a firm is a target during the fiscal year
Earnings restatement	An indicator variable equal to 1 if the firm revises earnings during the fiscal year
CEO-chair	An indicator variable equal to 1 if CEO is the chairman of the board, 0 otherwise (BoardEx).
Board size	The logarithm of the number of directors on the board (BoardEx).
Board independence	The number of independent directors divided by the total number of all directors (BoardEx).

APPENDIX D

ADDITIONAL FIGURES AND TABLES

Table A1: Correlation Between Family Wealth Estimates and CEO Education

	Family wealth	*Family wealth 1940*
Family wealth 1940	0.329***	
Private high school	0.158***	0.156***
BA degree	0.072***	0.164***
MBA degree	-0.007	0.194***
Ivy League school	0.151***	0.240***

Table A2: Two-Stage Heckman Selection Model

This table shows the results of the estimation of the two-stage Heckman selection model. *Before 1940* is a dummy variable that takes the value of 1 if the CEO was born before 1940, and 0 otherwise. Year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications. Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Probability of Selection	ROA		
Before 1940	0.771***			
	(3.06)			
Inverse Mills ratio		0.001	0.005	0.003
		(0.16)	(0.38)	(0.22)
Family wealth		-0.021***	-0.015**	-0.015**
		(-2.86)	(-2.05)	(-2.10)
Firm size	0.421***	0.011***	0.012***	0.013***
	(10.15)	(3.34)	(3.10)	(2.79)
Market-to-book	0.049	0.034***	0.034***	0.034***
	(1.56)	(12.09)	(12.38)	(12.07)
Firm age	0.003	0.000	-0.000	-0.000
	(1.15)	(0.21)	(-0.18)	(-0.07)
Leverage	-0.017	-0.034*	-0.031	-0.029
	(-0.06)	(-1.69)	(-1.62)	(-1.51)
R&D expenses	3.439***	-0.306***	-0.291***	-0.299***
	(3.13)	(-3.32)	(-2.94)	(-3.02)
Capital expenditures	-1.092	0.242***	0.258***	0.256***
	(-1.22)	(3.16)	(3.40)	(3.38)
Female	1.165***		0.001	-0.001
	(3.62)		(0.07)	(-0.08)
CEO age	-0.401***		0.006	0.007
	(-7.36)		(1.39)	(1.49)
CEO age squared	0.004***		-0.000	-0.000
	(7.72)		(-1.10)	(-1.20)
BA degree	-0.130		0.005	0.006
	(-0.94)		(0.54)	(0.60)
MBA degree	-0.052		0.001	0.001
	(-0.49)		(0.14)	(0.22)
Ph.D. degree	0.033		-0.001	-0.001
	(0.17)		(-0.10)	(-0.13)
CEO-chair	0.194**			-0.005
	(2.42)			(-0.78)
Board independence	0.062			-0.003
	(0.21)			(-0.17)
Board size	-0.140			-0.013
	(-0.66)			(-0.86)
Observations	9,869	2,318	2,318	2,318
R-squared		0.481	0.489	0.491

Table A3: CEO Family Background and Firm Performance - Alternative Measure

Panel A reports OLS regression estimates of models where the dependent variable is ROA at the fiscal year-end. *Family wealth* is defined as the the logarithm of one plus the median household income of the city a CEO resided in his or her formative years. Year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications. Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A

	(1)	(2)	(3)	(4)	(5)	(6)
Family wealth	-0.030***	-0.029***	-0.030***			
	(-2.75)	(-2.65)	(-2.78)			
High family wealth				-0.011**	-0.011**	-0.014***
				(-2.20)	(-2.09)	(-2.86)
Firm size	0.012***	0.012***	0.010***	0.012***	0.012***	0.009***
	(4.84)	(5.11)	(3.99)	(4.76)	(5.04)	(3.91)
Market-to-book	0.031***	0.031***	0.034***	0.031***	0.031***	0.034***
	(13.15)	(13.70)	(14.08)	(12.95)	(13.53)	(14.04)
Firm age	0.000	0.000	0.000	0.000	0.000	0.000*
	(1.12)	(0.81)	(1.62)	(1.20)	(0.90)	(1.80)
Leverage	-0.033**	-0.033**	-0.016	-0.032**	-0.032**	-0.015
	(-2.00)	(-2.02)	(-0.92)	(-1.97)	(-1.98)	(-0.87)
R&D expenses	-0.365***	-0.363***	-0.254***	-0.373***	-0.372***	-0.256***
	(-2.96)	(-2.89)	(-3.19)	(-2.94)	(-2.90)	(-3.15)
Capital expenditures	0.380***	0.365***	0.318***	0.388***	0.373***	0.327***
	(6.16)	(5.95)	(5.19)	(6.32)	(6.12)	(5.41)
Female		-0.005	-0.013		-0.007	-0.013
		(-0.38)	(-0.99)		(-0.48)	(-1.03)
Prior industry experience		0.000	-0.002		-0.001	-0.003
		(0.02)	(-0.27)		(-0.10)	(-0.43)
Prior CEO experience		-0.035***	-0.026**		-0.035***	-0.025**
		(-3.41)	(-2.55)		(-3.38)	(-2.42)
BA degree		-0.001	0.001		-0.002	0.000
		(-0.06)	(0.10)		(-0.17)	(0.02)
MBA degree		0.003	0.003		0.002	0.003
		(0.46)	(0.72)		(0.44)	(0.65)
Ph.D. degree		-0.002	0.001		-0.000	0.002
		(-0.18)	(0.13)		(-0.04)	(0.27)
CEO-Chair			-0.001			-0.001
			(-0.24)			(-0.18)
Board independence			0.005			0.004
			(0.29)			(0.22)
Board size			-0.015			-0.015
			(-1.24)			(-1.24)
Observations	4,225	4,050	3,059	4,225	4,050	3,059
R-squared	0.431	0.440	0.481	0.429	0.439	0.482

Table A3: CEO Family Background and Firm Performance - Alternative Measure (continued)

Panel B reports OLS regression estimates of models where the dependent variables are asset turnover, earnings surprise, and relative stock return, respectively. *Family wealth* is defined as the the logarithm of one plus the median household income of the city a CEO resided in his or her formative years. Year fixed effects are included in all specifications. Industry fixed effects, defined by two-digit SIC codes, are included in all specifications except column (7) and (8). Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel B

	Asset Turnover		Earnings Surprise		Relative Return	
	(1)	(2)	(3)	(4)	(5)	(6)
Family wealth	-0.304***		-0.002		-0.070**	
	(-2.76)		(-1.42)		(-2.48)	
High family wealth		-0.129***		-0.001**		-0.034**
		(-2.78)		(-1.97)		(-2.56)
Log(Market Value)	-0.097***	-0.096***	0.002***	0.002***	0.010**	0.010**
	(-5.04)	(-5.01)	(4.15)	(4.31)	(2.38)	(2.40)
Market-to-book	0.038	0.039	-0.001***	-0.001***	0.075***	0.075***
	(1.55)	(1.58)	(-2.99)	(-2.71)	(8.75)	(8.82)
Firm age	0.003	0.003	0.000***	0.000***	0.001**	0.001**
	(1.32)	(1.30)	(2.97)	(3.48)	(2.28)	(2.31)
Leverage	-0.999***	-0.987***	-0.031***	-0.028***	-0.171***	-0.169***
	(-4.74)	(-4.69)	(-5.68)	(-5.16)	(-3.10)	(-3.07)
R&D expenses	-2.827***	-2.919***	-0.018	-0.019	-1.274***	-1.288***
	(-3.51)	(-3.53)	(-1.46)	(-1.51)	(-7.31)	(-7.29)
Capital expenditures	1.756***	1.846***	-0.017	-0.022*	-0.624***	-0.609***
	(3.83)	(4.02)	(-1.51)	(-1.89)	(-3.96)	(-3.93)
Lagged volatility	-0.153	-0.144	0.021***	0.022***	0.525***	0.528***
	(-1.20)	(-1.13)	(3.95)	(4.04)	(8.46)	(8.46)
Sales growth	0.278***	0.263***	0.025***	0.024***	0.365***	0.362***
	(4.42)	(4.13)	(7.17)	(6.89)	(8.04)	(8.02)
Female	-0.170	-0.177	-0.001	-0.001	-0.047	-0.047
	(-1.09)	(-1.13)	(-0.32)	(-0.46)	(-1.15)	(-1.16)
Prior industry experience	-0.028	-0.034	0.002**	0.002*	0.037**	0.034**
	(-0.52)	(-0.62)	(2.01)	(1.96)	(2.25)	(2.09)
Prior CEO experience	-0.105	-0.113*	-0.002	-0.002	0.014	0.014
	(-1.65)	(-1.77)	(-0.87)	(-0.81)	(0.49)	(0.49)
BA degree	0.077	0.069	-0.001	-0.001	0.056**	0.055**
	(0.80)	(0.72)	(-0.50)	(-0.71)	(2.21)	(2.14)
MBA degree	-0.003	-0.003	0.000	-0.000	-0.002	-0.001
	(-0.05)	(-0.04)	(0.30)	(-0.14)	(-0.10)	(-0.08)
Ph.D. degree	0.009	0.020	-0.001	-0.001	-0.008	-0.004
	(0.09)	(0.20)	(-0.65)	(-0.70)	(-0.34)	(-0.18)
Observations	3,881	3,881	3,863	3,863	3,628	3,628
R-squared	0.585	0.585	0.085	0.085	0.175	0.175

Table A4: CEO Family Background and M&As - Alternative Measure

This table reports the estimates from the OLS regression of the number and quality of M &A deals on CEO family background. In columns 1 to 4, the dependent variable is the number of M&A deals announced by the firm during the fiscal year. In columns 5 to 8, the dependent variable is the acquirer's cumulative abnormal announcement return, estimated over the three-day window (-1,+1) around the M &A announcement using the market model. Models 5 to 8 also include deal controls, such as the natural logarithm of the deal size, target's market-to-book ratio, method of financing, tender offer, friendly merger indicator, and diversifying deal indicator; the estimates are not shown for brevity. *Family wealth* is defined as the the logarithm of one plus the median household income of the city a CEO resided in his or her formative years. Year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications.Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Family wealth	0.136*	0.147*			-0.035**	-0.033**		
	(1.83)	(1.94)			(-2.52)	(-2.01)		
High family wealth			0.057**	0.059**			-0.016**	-0.016**
			(2.15)	(2.19)			(-2.56)	(-2.37)
Firm size	0.087***	0.087***	0.087***	0.087***	0.007**	0.007*	0.007**	0.007**
	(5.53)	(5.43)	(5.45)	(5.34)	(2.19)	(1.93)	(2.29)	(2.06)
Leverage	-0.144*	-0.139*	-0.150**	-0.146*	-0.001	0.001	0.001	0.001
	(-1.93)	(-1.81)	(-2.02)	(-1.91)	(-0.04)	(0.03)	(0.04)	(0.04)
Market-to-book	0.048***	0.048***	0.048***	0.048***	0.001	0.001	0.001	0.001
	(2.79)	(2.78)	(2.76)	(2.75)	(0.63)	(0.74)	(0.80)	(0.88)
Capital expenditures	-0.267	-0.284	-0.305	-0.324	-0.249**	-0.272**	-0.208**	-0.234**
	(-0.76)	(-0.81)	(-0.87)	(-0.93)	(-2.46)	(-2.50)	(-2.07)	(-2.20)
Stock return	0.022	0.022	0.022	0.022	0.012	0.012	0.012	0.012
	(0.99)	(1.00)	(0.99)	(1.00)	(1.34)	(1.33)	(1.37)	(1.38)
Female		0.031		0.036		0.014		0.014
		(0.42)		(0.48)		(0.63)		(0.65)
Prior industry experience		-0.035		-0.030		-0.006		-0.006
		(-0.83)		(-0.71)		(-0.66)		(-0.75)
Prior CEO experience		0.005		0.004		-0.004		-0.005
		(0.09)		(0.08)		(-0.38)		(-0.55)
BA degree		-0.038		-0.034		0.006		0.004
		(-0.57)		(-0.52)		(0.63)		(0.42)
MBA degree		0.008		0.009		0.003		0.002
		(0.26)		(0.28)		(0.33)		(0.22)
Ph.D. degree		0.081		0.077		0.011		0.014
		(1.09)		(1.03)		(1.19)		(1.63)
Observations	3,692	3,678	3,692	3,678	275	275	275	275
R-squared	0.154	0.156	0.154	0.156	0.345	0.351	0.345	0.353

Table A5: CEO Family Background and Firm Performance - State Fixed Effects

This table reports OLS regression estimates of models where the dependent variable is ROA at the fiscal year-end. *Family wealth* is defined as the the logarithm of one plus the median household income of the city a CEO resided in his or her formative years. State, year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications. Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Family wealth	-0.021***	-0.016*	-0.019**			
	(-2.95)	(-1.88)	(-2.48)			
High family wealth				-0.011**	-0.010*	-0.013**
				(-2.10)	(-1.70)	(-2.54)
Firm size	0.014***	0.015***	0.014***	0.013***	0.015***	0.013***
	(5.43)	(5.76)	(5.21)	(5.28)	(5.61)	(5.12)
Market-to-book	0.031***	0.032***	0.034***	0.031***	0.032***	0.034***
	(12.95)	(14.46)	(14.07)	(12.65)	(14.28)	(13.95)
Firm age	0.000	0.000	0.000	0.000	0.000	0.000
	(0.29)	(0.05)	(0.63)	(0.76)	(0.39)	(1.06)
Leverage	-0.041**	-0.032**	-0.017	-0.041**	-0.032**	-0.016
	(-2.48)	(-2.02)	(-0.97)	(-2.47)	(-2.00)	(-0.91)
R&D expenses	-0.314***	-0.309**	-0.201**	-0.316***	-0.308**	-0.196**
	(-2.74)	(-2.57)	(-2.26)	(-2.69)	(-2.51)	(-2.22)
Capital expenditures	0.402***	0.353***	0.309***	0.410***	0.358***	0.314***
	(4.97)	(5.69)	(5.02)	(5.04)	(5.83)	(5.14)
Female		-0.005	-0.015		-0.006	-0.015
		(-0.39)	(-1.10)		(-0.42)	(-1.07)
Prior industry experience		-0.002	-0.006		-0.001	-0.005
		(-0.28)	(-0.83)		(-0.16)	(-0.68)
Prior CEO experience		-0.033***	-0.022**		-0.034***	-0.023**
		(-3.27)	(-2.04)		(-3.38)	(-2.11)
BA degree		-0.007	-0.005		-0.008	-0.007
		(-0.63)	(-0.42)		(-0.80)	(-0.60)
MBA degree		0.001	0.003		0.001	0.003
		(0.18)	(0.55)		(0.27)	(0.63)
Ph.D. degree		-0.003	0.001		-0.001	0.003
		(-0.31)	(0.16)		(-0.15)	(0.39)
CEO-Chair			-0.002			-0.001
			(-0.34)			(-0.29)
Board independence			0.008			0.009
			(0.50)			(0.55)
Board size			-0.027**			-0.027**
			(-2.22)			(-2.19)
Observations	4,225	4,050	3,059	4,225	4,050	3,059
R-squared	0.447	0.470	0.508	0.445	0.469	0.508

Table A6: CEO and Firm Characteristics around CEO Turnover

This table reports summary statistics for firm characteristics one year prior to the CEO appointment (Panel A) and measures of firm risk one year after the CEO appointment (Panel B). *Family wealth* denotes the natural logarithm of the median household income of the CEO's place of residence in his or her formative years, adjusted for 1940 dollars. *High family wealth* (*low family wealth*) refers to the sample of CEOs with *family wealth* above (below) the annual median.

	Low Family Wealth	*High Family Wealth*	*Difference in Means*	*t-stat*
Panel A: Firm Characteristics One Year Before the CEO's Appointment				
Sales (in $ million)	6435.31	8246.69	-1811.38	-1.08
Market-to-book	2.15	2.63	-0.48	-2.33
Leverage	0.24	0.20	0.04	2.11
Capital expenditures	0.07	0.07	0.00	-0.47
R&D expenses	0.02	0.04	-0.01	-2.94
ROA	0.15	0.15	0.00	0.47
Asset turnover	1.29	1.19	0.10	1.20
Panel B: Firm Risk One Year After the CEO's Appointment				
Stock return volatility	0.43	0.47	-0.03	-1.50
Idiosyncratic volatility	0.39	0.41	-0.02	-1.07
Class action lawsuits	0.05	0.14	-0.09	-1.65
Earnings restatements	0.01	0.01	0.00	0.08

Table A7: External Recruitment vs. Internal Promotion

This table reports probit regressions for the choice of CEO promotion. The dependent variable takes the value of one if a CEO is recruited exernally and zero if he or she is promoted internally. Year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications. Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Probit
Family wealth	0.859*
	(1.87)
Firm size	-0.441***
	(-4.39)
Market-to-book	-0.167*
	(-1.78)
Firm age	0.031***
	(3.12)
Leverage	2.727**
	(2.48)
Cash flow	1.226
	(0.90)
R&D expenses	5.846*
	(1.74)
Female	1.298*
	(1.94)
CEO age	0.063***
	(3.10)
Prior industry experience	-0.171
	(-0.59)
Prior CEO experience	1.081***
	(3.17)
BA degree	0.788
	(1.28)
MBA degree	0.347
	(1.22)
Ph.D. degree	0.682*
	(1.67)
Observations	190
Pseudo R-squared	0.375

Table A8: CEO Family Background and Firm Performance - Do Connections Matter?

This table reports OLS regression estimates of models where the dependent variable is ROA at the fiscal year-end, with controlling for a CEO's prior connections with the nomination committee. Connection is a dummy variable which takes one if the CEO is connected with the committee member through prior education or employment. Year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications. Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)
Family wealth	-0.022**	-0.020**	-0.016*
	(-2.41)	(-2.15)	(-1.77)
Firm size	0.013***	0.013***	0.010***
	(3.66)	(3.89)	(3.09)
Market-to-book	0.031***	0.031***	0.033***
	(9.68)	(10.58)	(10.50)
Firm age	-0.000	-0.000	-0.000
	(-0.88)	(-0.78)	(-1.23)
Leverage	-0.044**	-0.038*	-0.034
	(-2.05)	(-1.81)	(-1.41)
R&D expenses	-0.486**	-0.492**	-0.239**
	(-2.32)	(-2.32)	(-2.02)
Capital expenditures	0.389***	0.359***	0.277***
	(4.80)	(4.50)	(3.59)
Connection	0.007	0.005	0.011
	(0.96)	(0.69)	(1.50)
Female		-0.013	-0.010
		(-0.70)	(-0.51)
Prior industry experience		-0.001	-0.006
		(-0.17)	(-0.66)
Prior CEO experience		-0.042***	-0.040**
		(-3.01)	(-2.44)
BA degree		-0.007	-0.005
		(-0.57)	(-0.43)
MBA degree		-0.002	-0.001
		(-0.28)	(-0.08)
Ph.D. degree		0.006	0.000
		(0.51)	(0.04)
CEO-Chair			-0.001
			(-0.12)
Board independence			-0.007
			(-0.30)
Board size			-0.017
			(-1.00)
Observations	2,565	2,551	1,938
R-squared	0.463	0.477	0.517

Table A9: Firm Performance and CEO Turnover

This table reports probit regression for the relation between the probability of CEO turnovers and prior firm performance. The sample includes CEOs who have no prior CEO experience. The dependent variable is the CEO turnover dummy, which takes the value of one if there is a CEO turnover and equal to zero if there is no CEO turnover. The independent variables are measured as of one year prior to the CEO turnover. Year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications. Standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Probit
Family wealth	-0.280
	(-1.00)
ROA	-3.394*
	(-1.76)
ROA * Family wealth	2.354*
	(1.67)
Firm size	-0.038
	(-1.11)
Market-to-book	-0.009
	(-0.15)
Sales growth	-0.208
	(-0.75)
Leverage	0.873**
	(2.22)
CEO age	0.144***
	(2.89)
CEO age squared	-0.001**
	(-2.30)
CEO-Chair	-0.126
	(-1.14)
Board independence	0.173
	(0.46)
Board size	0.484**
	(2.10)
Observations	1,695
Pseudo R-squared	0.097