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From Playground to Boardroom: Endowed Social Status and Managerial Performance

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Abstract

Using U.S. census survey data on CEOs' residence in their formative years, I document a negative relation between CEOs' endowed family wealth and managerial performance. Consistent with the view that CEOs born into low-income families face higher entry barriers but may possess greater levels of ability that enable them to become CEOs, I find that CEOs born into less privileged families outperform those from higher-wealth families. The outperformance of CEOs from less wealthy families is not driven by risk taking or omitted variables. Overall, my results suggest that CEOs' social endowment provides a useful signal for their managerial ability.

I. Introduction

A growing literature in finance and economics shows that CEOs can significantly influence firms' strategic decisions and performance (see, e.g., Bertrand and Schoar (2003), Bennedsen, Nielsen, Perez-Gonzalez, and Wolfenzon (2007), and Perez-Gonzalez (2006)). Further, a large part of the variation in CEOs' management styles is explained by their personal traits and characteristics (Malmendier and Tate (2008), Kaplan, Klebanov, and Sorensen (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 article, I examine how a CEO's family social status in his or her formative years is associated with managerial ability demonstrated later in life. Individuals from higher-wealth families can rise to prestigious positions with the help of their inherited wealth. For example, heirs of family-controlled firms face relatively lower barriers to entry to leadership positions than those faced by 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,

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and inherited control is associated with poor firm performance.[1] Evidence from research in economics and psychology suggests that endowed social status has long-lasting effects on individuals' behavioral and economic outcomes, such as the propensity to obtain higher education and accumulate wealth (see, e.g., Bowles, Gintis, and Groves (2001), Domhoff, Staples, and Schneider (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), and Ashenfelter and Rouse (1998)). I therefore hypothesize that the family background of someone who has become a CEO may help explain the CEO's professional performance and management style. One reason to expect a relationship 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 only the most talented or the most hardworking among those individuals of lower social class are likely to succeed in becoming CEOs. The selection mechanism suggests a negative relationship between CEOs' endowed social status and their managerial performance.

On the other hand, a large literature in psychology suggests that people with 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), and 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, Gao, and Parson (2012), Borisov, Goldman, and Gupta (2016)). Thus, based on the social capital literature, I expect to find a positive relationship between a CEO's endowed social status and firm performance.

To study firm-performance implications of CEOs' endowed social status, I first offer a novel proxy for a CEO's endowed social status and then 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 when he or she graduated from high school. I use a sample of all active CEOs of S&P 1500 firms between 2004 and 2009 and collect their birth dates and parents' names from the *Marquis Who's Who* biographies on the 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 wealth of the CEO's family is estimated as the median household income in the neighborhood where the CEO lived when he or she graduated from high school. This procedure allows me to obtain family wealth for 506 CEOs, who constitute my main empirical sample.

Estimated family wealth appears to be a reasonable proxy for a CEO's endowed social status. For example, I find that CEOs with lower endowed family wealth are less likely to attend expensive private high schools, to attend college, or to attend an Ivy League school. Further, individuals with lower endowed family wealth have less access to professional and social networks, as measured by the number of connections between the CEO and the board of directors. I also find that the age at which individuals born into less privileged families become CEOs is

[1] Mehrotra, Morck, Shim, and Wiwattanakantang (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.

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5 years older than that of CEOs born into affluent families. These findings are consistent with the theory that individuals from lower-wealth families face greater barriers to entry to prestigious jobs.

My main empirical finding is that, on average, CEOs born into less privileged families outperform those born into affluent 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, and stock returns. Further, for a subset of older CEOs, I obtain a high-precision measure of family wealth available through individual records collected as part of the 1940 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.

To provide evidence on the mechanism, I consider the barriers that an individual faces to enter leadership positions. My results suggest that the negative sensitivity of managerial performance to family wealth is more pronounced among CEOs who grew up in areas with residential segregation, low school quality, and less social capital, all of which reduce children's prospects for upward mobility. Consistently, I find a more pronounced negative relation between managerial performance and endowed family wealth for CEOs who started their careers during deteriorating economic conditions. Overall, the negative wealth–performance relationship is stronger as entry barriers into managerial positions are magnified, suggesting the presence of a selection mechanism.

Although my results are consistent with the view that, on average, CEOs with a low endowed social status can create more value for their shareholders, there are several possible alternative explanations. First, omitted variables could drive firm performance and be correlated with the CEO's family wealth. For example, individuals from wealthier families may enjoy better access to resources than their less wealthy counterparts enjoy. However, these effects favor a positive relationship between endowed family wealth and managerial performance and are unlikely to explain the observed negative relation. It is also possible that my estimates reflect that the results are driven by the sorting of CEOs with lower social status into more profitable or high-growth firms. To address this concern, I compare the profitability of firms run by CEOs with high and low endowed family wealth in the year before the sample CEOs joined their firms; I do not find significant differences. The evidence supports the view that the two types of CEOs are allocated to observably similar firms and that firm characteristics are unlikely to explain the performance differential. 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, Bleidorn, Lamb, Gosling, and Rentfrow (2014)). For example, CEOs who choose to live in relatively poor neighborhoods may be more entrepreneurial, open to new experiences, or very introverted; these personality traits may be correlated with firm performance (Gow, Kaplan, Larcker, and Zakolyukina (2016)).[2] To alleviate this

[2]Although the decision to live in a relatively poor area is not made by the child, the decision may reflect certain parental characteristics that the child may inherit. Those personality characteristics, rather than the endowed social status, affect firm performance.

concern, I use an instrument for family wealth that measures the per capita economic losses caused by natural disasters in counties where CEOs resided during 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 a CEO's family wealth. Further, the negative relation between the CEO's family wealth and firm performance is robust when this instrument is used. 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. To further examine how sensitive my estimates are to omitted variables, I use the test proposed by Altonji, Elder, and Taber (2005) and developed by Oster (2019) to estimate the degree of omitted-variable bias needed to explain the observed coefficients. I find that the inclusion of controls strengthens the estimated coefficients, making it unlikely that the selection on unobservable characteristics explains away the coefficient of interest to 0.

Another possible explanation for my results is that rather than possessing greater ability or exerting more effort, CEOs born into less privileged families instead pursue riskier 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 endowed family wealth and managerial performance. However, the conjecture that executives born into lower-wealth families take more risks is not supported by the data. Leverage and the incidence of accounting fraud are similar whether firms are led by CEOs from less privileged families or by their peers from higher-wealth families.

I next provide underlying channel evidence to show that the effect of a CEO's endowed social status on firm performance is largely driven by differences in the CEO's ability to make investment decisions and develop successful innovation. In particular, CEOs born into affluent families tend to make 0.05 more merger and acquisition (M&A) deals than their peers from less privileged families; such acquisitions earn 1.8% lower announcement returns. Moreover, I find that CEOs from lower-wealth families can more successfully execute innovative investment projects.

I further investigate whether shareholders can benefit from a CEO with high social status. CEOs from wealthier families may deliver benefits such as access to financial capital and political connections. The empirical evidence lends support to the conjecture. I find that CEOs born into higher-wealth families tend to perform better when their businesses face a significant amount of uncertainty. Another set of tests shows that the better performance of CEOs from higher-wealth families is stronger in firms that are financially constrained or are sensitive to public policy. Better access to information and valuable social connections could translate into better decision making during periods of high economic policy uncertainty.

Lastly, I examine why CEOs from wealthier families are selected by their boards if they are, on average, underperforming those born into less privileged families. It is possible that the board is unable to gain a complete picture of a CEO's

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quality at the time he or she is selected but then updates its assessment of the CEO's ability when more information is revealed. I find evidence consistent with this view. Underperforming CEOs from affluent families are less likely to be selected by a board when there is a large amount of publicly available information about their past performance.

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

Different from the literature studying how past experiences shape a CEO's managerial ability and behavior, my article emphasizes the association between CEO characteristics and managerial performance based on the selection mechanism. This article is also related to the literature on the effect of family background on individual economic outcomes. Numerous studies in economics and psychology find that individuals' economic outcomes are highly determined by the social status of their parents (Chetty, Hendren, Kline, and Saez (2014), Black, Devereux, and Salvanes (2005)). Several articles that study family-controlled firms find that inherited control is associated with poor firm performance (Perez-Gonzalez (2006), Bennedsen et al. (2007), and Morck, Stangeland, and Yeung (2000)). My article contributes to this literature by showing that allocating assets to inferior managerial ability of publicly traded firms hurts shareholder wealth. The work most closely related to my article is by Chuprinin and Sosyura (2018), who use the 1940 U.S. census data to analyze the relation between endowed family wealth and the professional performance of mutual fund managers born in or before 1945. In contrast, my article focuses on CEOs of large public firms, who may need a different set of skills for success. Complementing their work, I provide evidence that CEOs from wealthier families may have an advantage in access to financial capital and may benefit from the influence that stems from their political connections; these advantages help them create value for firms during periods of high economic-policy uncertainty. Further, unlike the work of Chuprinin and Sosyura (2018), my analysis is not restricted to individuals born before 1945, which may be important, given the evidence of time trends in the correlation between wealth and access to education for the general population.

II. Data and Sample Construction

A. Sample Construction

I start with a sample of all S&P 1500 firms covered by the S&P 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

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Executive Officer" in their "Annual Title" field in ExecuComp.[3] All interim and acting CEOs, as well as CEOs whose tenure is less than 3 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 date of birth, employment history, connections, educational institutions attended, and degrees earned for each CEO. When biographical data are not available in BoardEx, I use public sources, such as Wikipedia and the Notable Names Database (NNDB). Using the CEO's full legal name and age, I then merge with the *Marquis Who's Who* biographies on the Lexis-Nexis database. The Lexis-Nexis database provides the individual's birth date and birthplace. The output from the people search in 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 sometimes generates 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 database. This procedure leaves me with a sample of 601 unique CEOs of the 2,137 CEOs in the initial database.[4] I further exclude CEOs who 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. In the next step, I match the CEOs with Compustat and CRSP to obtain firms' financial and stock return data for the sample period from 1992 to 2016.

B. Family-Wealth Estimate Based on the CEO's Place of Residence

I follow 2 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, the high school location, and the year of graduation for 358 of the 506 CEOs in my sample. For these 358 CEOs, I then obtain the high school street address, zip code, city, and county at the time of the CEO's graduation.[5] The CEO's family wealth is estimated as the median household income in the neighborhood where the high school is located. This information is available through the U.S. Census of Population and Housing at the census-tract level, which is reported by the U.S. Census Bureau every 10 years. The reports include important statistics, such

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

[4]The fraction of CEOs with available data is comparable to that reported in similar articles. For example, Bernile, Bhagwat, and Rau (2017), who examine the effect of CEOs' early life experiences on risk-taking behavior, are able to find the birthplaces of approximately 31% of the CEOs in their sample.

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

as total population and household income, as well as demographic and economic characteristics at the tract, city, county, and state levels. I estimate CEOs' family wealth during their formative years using the median household income reported in the closest U.S. Census of Population and Housing file for the census tract in which 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.[6]

Second, for 148 CEOs for whom I don't find high school yearbooks, I assume that during their formative years, they continue to reside in the same city where 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 birthplace to the nearest U.S. Census of Population and Housing file, following the same procedure as in the previous step.

C. 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 from individual records collected as part of the 1940 U.S. census for a subset of older CEOs. I also repeat the empirical analysis using these alternative (higher-precision) measures of family wealth.

The availability of the individual household income data is guided by the disclosure of individual census records.[7] I follow Chuprinin and Sosyura (2018) and match the CEOs with their family's record in the 1940 U.S. census file. This procedure necessarily limits the sample to individuals born before 1940, which yields an initial sample of 123 unique CEOs. I then exclude from this sample 15 CEOs who were raised outside the United States because their families were 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 generate 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 a 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.

D. Summary Statistics

Table 1 reports the summary statistics for CEO and firm characteristics in my sample. The definitions of all variables are provided in the Appendix; the

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

[7]The individual decennial census records cannot be released until 72 years after they were collected, so the 1940 U.S. census is the most recent available record.

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TABLE 1

Descriptive Statistics

Table 1 reports summary statistics for CEO characteristics (Panel A) and firm characteristics (Panel B). The unit of observation is the firm-year. FAMILY_WEALTH ($thousands) denotes the median household income of the CEO's place of residence in his or her formative years, adjusted for 1940 dollars. The definitions of all variables are provided in the Appendix.

Variables	No. of Obs.	Mean	Std. Dev.	P10	Median	P90
Panel A. CEO Characteristics						
FAMILY_WEALTH ($thousands)	3,830	3.013	2.708	1.395	2.572	4.459
FAMILY_WEALTH (logarithm)	3,830	1.291	0.385	0.873	1.273	1.697
FAMILY_WEALTH_1940 ($thousands)	646	2.306	1.522	0.65	1.944	5
YEAR_OF_BIRTH	3,830	1947	9.418	1936	1946	1960
CEO_AGE	3,830	57.97	8.83	47	58	69
FEMALE	3,830	0.033	0.178	0	0	0
PRIVATE_HIGH_SCHOOL	3,830	0.107	0.309	0	0	1
BA_DEGREE	3,830	0.925	0.264	1	1	1
MBA_DEGREE	3,830	0.314	0.464	0	0	1
PHD_DEGREE	3,830	0.077	0.267	0	0	0
IVY_LEAGUE_COLLEGE	3,830	0.297	0.457	0	0	1
PRIOR_IND_EXPERIENCE	3,675	0.198	0.398	0	0	1
PRIOR_CEO_EXPERIENCE	3,659	0.071	0.257	0	0	0
Panel B. Firm Characteristics						
SALES ($millions)	3,830	12,028.3	25,630.0	303.8	2,432.4	32,240.5
EMPLOYEES ($thousands)	3,815	38.783	68.191	1.264	10.049	111
FIRM_AGE	3,830	26.995	21.122	6	21	62
MARKET_TO_BOOK	3,830	2.192	1.424	1.057	1.715	3.965
ROA	3,830	0.154	0.092	0.061	0.147	0.265
R&D	3,830	0.035	0.066	0	0	0.133
ASSET_TURNOVER	3,830	1.212	0.808	0.404	1.009	2.332
CAR	371	−0.010	0.048	−0.064	−0.006	0.038
LEVERAGE	3,830	0.148	0.146	0	0.111	0.360
RETURN	3,830	0.158	0.468	−0.339	0.097	0.665
RELATIVE_RETURN	3,830	−0.014	0.417	−0.442	−0.068	0.43
VOLATILITY	3,830	0.405	0.194	0.206	0.357	0.661
IDIOSYNCRATIC_VOL	3,830	0.349	0.178	0.168	0.309	0.583
CLASS_ACTION_LAWSUIT	3,628	0.026	0.160	0	0	0
FINANCIAL_RESTATEMENT	2,650	0.138	0.345	0	0	1
CEO_DUALITY	2,863	0.492	0.500	0	0	1
BOARD_INDEPENDENCE	2,863	0.699	0.170	0.500	0.727	0.900
BOARD_SIZE	2,863	2.235	0.279	1.946	2.303	2.565

continuous variables are winsorized at the 1st and 99th percentiles of the distribution. The average FAMILY_WEALTH ($thousands) is $3,013 (in 1940 dollars), and the median is $2,572. The family-wealth estimates based on the individual records of the 1940 U.S. census are similar in magnitude but are highly skewed. The mean and median FAMILY_WEALTH_1940 ($thousands) are $2,306 and $1,944, respectively. These summary statistics are comparable to the estimates by Chuprinin and Sosyura (2018), who use a similar procedure and report the average (median) annual income for mutual fund managers' fathers of $2,298 ($2,000) in 1940. In the Supplementary Material, I validate the measure and show that it is a reasonable proxy for CEOs' endowed social status. The spatial distribution of CEOs' family wealth is also plotted in Figure 1.

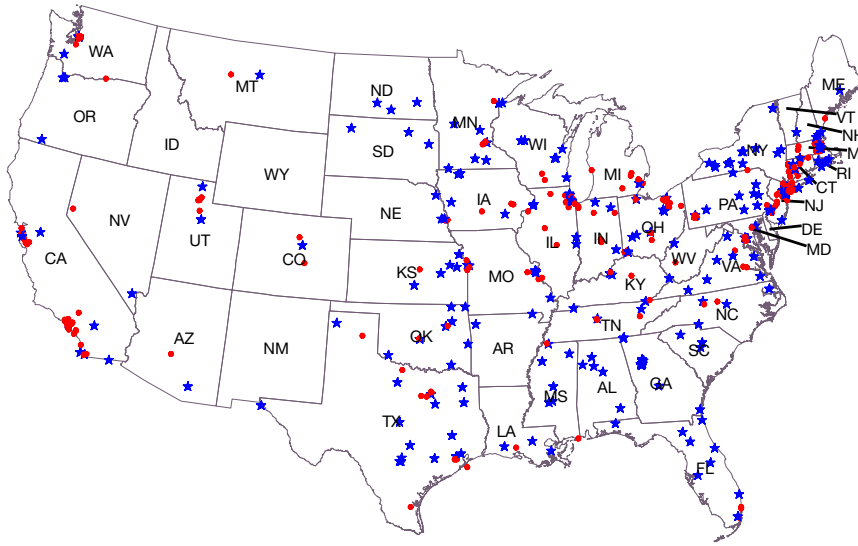
The average CEO in my sample is 58 years old, and only 3.3% of CEOs are female. Approximately 10.7% of CEOs attended private high schools, 92.5% hold a college degree, 29.7% attended an Ivy League school, 31.4% have an MBA degree, and 7.7% have a doctoral degree. The firms in my sample are large, profitable, and mature (see Panel B of Table 1). For example, the average firm is 27 years old, has $12,028 million in annual sales and more than 30,000 employees, and has an ROA of 0.15.

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FIGURE 1

Geographic Distribution of CEOs' Places of Residence During Their Formative Years

The sample in Figure 1 consists of 506 CEOs for whom I am able to estimate family wealth in their formative years. See Section II for details on sample construction. For the 358 CEOs for whom I have high school information, I calculate the CEO's endowed family wealth as the median household income in the census tract located nearest to the CEO's high school. The household income data are from the U.S. Census of Population and Housing file. For the 148 CEOs for whom I do not have high school information, I use the median household income of the CEO's place of birth. In the figure, stars correspond to CEOs with family wealth estimates below the median, and dots denote CEOs with family wealth estimates above the median.



In Table 2, I compare the means of all variables for CEO characteristics with high and low family wealth. Overall, CEOs raised in affluent families tend to be younger and are more likely to have attended a private high school and an Ivy League college. Interestingly, female CEOs are also more likely to come from high-wealth families, perhaps because the barriers to entry to prestigious positions, such as CEOs of S&P 1500 firms, are particularly high for females during this period.

I also find that a CEO's endowed family wealth is correlated with measures of barriers to entry to prestigious careers. For example, as reported in Panel B of Table 2, the CEOs from affluent families started their first professional job at the age of 26, whereas the CEOs from less privileged families started at age 30. The age gap between CEOs with high and low endowed social status becomes bigger as the positions are more prestigious. The analysis of the CEOs' social networks confirms the view that individuals from higher-wealth families have better connections and access to resources. Specifically, I sum the number of connections between directors and the CEO for each fiscal year in my sample. The results are reported in Panel C of Table 2. CEOs from less privileged families are more likely to have worked with the directors in the past, which may indicate that they are more likely to be promoted from inside the firm than to be hired from outside. In contrast, CEOs from affluent families are more likely to be connected to the board of directors through prior education and social activities.

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TABLE 2

CEO Family Background and CEO Characteristics

Table 2 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). FAMILY_WEALTH ($thousands) is calculated as the median household income of the CEO's place of residence in his or her formative years, adjusted for 1940 dollars. The definitions of all variables are provided in the Appendix.

Variables	Low Family Wealth	High Family Wealth	Difference in Means	*t*-Stat.
Panel A. CEO Characteristics				
FAMILY_WEALTH ($thousands)	1.878	4.188	−2.310***	−29.17
CEO_AGE	61.915	53.887	8.028***	31.58
FEMALE	0.021	0.045	−0.024***	−4.19
PRIVATE_HIGH_SCHOOL	0.073	0.142	−0.068***	−6.89
BA_DEGREE	0.918	0.931	−0.013	−1.53
MBA_DEGREE	0.309	0.320	−0.011	−0.76
PHD_DEGREE	0.085	0.069	0.016*	1.81
IVY_LEAGUE_COLLEGE	0.278	0.317	−0.038***	−2.60
Panel B. CEO Career Advancement				
AGE_FIRST_JOB	29.795	26.188	3.607***	5.18
AGE_FIRST_JOB_IN_PUBLIC_FIRM	36.410	31.657	4.753***	4.77
AGE_BECOME_A_CEO	50.423	45.496	4.927***	5.81
Panel C. CEO Connections to Directors				
CONNECTION_THROUGH_EMPLOYMENT	0.843	0.732	0.111**	1.95
CONNECTION_THROUGH_EDUCATION	0.092	0.123	−0.031***	−2.37
CONNECTION_THROUGH_SOCIAL_ACTIVITIES	0.876	0.958	−0.082***	−3.29

III. Family Wealth and Firm Performance

A. Baseline Results

In this section, I analyze whether a CEO's endowed family wealth is related to his or her ability to create value for shareholders. Specifically, I estimate the following OLS specification:

$$(1)\quad y_{i,t} = \alpha \times \text{FAMILY_WEALTH}_j + \beta \times P_{i,t} + \delta * X_{j,t} + \theta * Z_{i,t} + \mu_t + \gamma_k + \varepsilon_{i,t},$$

where index t refers to time, i to firms, j to CEOs, and k to industries (defined by 2-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; $P_{i,t}$ is a vector of firm characteristics, including FIRM_SIZE, MARKET_TO_BOOK, LEVERAGE, FIRM_AGE, and R&D;[8] $X_{j,t}$ is a vector of CEO characteristics, such as FEMALE, PRIOR_IND_EXPERIENCE, PRIOR_CEO_EXPERIENCE, BA_DEGREE, MBA_DEGREE, and PHD_DEGREE; and $Z_{i,t}$ is a vector of firm-governance variables (CEO_DUALITY, BOARD_SIZE, and BOARD_INDEPENDENCE). The definitions of all variables are provided in the Appendix. All specifications include industry and year fixed effects to control for

[8]The control variables are consistent with existing literature; see, for example, Anderson and Reeb (2003).

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unobserved heterogeneity across industries and time.[9] The standard errors are clustered by firm.[10]

Following the extensive corporate literature, I use the operating ROA as my main measure of firm performance. This variable is calculated as the 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)) and relative stock return (Jenter and Kanaan (2015)).

Panel A of 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 the expected signs. For example, larger firms and firms with low leverage are more profitable. In contrast, firms that do R&D have lower profitability, perhaps because the R&D costs have to be expensed in the current period under U.S. accounting rules, whereas they may represent the firm's investment for the long term. In my sample, CEOs born into lower-wealth families are older than CEOs from wealthier families. It is possible that CEOs from less privileged families have better performance because they are more experienced than their peers from wealthier families. I therefore control for the CEO's past work experience in the same industry (2-digit SIC code) and whether he or she has prior CEO experience.

Both measures of a CEO's endowed social status, FAMILY_WEALTH and HIGH_FAMILY_WEALTH, are negatively related to ROA, with the coefficients being statistically different from 0. The results also appear to be economically important. For example, the coefficient on family wealth of -0.025 in the first specification implies that a 1-standard-deviation increase in family wealth translates into a 0.01 decrease in the firm's ROA, which corresponds to an approximately 6.0% decline relative to the sample mean. The estimation with a HIGH_FAMILY_WEALTH indicator yields similar results. Overall, my results suggest that CEOs from higher-wealth families underperform those from less privileged families.

In Panel B of Table 3, I also control for other firm and CEO characteristics that could influence firm performance, for which the coverage for my sample is not complete. The first set of control variables is the CEO's incentive compensation. Becker (2006) suggests that higher-wealth CEOs receive stronger incentives. To ensure that my results are not driven by the omission of the CEO's incentive compensation, I control for CEOs' delta, vega, and ownership in all model specifications. The inclusion of these variables does not qualitatively change my findings. Second, I control for a CEO's age and tenure. CEOs born into lower-wealth families are older (8 years on average) than CEOs from wealthier families in my sample. This might generate significant differences in terms of skill that would not be fully captured by the CEO's prior industry experience and prior CEO experience

[9]The results stay similar if I use industry-times-year fixed effects, which are reported in the Supplementary Material.

[10]My results are robust if I instead cluster the standard errors by executives.

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TABLE 3

CEO Family Background and Firm Performance

Table 3 reports OLS regression estimates of models where the dependent variable is ROA at the fiscal year-end. The definitions of all variables are provided in the Appendix. Year and industry fixed effects, defined by 2-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. Baseline Analysis

Variables	1	2	3	4	5	6
FAMILY_WEALTH	−0.025***	−0.018**	−0.017**			
	(−3.36)	(−2.33)	(−2.29)			
HIGH_FAMILY_WEALTH				−0.011**	−0.009*	−0.010**
				(−2.11)	(−1.66)	(−2.00)
FIRM_SIZE	0.012***	0.012***	0.010***	0.011***	0.012***	0.010***
	(4.87)	(4.91)	(3.73)	(4.70)	(4.79)	(3.63)
MARKET_TO_BOOK	0.030***	0.031***	0.033***	0.030***	0.031***	0.033***
	(12.21)	(13.78)	(13.18)	(11.67)	(13.39)	(13.00)
FIRM_AGE	−0.000	−0.000	0.000	−0.000	−0.000	0.000
	(−0.79)	(−0.51)	(0.40)	(−0.26)	(−0.16)	(0.74)
LEVERAGE	−0.125***	−0.113***	−0.100***	−0.124***	−0.111***	−0.098***
	(−6.26)	(−5.65)	(−4.47)	(−6.22)	(−5.59)	(−4.39)
R&D	−0.434***	−0.417***	−0.309***	−0.433***	−0.416***	−0.308***
	(−4.93)	(−4.47)	(−5.45)	(−4.81)	(−4.41)	(−5.48)
FEMALE		−0.004	−0.019		−0.005	−0.018
		(−0.23)	(−1.30)		(−0.27)	(−1.25)
PRIOR_IND_EXPERIENCE		0.003	0.001		0.004	0.001
		(0.39)	(0.09)		(0.51)	(0.23)
PRIOR_CEO_EXPERIENCE		−0.030***	−0.021*		−0.031***	−0.022**
		(−2.85)	(−1.90)		(−2.94)	(−1.97)
BA_DEGREE		−0.001	0.000		−0.003	−0.001
		(−0.09)	(0.02)		(−0.26)	(−0.12)
MBA_DEGREE		0.001	0.002		0.001	0.003
		(0.12)	(0.35)		(0.23)	(0.49)
PHD_DEGREE		−0.002	−0.001		−0.000	0.001
		(−0.19)	(−0.08)		(−0.05)	(0.15)
CEO_DUALITY			−0.005			−0.004
			(−0.94)			(−0.86)
BOARD_INDEPENDENCE			−0.001			−0.001
			(−0.06)			(−0.07)
BOARD_SIZE			−0.018			−0.017
			(−1.36)			(−1.34)
No. of obs.	3,824	3,654	2,740	3,824	3,654	2,740
R^2	0.435	0.461	0.498	0.430	0.459	0.496

Panel B. Controlling for Additional CEO Characteristics

Variables	1	2	3	4	5
FAMILY_WEALTH	−0.020**	−0.021**	−0.023***	−0.023***	−0.023**
	(−2.39)	(−2.45)	(−2.64)	(−2.69)	(−2.57)
log(DELTA)	−0.003	−0.002	−0.002	−0.000	0.000
	(−0.99)	(−0.81)	(−0.69)	(−0.03)	(0.11)
log(VEGA)	0.001	0.001	0.001	0.001	0.001
	(1.47)	(1.40)	(1.23)	(1.37)	(1.15)
CEO_OWNERSHIP	0.079*	0.078*	0.085*	0.071	0.073
	(1.68)	(1.66)	(1.93)	(1.58)	(1.62)
CEO_AGE		−0.000	0.009***	0.010***	0.009***
		(−0.51)	(2.95)	(3.12)	(3.01)
AGE_SQUARED/100			−0.008***	−0.009***	−0.008***
			(−3.01)	(−3.20)	(−3.09)
log(CEO_TENURE)				−0.003	−0.002
				(−0.95)	(−0.54)
FOUNDER_CEO					−0.011
					(−1.12)
Firm controls	Yes	Yes	Yes	Yes	Yes
CEO controls	Yes	Yes	Yes	Yes	Yes
Board controls	Yes	Yes	Yes	Yes	Yes
No. of obs.	2,346	2,346	2,346	2,240	2,240
R^2	0.516	0.516	0.521	0.517	0.518

in the regressions. It is also possible that CEOs from less privileged families have better performance because they started their careers at a later stage (approximately 4 years later) and are less entrenched than their peers from wealthier families. The results stay similar when I include CEO age and tenure in the model specification. The last is the CEO's founder status. Founders are often great CEOs (Adams, Almeida, and Ferreira (2009), Fahlenbrach (2009), and Villalonga and Amit (2006)). It is possible that CEOs from less privileged families are also founder CEOs and that a founder effect drives my results. To identify founder CEOs, I collect the names of founders of each firm in my sample from the ExecuComp database, 10-K filings, Wikipedia, Bloomberg's Business Week website, and company websites, among other sources. The results across all model specifications are qualitatively unchanged when including a founder CEO dummy that equals 1 if the current CEO is one of the founders of the firm, and 0 otherwise.

In addition, I examine the robustness of the baseline regression results to alternative definitions of fixed effects in the Supplementary Material. The first related concern is that the cost of living in the United States can vary dramatically from state to state. For example, certain regions of the country have better economic growth or public education, factors that could be associated with a CEO's managerial success. The barriers to securing a prestigious job for individuals are linked to their relative wealth during their formative years. I address these concerns by including fixed effects for the CEO's state of residence during his or her formative years in all model specifications, which absorb state-level time-invariant factors. The empirical evidence indicates that CEOs' endowed family wealth is negatively associated with firm performance after controlling for state fixed effects. Second, I include industry-times-year fixed effects, allowing me to control for unobserved time-varying industry shocks to the firm. Finally, the control variables in the baseline regression might be endogenous, in the sense that they might be correlated with both firm performance and the CEO type. Thus, in the Supplementary Material, I report the specifications with no control variables, using only fixed effects. Across all specifications, I find that the proxy for a CEO's endowed social status, FAMILY_WEALTH, is negatively related to managerial performance, with the coefficients being statistically different from 0.

Although suggestive, this evidence is insufficient to draw a conclusion. Several alternative explanations for the existence of a relation between a CEO's endowed family wealth and firm performance are possible. First, it could be that a measurement error in my explanatory variable affects the inference. Second, CEOs endowed with different social statuses may join different types of firms (selection on observable and unobservable variables). In other words, some omitted variables (e.g., CEO characteristics) could drive firm performance and be correlated with the CEOs' endowed family wealth. Third, it is possible that CEOs endowed with different social statuses don't differ in managerial ability or exert different amounts of effort but, rather, have different styles. For example, the negative relation between CEOs' family wealth and firm performance could arise if CEOs from less wealthy families systematically choose riskier 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 Section V. In the next

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

B. 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. I would therefore 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 a 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 using this limited sample. Notably, a 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 −0.030 in model 1 of Table 4 can be compared with −0.025 in the corresponding model 1 of Table 3. However, the economic magnitude increases. Overall, these results suggest that although measurement error may cause me to underestimate the true magnitude of the effect, it is unlikely to affect my results to a large extent.

C. Alternative Measures of Firm Performance

In this subsection, I consider some alternative measures of firm performance. In the baseline analysis, I focus on the accounting profitability measure, operating ROA, which is less subject to accounting manipulation.

Next, I estimate a firm's performance in generating revenue and use asset turnover (ASSET_TURNOVER) as the measure of the firm's efficiency in deploying its assets to generate revenue. The estimation results using this measure are reported in Table 5 and confirm the negative relation between a CEO's endowed family wealth and firm performance. I also use a market-performance measure, market-to-book ratio, as the dependent variable and find that the coefficient estimates are insignificant in the model specification. However, this finding is insufficient to conclude that the CEO's endowed social status is unrelated to market performance because researchers debate whether the market-to-book ratio, in any specification, is an appropriate measure of firm value.[11] Alternatively, I use a direct estimate of market performance, relative stock return (RELATIVE_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 article suggests that a better measure of firm performance (or CEO quality) would be the firm-specific

[11] A number of articles show that the market-to-book ratio suffers from nonclassical measurement error, which can produce biased coefficient estimates in regressions that use it as an outcome variable of interest (see, e.g., Bolton, Chen, and Wang (2011), Erickson and Whited (2012), and Bartlett and Partnoy (2018).

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TABLE 4

CEO Family Background and Firm Performance (1940 Census Sample)

Table 4 reports OLS regression estimates of models where the dependent variable is ROA at the fiscal year-end. The sample consists of CEOs born before 1940 and having individual records disclosed as part of the 1940 U.S. census. The definitions of all variables are provided in the Appendix. Year and industry fixed effects, defined by 2-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.

Variables	1	2	3	4	5	6
FAMILY_WEALTH_1940	−0.030**	−0.023*	−0.037**			
	(−2.37)	(−1.99)	(−2.24)			
HIGH_FAMILY_WEALTH_1940				−0.030**	−0.027**	−0.036**
				(−2.52)	(−2.16)	(−2.00)
FIRM_SIZE	0.016***	0.011**	0.010	0.017***	0.012**	0.009
	(2.79)	(2.03)	(0.92)	(2.85)	(2.13)	(0.86)
MARKET_TO_BOOK	0.034***	0.031***	0.023***	0.034***	0.031***	0.023***
	(8.17)	(7.84)	(4.40)	(8.52)	(8.30)	(4.80)
FIRM_AGE	−0.001**	−0.001***	−0.001**	−0.001*	−0.001***	−0.001**
	(−2.01)	(−3.12)	(−2.51)	(−1.99)	(−3.19)	(−2.44)
LEVERAGE	−0.080**	−0.061**	−0.028	−0.081**	−0.055*	−0.012
	(−2.48)	(−2.10)	(−0.62)	(−2.42)	(−1.79)	(−0.27)
R&D	−0.692***	−0.759***	−0.761***	−0.666***	−0.741***	−0.752***
	(−4.24)	(−5.30)	(−5.10)	(−4.08)	(−5.17)	(−5.11)
PRIOR_IND_EXPERIENCE		0.006	0.018		0.005	0.017
		(0.59)	(1.33)		(0.47)	(1.35)
PRIOR_CEO_EXPERIENCE		−0.054***	−0.075***		−0.054***	−0.080***
		(−4.01)	(−3.33)		(−3.91)	(−3.94)
BA_DEGREE		0.081***	0.060**		0.074***	0.059**
		(4.07)	(2.05)		(3.67)	(2.09)
MBA_DEGREE		0.020	0.022		0.024*	0.028*
		(1.57)	(1.33)		(1.95)	(1.68)
PHD_DEGREE		0.041*	0.073***		0.048**	0.082***
		(1.90)	(2.72)		(2.09)	(2.94)
CEO_DUALITY			−0.025			−0.022
			(−1.54)			(−1.42)
BOARD_INDEPENDENCE			−0.014			0.002
			(−0.49)			(0.07)
BOARD_SIZE			−0.023			−0.022
			(−0.98)			(−1.00)
No. of obs.	645	607	396	645	607	396
R^2	0.601	0.657	0.701	0.606	0.662	0.705

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 2-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 by 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 better performance of CEOs from lower-wealth families is not attributable to industry shock or pure "luck."

IV. Mechanism

In this section, I describe the selection mechanism and provide evidence. The literature on economic inequality finds that the economic outcomes of children are

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TABLE 5

Alternative Measures of Firm Performance

Table 5 reports OLS regression estimates of models where the dependent variables are ASSET_TURNOVER and RELATIVE_RETURN. The definitions of all variables are provided in the Appendix. Year fixed effects are included in all specifications. Industry fixed effects, defined by 2-digit SIC codes, are included in all specifications except models 3 and 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.

	ASSET_TURNOVER		RELATIVE_RETURN	
Variables	1	2	3	4
FAMILY_WEALTH	−0.171**		−0.033*	
	(−2.46)		(−1.69)	
HIGH_FAMILY_WEALTH		−0.107**		−0.035**
		(−2.14)		(−2.58)
FIRM_SIZE	0.028	0.026	0.006	0.006
	(1.49)	(1.39)	(1.26)	(1.23)
MARKET_TO_BOOK	0.018	0.019	0.086***	0.087***
	(0.74)	(0.76)	(10.89)	(10.87)
FIRM_AGE	−0.002	−0.002	0.000	0.000
	(−1.23)	(−0.97)	(0.87)	(1.04)
LEVERAGE	−1.092***	−1.080***	−0.160***	−0.159***
	(−5.11)	(−5.07)	(−2.85)	(−2.81)
R&D	−3.634***	−3.619***	−0.921***	−0.924***
	(−6.31)	(−6.18)	(−7.70)	(−7.74)
VOLATILITY	0.359***	0.364***	0.465***	0.468***
	(2.63)	(2.67)	(7.91)	(7.98)
FEMALE	−0.094	−0.094	−0.058	−0.056
	(−0.69)	(−0.67)	(−1.51)	(−1.47)
PRIOR_IND_EXPERIENCE	−0.012	−0.003	0.048***	0.048***
	(−0.22)	(−0.06)	(2.87)	(2.88)
PRIOR_CEO_EXPERIENCE	−0.204***	−0.216***	0.040	0.038
	(−2.81)	(−2.98)	(1.38)	(1.32)
BA_DEGREE	0.024	0.008	0.055**	0.053**
	(0.24)	(0.08)	(2.15)	(2.06)
MBA_DEGREE	0.003	0.010	−0.000	0.001
	(0.04)	(0.15)	(−0.02)	(0.04)
PHD_DEGREE	0.020	0.032	0.003	0.005
	(0.18)	(0.28)	(0.12)	(0.22)
No. of obs.	3,624	3,624	3,628	3,628
R^2	0.597	0.596	0.150	0.151

strongly correlated with those of their parents. An individual faces multiple selection barriers en route to the job (Ashenfelter and Rouse (1998), Chetty et al. (2014)). Both endowed social status and managerial skill can help overcome the barriers. Because high social status helps overcome these barriers, individuals of lower social status have to rely on their superior skill to enter on the path to becoming a CEO. Individuals born into wealthier families have better access to good education and professional networks, which not only helps them overcome the barriers on the path to the job but also enhances their skills. When these controls are included in the baseline regressions, the negative wealth–performance relation still holds, suggesting that the selection mechanism is operative.

To provide further evidence on the selection mechanism, I consider the barriers that an individual faces to enter leadership positions. The first barrier is motivated by the literature in intergenerational mobility. A number of articles find that children's economic opportunities are shaped by the areas in which they grew up. It is less common for individuals to climb the income ladder in the Southeast and

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TABLE 6

Entry Barriers and Selection Mechanism

Table 6 reports how the relation between the CEO's endowed family wealth and firm performance varies with the barriers to entry into managerial positions. The control variables are the same as in model 3 of Table 3 (omitted here for brevity). I define LOW_ECONOMIC_GROWTH as 1 for the calendar year during which CEOs enter the labor market when it is in the bottom quartile of the distribution of the GDP growth rate and as 0 when it is in the top quartile of the same distribution. LOW_MOBILITY equals 1 if the CEO grew up in areas in the bottom 30 commuting zones of intergenerational mobility as ranked by Chetty et al. (2014), and 0 otherwise. The definitions of all variables are provided in the Appendix. Year and industry fixed effects, defined by 2-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.

Variables	1	2	3
FAMILY_WEALTH	−0.011	−0.000	−0.032***
	(−1.27)	(−0.03)	(−2.84)
FAMILY_WEALTH × LOW_MOBILITY	−0.032*		
	(−1.93)		
LOW_MOBILITY	0.047*		
	(1.86)		
FAMILY_WEALTH × LOW_ECONOMIC_GROWTH		−0.030**	
		(−2.00)	
LOW_ECONOMIC_GROWTH		0.040*	
		(1.93)	
FAMILY_WEALTH × GDP_GROWTH_RATE			0.420*
			(1.76)
GDP_GROWTH_RATE			−0.632*
			(−1.93)
No. of obs.	2,740	1,447	2,676
R^2	0.500	0.594	0.510

Midwest of the United States as a result of residential segregation, low school quality, and less social capital. These findings support the view that growing up in these areas reduces children's prospects for upward mobility, and economic outcomes tend to be worse for children born into low-income families (Chetty et al. (2014), Chetty and Hendren (2018a), (2018b)). Under this hypothesis, I expect a stronger negative relation between endowed family wealth and managerial performance if CEOs were raised in areas that exhibit lower levels of intergenerational mobility. LOW_MOBILITY is a binary indicator that equals 1 if the CEO grew up in an area classified in the bottom 30 commuting zones of intergenerational mobility, as ranked by Chetty et al. (2014). The negative coefficient on the interaction term in model 1 of Table 6 suggests that the negative sensitivity of managerial performance to family wealth is more pronounced among CEOs growing up in low-intergenerational-mobility areas.

Secondly, I look at economic conditions at the beginning of an executive's career. The motivation behind this analysis is that it is disadvantageous to embark on a career in a downturn, and the entry barriers to a prestigious position are particularly high for candidates with lower social status. In this case, I expect a more pronounced negative relation between managerial performance and endowed family wealth for CEOs who start their career during deteriorating economic conditions. In models 2 and 3 of Table 6, I interact the measure of economic conditions with the CEO's endowed family wealth. I define LOW_ECONOMIC_GROWTH as 1 for the calendar year during which CEOs enter the labor market when it is in the bottom quartile of the distribution of the GDP growth rate and as 0 when it is in the top quartile of the same distribution. The coefficient on the

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interaction term in model 2 is negative and significant at 10%, suggesting that the negative relation between family wealth and managerial performance is stronger for CEOs who embark on their career in years of worsening economic conditions. In model 3, I consider a continuous measure, GDP_GROWTH_RATE, and the positive coefficient on the interaction term indicates that the performance gap between the CEOs from affluent families and those born into less wealthy families is smaller when the barriers to entry into managerial positions are lower.

In summary, the negative wealth–performance relation is stronger as entry barriers into managerial positions are magnified, suggesting the presence of a selection mechanism.

V. Alternative Explanations

In this section, I investigate the validity of alternative explanations and the robustness of the empirical results to omitted variables. Omitted variables could drive firm performance and be correlated with the CEO's endowed family wealth. For example, individuals from wealthier families may genetically inherit certain skills from their parents, have better connections, and enjoy better access to resources than their less wealthy counterparts. However, all these effects would favor a positive relationship between endowed family wealth and managerial performance, and they are unlikely to explain the results. The low incidence of changes in the type of CEOs within firms doesn't allow me to control for firm fixed effects. Hence, I cannot rule out that my estimates reflect that the results are driven by the sorting of CEOs with lower social status into more profitable or high-growth firms. To investigate this possibility, I examine firm characteristics around CEO appointment events for both types of CEOs. I follow the CEO turnover literature (e.g., Denis and Denis (1995), Huson, Malatesta, and Parrino (2004), and Bennedsen et al. (2007)) to identify such events. For each firm in year t, if the CEO does not hold the CEO title in year $t-1$, I record an appointment event for that firm in year t. I exclude turnovers related to special corporate events, such as mergers, acquisitions, and spin-offs. In the Supplementary Material, I report the firm characteristics in year $t-1$ for CEOs with high family wealth and those with low family wealth for 331 CEO appointment events in my sample. CEOs with high family wealth tend to join firms with high market-to-book ratio, high R&D expenses, 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 that firm characteristics are unlikely to explain the performance differential.

A. Instrumental Variable Estimation

Recent articles in geographic psychology demonstrate variation in the commonly observed personal traits of people living in different regions (Jokela et al. (2014)). 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.

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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 endowed with lower family wealth are able to perform better in the firm. An ideal instrumental variable would be strongly correlated with the estimate of CEOs' endowed family wealth but unrelated to their managerial 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 negatively correlated with the CEO's family wealth, which is estimated from the median household income in the neighborhood. However, the managerial 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.[12] 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. I focus on less frequent events, such as earthquakes, fires, and hurricanes, because they are less likely to be anticipated and tend to cause large economic damage. I use the natural logarithm of 1 plus 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 U.S. Spatial Hazard Events and Losses Database (SHELDUS), which includes the date, location, and relevant economic loss caused by natural disasters, recorded at the county level from 1960 to 2010.[13]

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 CEOs' endowed 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 2-stage least squares (2SLS) method. The results are presented in Table 7. 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 hazards is negatively correlated with the estimate of CEOs' family wealth, as suggested by the high t-statistics, R^2, and F-statistics of weak identification tests. 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.

[12]Recent finance research suggests that CEOs' past experiences in life account for the differences in corporate risk taking, but the literature finds no evidence of the differences in operating performance (see, e.g., Schoar and Zuo (2017)).

[13]In this analysis, I restrict the sample to CEOs who graduate from high school in or after 1956 due to the limitation of SHELDUS database.

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TABLE 7

CEO Family Background and Firm Performance: Instrumental Variables Approach

Table 7 presents the results of a 2-stage least squares (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 endowed family wealth. Columns 2, 4, and 6 present the estimates of the model with family wealth endogenized. The excluded instrument (ECONOMIC_DAMAGE) is the natural logarithm of 1 plus the estimated per capita economic losses caused by natural disasters in counties where CEOs resided during their formative years. In columns 1 and 2, the estimation includes year and industry fixed effects (defined by 2-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. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	FAMILY_WEALTH	ROA	FAMILY_WEALTH	ROA	FAMILY_WEALTH	ROA
Variables	(1st stage)	(2nd stage)	(1st stage)	(2nd stage)	(1st stage)	(2nd stage)
FAMILY_WEALTH		−0.135*** (−2.66)		−0.127*** (−2.70)		−0.114** (−2.41)
ECONOMIC_ DAMAGE	−0.077*** (−4.93)		−0.079*** (−4.84)		−0.076*** (−3.77)	
No. of obs.	1,476	1,476	1,425	1,425	1,120	1,120
First-stage R^2 (first-stage joint *F*-test)	0.243 24.27 (*p*-value < 0.001)		0.288 23.41 (*p*-value < 0.001)		0.371 14.23 (*p*-value < 0.001)	
Weak identification test (Craigg–Donald *F*-stat.)	188.85 (*p*-value < 0.001)		196.11 (*p*-value < 0.001)		124.54 (*p*-value < 0.001)	

B. Omitted-Variable Bias

To assess the potential omitted-variable bias in my sample, I follow the method developed by Altonji et al. (2005) and Oster (2019) to evaluate the selectivity bias. Oster shows that the omitted-variable bias can be evaluated by examining coefficient stability and the movements in R^2 inclusion of more control variables. She calculates a metric for the selection on unobservables, δ. When the δ is positive and greater than 1, the estimated coefficients of the regressions would not be driven to 0 as the unobservables were to be included. Negative values of δ indicate that adding controls to the model increases the magnitude of coefficients, making it unlikely that the selection on unobservables explains away the coefficient of interest to 0. 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^2 in the regression model. The results for each model estimated in this section are shown in Table 8. The δs in all specifications are negative. For example, the δ of −29.018 for model 3 of Table 3 indicates that the coefficient on family wealth is larger in magnitude when the full set of controls is included compared with the coefficient when only the variable of interest is included in the model. The results following this procedure suggest that adding controls to the model increases the effect of CEOs' endowed family wealth and that unobservables are negatively correlated with the controls. Although negative δ makes this method uninformative about the size of bias arising from the selection on unobservables, it satisfies the standard for robustness proposed by Oster and indicates that the observed results are unlikely to be driven by omitted variables.

Overall, my results do not support the view that CEOs' family wealth proxies for some unobservable firm or CEO characteristics. Instead, the negative relation

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TABLE 8

Selection on Unobservables and the Omitted-Variable Bias

Table 8 reports δ, which measures the degree of omitted-variable bias using the test proposed and developed by Oster (2019); $\delta > 1$ ($\delta < 1$) 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 Table 3 and Table 4. I calculate δ under the assumption of the maximum possible R^2 suggested by Oster, that is, $R_{max} = 1.3\tilde{R}$, where $\tilde{R}$ is the observed maximum R^2 in the regression model, and under the more stringent assumption of $R_{max} = 1$.

		Regression Specification	
Input R_{max}	Explanatory Variable	Table 3, Model 3	Table 4, Model 3
$1.3\tilde{R}$	FAMILY_WEALTH	−29.018	
$1.3\tilde{R}$	FAMILY_WEALTH_1940		−7.206
1	FAMILY_WEALTH	−8.800	
1	FAMILY_WEALTH_1940		−5.140

between CEOs' endowed family wealth and firm performance is more consistent with the story that the barriers to securing a leadership position are significantly higher for candidates of lower social status, and only the most talented among those can succeed.

C. Risk-Taking Behavior

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)). A potential explanation for the observed wealth effect on firm performance is that CEOs born into less wealthy families do not have greater ability or exert more effort but instead pursue riskier 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 managerial performance.

Following the literature on CEO styles, I match the CEO's endowed 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 financial restatement. The results from these tests are presented in Table 9. The correlation between family wealth and leverage is not significant. 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 wealthier families. Columns 4 and 5 report linear-probability-model regression estimates for the relation between CEOs' endowed family wealth and the propensity for their firms to become a target of shareholder litigation and to revise its financial statements.[14] The firms with CEOs from less wealthy families are not different from those with CEOs from wealthier families in issuing financial restatements.[15] Moreover, firms led by CEOs with lower social

[14]My data source for shareholder litigation is the Stanford Law School and Securities Clearinghouse. The data are available at the annual frequency starting from 1996 to the present year.

[15]I obtain financial restatements from the Audit Analytics database for the period of 2000–2013. My choice of the starting date is motivated by the availability of data in the Audit Analytics database. I cut off

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TABLE 9

CEO Family Background and Firm Risk

Table 9 reports OLS regression estimates of models where the dependent variables are the measures for a variety of corporate outcomes. The definitions of all variables are provided in the Appendix. Year and industry fixed effects, defined by 2-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.

Variables	LEVERAGE	VOLATILITY	IDIOSYNCRATIC_VOL	CLASS_ACTION_LAWSUIT	FINANCIAL_RESTATEMENT
	1	2	3	4	5
FAMILY_WEALTH	0.003	0.024*	0.025**	0.221*	0.037
	(0.21)	(1.75)	(2.08)	(1.65)	(0.19)
log(MARKET_VALUE)	−0.015***	−0.024***	−0.027***	0.112**	−0.119**
	(−3.84)	(−5.42)	(−6.78)	(2.45)	(−2.12)
MARKET_TO_BOOK	−0.030***	0.015***	0.012***	−0.004	0.039
	(−7.70)	(3.04)	(2.80)	(−0.08)	(0.56)
SALES_GROWTH	0.038***	−0.064***	−0.042**	−0.469	0.081
	(2.70)	(−3.27)	(−2.43)	(−1.47)	(0.31)
FIRM_AGE	0.001***	−0.001***	−0.001***	−0.001	0.000
	(2.66)	(−4.82)	(−4.42)	(−0.22)	(0.04)
LEVERAGE		0.160***	0.135***	0.771*	0.378
		(3.83)	(3.56)	(1.68)	(0.63)
FEMALE	−0.014	0.010	0.014	−0.088	−0.043
	(−0.46)	(0.19)	(0.30)	(−0.22)	(−0.16)
PRIOR_IND_EXPERIENCE	0.026**	0.004	−0.001	−0.010	−0.019
	(2.33)	(0.32)	(−0.05)	(−0.08)	(−0.10)
PRIOR_CEO_EXPERIENCE	0.026	0.031*	0.035**	−0.171	−0.018
	(1.18)	(1.66)	(2.09)	(−0.76)	(−0.07)
BA_DEGREE	0.021	−0.002	−0.005	−0.217	−0.091
	(0.95)	(−0.14)	(−0.31)	(−1.07)	(−0.36)
MBA_DEGREE	0.005	−0.009	−0.008	0.035	0.079
	(0.43)	(−0.83)	(−0.84)	(0.27)	(0.55)
PHD_DEGREE	0.003	0.004	0.001	0.173	−0.286
	(0.19)	(0.21)	(0.04)	(0.95)	(−0.96)
CEO_DUALITY	−0.013	0.012	0.014*	0.142	−0.078
	(−1.50)	(1.38)	(1.90)	(1.04)	(−0.59)
BOARD_INDEPENDENCE	0.020	0.022	0.021	0.027	−0.469
	(0.67)	(0.71)	(0.76)	(0.07)	(−1.05)
BOARD_SIZE	0.078***	−0.060***	−0.054***	0.258	−0.311
	(3.88)	(−2.71)	(−2.69)	(0.86)	(−0.94)
No. of obs.	2,745	2,745	2,745	1,851	1,872
R^2/Pseudo-R^2	0.495	0.565	0.571	0.104	0.169

status are less likely to become a target of shareholder litigation than firms led by CEOs with higher social status. The results are not supportive of the risk-taking hypothesis, and CEOs from families with lower social status do not have a greater tendency to engage in risky business practices. Further, I plot the firm characteristics around CEO appointment (see Figure 2).[16] CEOs endowed with family wealth above the annual median are indicated by lighter (gray) lines in the figure, and those with family wealth below the annual median are indicated by darker (blue) lines. Year 0 refers to the year of a new CEO's appointment.

the sample in 2013 because prior research indicates an average 2-year time lag between the original financial statement release and a restatement (Cheffers, Whalen, and Usvyatsky (2010)).

[16]The definitions of firm leverage, stock return volatility, and idiosyncratic stock return volatility are presented in the Appendix. For each year, the shareholder class-action lawsuits are defined as the average of lawsuits over the past 3 years. Financial restatement is defined in the same way.

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FIGURE 2

Firm Characteristics Around CEO Appointment

Figure 2 plots firm characteristics around the CEO appointment. Year 0 refers to the year of a new CEO's appointment. In the graphs, darker (blue) lines correspond to CEOs with family-wealth estimates below the sample median, and lighter (gray) lines correspond to CEOs with family-wealth estimates above the sample median.

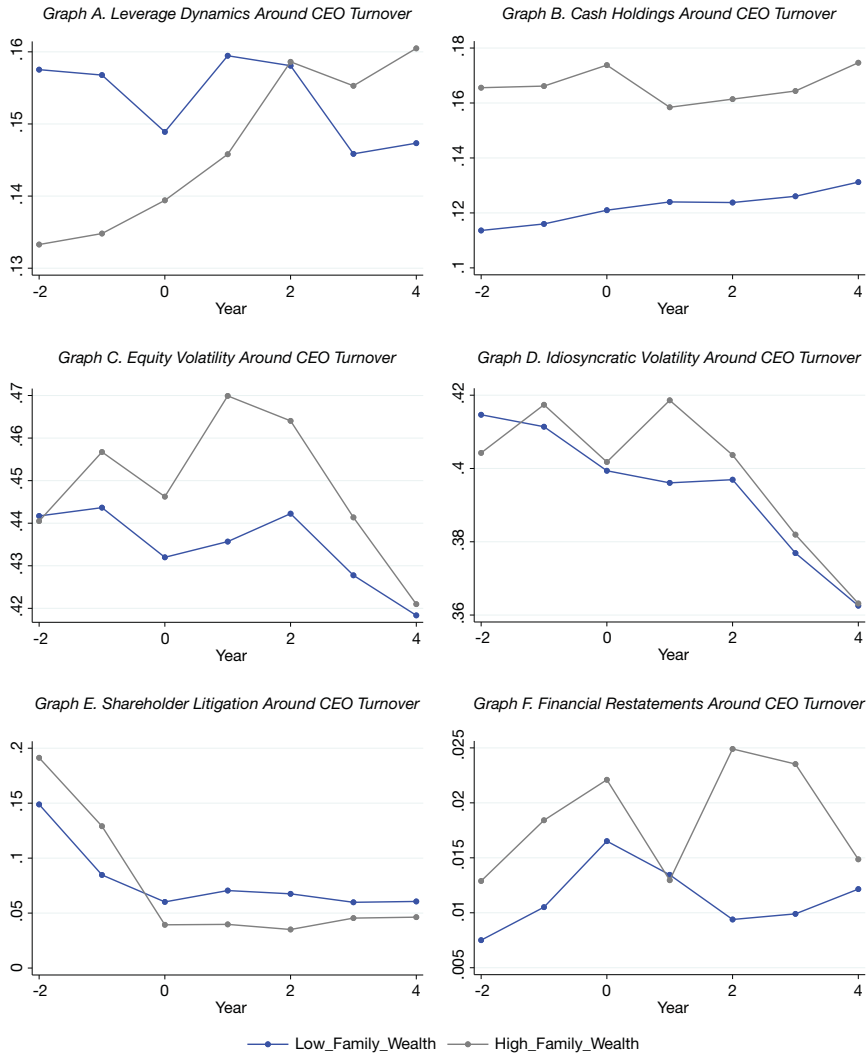


Figure 2 shows that CEOs from low-wealth families tend to join highly leveraged firms, but firm leverage decreases over the CEO's tenure. The stock return volatility and idiosyncratic stock return volatility of firms with CEOs from low-wealth families are lower than in firms with CEOs from wealthier families. In addition, firms with CEOs from less privileged families issue financial restatements less frequently than firms with CEOs from high-wealth families. The firm

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TABLE 10

CEO Family Background and M&As

Table 10 reports the estimates from the OLS regression of the number and quality of merger and acquisition (M&A) deals on the CEO's family background. In models 1–4, the dependent variable is the number of M&A deals announced by the firm during the fiscal year. In models 5–8, the dependent variable is the acquirer's cumulative abnormal announcement return, estimated over the 3-day window $(-1, +1)$ around the M&A announcement using the market model. All models include lagged firm- and CEO-level control variables. Models 5–8 also include deal controls, such as the natural logarithm of the deal size, the natural logarithm of the target's book asset, the target's market-to-book ratio, the target's R&D expenses, and a diversifying deal indicator; the estimates are not shown for brevity. Year and industry fixed effects, defined by 2-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.

	M&A_DEALS				CAR			
Variables	1	2	3	4	5	6	7	8
FAMILY_WEALTH	0.119*	0.122*			−0.015**	−0.017*		
	(1.84)	(1.90)			(−2.00)	(−1.70)		
HIGH_FAMILY_WEALTH			0.048*	0.048*			−0.017**	−0.018**
			(1.75)	(1.73)			(−2.18)	(−2.31)
FIRM_SIZE	0.089***	0.090***	0.089***	0.091***	0.003	0.002	0.004	0.004
	(5.29)	(5.15)	(5.26)	(5.13)	(0.88)	(0.62)	(1.03)	(0.81)
LEVERAGE	−0.119	−0.116	−0.139	−0.134	−0.064	−0.072	−0.056	−0.064
	(−1.25)	(−1.21)	(−1.38)	(−1.32)	(−1.39)	(−1.51)	(−1.32)	(−1.50)
MARKET_TO_BOOK	0.044**	0.044**	0.044**	0.043**	0.001	0.001	0.002	0.002
	(2.21)	(2.20)	(2.22)	(2.22)	(0.44)	(0.32)	(0.89)	(0.79)
RETURN	0.010	0.012	0.009	0.011	0.005	0.005	0.004	0.004
	(0.45)	(0.53)	(0.41)	(0.49)	(0.38)	(0.42)	(0.30)	(0.32)
FEMALE		0.074		0.077		0.027		0.023
		(1.02)		(1.00)		(1.12)		(0.97)
PRIOR_IND_EXPERIENCE		−0.019		−0.025		−0.013		−0.012
		(−0.42)		(−0.56)		(−1.43)		(−1.38)
PRIOR_CEO_EXPERIENCE		0.011		0.019		−0.012		−0.018
		(0.19)		(0.33)		(−0.94)		(−1.61)
BA_DEGREE		−0.050		−0.042		−0.002		−0.004
		(−0.70)		(−0.61)		(−0.15)		(−0.32)
MBA_DEGREE		0.008		0.001		0.005		0.006
		(0.22)		(0.03)		(0.62)		(0.86)
PHD_DEGREE		0.095		0.087		0.003		0.002
		(1.18)		(1.08)		(0.26)		(0.24)
No. of obs.	3,332	3,318	3,332	3,318	257	257	257	257
R^2	0.162	0.165	0.159	0.162	0.362	0.375	0.366	0.381

characteristics around CEO appointment presented in Figure 2 are consistent with the regression analysis reported in Table 10. Both suggest that CEOs with lower social status do not have a greater tendency to engage in risky business practices.

VI. How Do Low-Social-Status CEOs Create Value?

The evidence thus far suggests that CEOs from low social classes create more value for the firm than those born into higher-wealth families. In this section, I further shed light on the economic channels that may contribute to the performance differential. I focus on two corporate policies for which CEOs have major input and that foster firm performance: acquisition decisions and innovation efficiency.

A. Acquisition Decisions

M&As are among the largest investment decisions made by a firm and, importantly, are a good setting in which to examine a CEO's ability to identify

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and negotiate good deals. To conduct these tests, I identify merger deals announced when the CEO is at the helm in which the target is a publicly listed firm in the United States. I exclude spin-offs, buybacks, self-tenders, exchange offers, repurchases, and transactions for which the deal value is not available. My sample ends up with 394 merger announcements. I next estimate several regressions to study whether the CEO's endowed family wealth has an impact on firm acquisition activities and performance. Industry and year fixed effects are included in all model specifications. Standard errors are clustered at the acquiring-firm level. The results are presented in Table 10.

Columns 1–4 of Table 10 display the model estimation for the relation between a CEO's endowed family wealth and the number of announced acquisitions. Across all 4 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 higher-wealth families tend to make 0.05 more M&A deals than their peers from less privileged families. Next, I examine how the market reacts to the announcement 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 5–8. I also include a vector of factors that affect the merger outcomes, such as the natural logarithm of the deal size, the natural logarithm of the target firm size, the target firm's market-to-book ratio, the R&D expenses of target firms, and diversifying merger (for brevity, these estimates are not shown in Table 10). 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 1.8% higher announcement returns.

Overall, these results show that CEOs from lower-wealth families are more able to successfully evaluate investment opportunities. They have superior deal-selection ability, and such acquisitions are value enhancing for the firm.

B. Innovation Efficiency

In the second set of tests, I analyze whether CEOs with low social status can more successfully execute innovative investment projects. Following the existing literature, I construct several measures of firm-level innovation using patent counts and citations. The sample of U.S. patents comes from Kogan, Papanikolaou, Seru, and Stoffman (2017) and consists of all utility patents issued by the U.S. Patent and Trademark Office for the period 1926–2010. The first measure of innovation is defined as the natural logarithm of 1 plus the number of patents applied for in a fiscal year (PATENTS). I use the natural logarithm of 1 plus the number of forward citations for all patents that a firm applied for in a given year (CITATIONS) as the second measure of innovation. The last measure is the natural logarithm of 1 plus the number of forward citations scaled by the number of patents filed by the firm in the same year (AVERAGE_CITATIONS). I restrict the sample to patent applications up until 2008 to address the time-truncation problem of patent citations because patents filed in a later time period naturally have fewer citations. Columns 1–3 of Table 11 examine the relation between innovation outcomes and the

TABLE 11

CEO Family Background and Innovation Efficiency

Table 11 reports OLS regression estimates of models where the dependent variables are PATENTS, defined as the natural logarithm of 1 plus the number of patents applied for in year ($t+1$); CITATIONS, defined as the natural logarithm of 1 plus the number of forward citations for all patents that a firm applied for in year ($t+1$); and AVERAGE_CITATIONS, defined as the natural logarithm of 1 plus the number of forward citations scaled by the number of patents filed by the firm in the same year. Year and industry fixed effects, defined by 2-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.

	PATENTS	CITATIONS	AVERAGE_CITATIONS
Variables	1	2	3
FAMILY_WEALTH	0.792**	0.965***	0.165
	(2.52)	(2.84)	(1.27)
R&D × FAMILY_WEALTH	−5.296*	−7.583**	−2.227*
	(−1.71)	(−2.23)	(−1.76)
R&D	12.964***	17.309***	4.168**
	(2.98)	(3.74)	(2.37)
FIRM_SIZE	0.833***	0.837***	−0.004
	(15.21)	(11.56)	(−0.18)
MARKET_TO_BOOK	0.133***	0.170***	0.025
	(3.45)	(3.52)	(1.28)
LEVERAGE	−1.096**	−1.127*	0.023
	(−2.16)	(−1.75)	(0.07)
ROA	−2.231***	−1.922**	0.382
	(−3.37)	(−2.19)	(1.02)
CASH_HOLDINGS	0.985**	1.291**	0.175
	(2.35)	(2.25)	(0.77)
SALES_GROWTH	−0.267	−0.191	0.086
	(−1.61)	(−0.83)	(0.80)
No. of obs.	1,237	1,191	1,191
R^2	0.693	0.704	0.728

endowed family wealth of CEOs. 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 1-standard-deviation increase in R&D expenditure. The estimations suggest that CEOs' endowed family wealth is associated with their ability to produce innovation, which is consistent with the result that the negative relation between CEOs' endowed family wealth and managerial performance is stronger for R&D-intensive firms.

Taken together, the results suggest that firms with CEOs from less privileged backgrounds are more efficient in producing innovation.

VII. The Advantage of High-Social-Status CEOs

In this section, I further investigate whether shareholders can benefit from a CEO with high social status. Individuals born into higher-wealth families are more likely to be members of prestigious clubs and to belong to the social networks of their parents. Social networks can be beneficial to firms if they facilitate information exchange and political influence, for example, contacts that can be sources of useful

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business relationships (e.g., clients, suppliers) or sources of other economic benefits and resource exchange (e.g., personal and political favors).[17]

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 privileged 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 types.

My measure of economic policy uncertainty is the monthly index developed by Baker, Bloom, and Davis (BBD) (2016). The index is constructed as a weighted average of 4 components. The main component is derived from news discussing policy-related uncertainty. The other 3 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. This index is further annualized by taking the average of the monthly values for each year. For example, for every firm i in year t, the annual policy uncertainty index is defined as the average of the monthly values of the index in the firm's fiscal year ending in $t-1$.

In Table 12, I refine the analysis by interacting the estimate of a CEO's endowed 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 higher policy uncertainty when the BBD index is above the median of the reporting periods. As column 1 of Table 12 shows, the measure of HIGH_POLICY_UNCERTAINTY is associated with lower firm performance, but it is not statistically significant. 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 interaction term is positive, suggesting that CEOs' endowed family wealth is positively associated with firm performance when firms face a more uncertain environment.

A. Constrained Firms Versus Unconstrained Firms

I further explore the mechanism by which CEOs from higher-wealth families outperform their peers from lower-wealth families during periods of high economic policy uncertainty. Several articles (e.g., Gilchrist, Sim, and Zakrajek (2014), Arellano, Bai, and Kehoe (2012), and Pastor and Veronesi (2012)) argue that policy uncertainty can cause credit markets to tighten and increase the cost of external

[17]Several articles in psychology suggest that people with high social status tend to develop valuable connections (see, e.g., DiMaggio and Garip (2012), Burt (1997), and Lin (2000)). Access to valuable social networks may benefit individuals who become influential corporate decision makers.

TABLE 12

CEO Performance and Economic-Policy Uncertainty

Table 12 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. (BBD) (2016). The index is constructed as a weighted average of 4 components. HIGH_POLICY_UNCERTAINTY is an indicator that takes the value of 1 if the BBD index is above the median of the reporting periods, and 0 otherwise. The control variables are the same as in model 3 of Table 3 (omitted here for brevity). I then split the sample of firms based on the firm's financial constraint, which is measured as the index developed by Hadlock and Pierce (2010). Model 2 includes firms in the top 25% of the distribution of the Hadlock and Pierce index, and model 3 includes other firms in the sample. Model 4 includes policy-sensitive firms. A firm is defined as policy sensitive if it belongs to the top 20 industries with the highest total lobbying expenses. Other firms are categorized as policy-neutral firms and included in model 5. Year and industry fixed effects, defined by 2-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.

Variables	1	Constrained 2	Unconstrained 3	Policy Sensitive 4	Policy Neutral 5
FAMILY_WEALTH	−0.020**	−0.039	−0.011	−0.018	−0.015
	(−2.12)	(−1.41)	(−0.96)	(−1.11)	(−1.40)
FAMILY_WEALTH × HIGH_POLICY_UNCERTAINTY	0.021**	0.045**	0.013	0.035***	0.016*
	(2.34)	(2.05)	(1.29)	(2.63)	(1.69)
HIGH_POLICY_UNCERTAINTY	−0.023	−0.115***	−0.011	−0.027	−0.018
	(−1.49)	(−2.75)	(−0.64)	(−1.17)	(−1.07)
No. of obs.	2,740	572	2,168	785	1,815
R^2	0.459	0.532	0.526	0.429	0.497

financing. Firms that are more financially constrained are more likely to forgo profitable investment projects when external financing becomes more costly. CEOs from wealthier 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 periods of high policy uncertainty by CEO types to vary with a firm's financial constraints. To test this conjecture, I split the sample of firms in two based on the firms' financial constraint, which is measured using the index developed by Hadlock and Pierce (2010). Model 2 includes firms in the top 25% of the distribution of the Hadlock and Pierce (2010) index, and model 3 includes other firms in the sample. Based on the estimates in model 2, I find that the coefficient on the interaction term between FAMILY_WEALTH and HIGH_POLICY_UNCERTAINTY is positive and significant and that the linear combination of the coefficient on FAMILY_WEALTH and the interaction term is 0.006. Column 3 reports the same analysis for unconstrained firms. The coefficient on the interaction term between FAMILY_WEALTH and HIGH_POLICY_UNCERTAINTY is positive but statistically insignificant. The estimation results suggest that CEOs' endowed family wealth is positively associated with firm performance during periods of higher policy uncertainty, and the effect is stronger for financially constrained firms.

B. Policy-Sensitive Firms Versus 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), and 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

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that policy-sensitive firms respond more strongly to the resolution of economic policy uncertainty than do policy-neutral firms.

A firm that is 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 articles suggests that high social status is associated with greater political influence. Individuals from affluent 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 wealthier families have an information advantage over their peers from less privileged families during periods of economic-policy uncertainty among firms highly sensitive to public policy.

I first identify policy-sensitive firms. I define an indicator variable with a value of 1 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 4 and 5 of Table 12 report the results. Consistent with the view that CEOs from affluent families benefit from the influence and informational advantages that stem from their political connections, I observe a stronger positive relation between CEOs' endowed family wealth and firm performance during periods of economic-policy uncertainty in firms that belong to the most policy-sensitive industries.

My results in this section are consistent with the view that CEOs from higher-wealth families have advantages in access to valuable information, which could translate to better decision making during periods of high policy uncertainty.

VIII. CEO Selection Analysis

If a CEO's endowed 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 higher-wealth families if these CEOs, on average, underperform their peers born into lower-wealth families? There are two potential explanations for this question. First, an agency problem is present in the board's decision to select a CEO. 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.[18] Second, it is possible that boards of directors 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 the CEO's ability from public information over time (Hermalin and Weisbach (1998), Hirshleifer and Thakor (1994)).

To test the conjecture, I examine whether the observed results are driven by first-time CEOs or seasoned CEOs. The analysis builds on the assumption that

[18]Nguyen-Dang (2012) finds 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.

board members are less likely to have information about a candidate's managerial ability if the candidate has no prior CEO experience; thus, they tend to select a candidate to whom they are personally or professionally connected (e.g., individuals from higher-wealth families), whereas they can learn from seasoned CEOs' past performance and hence select the most talented candidate. Therefore, if the identified differential effects on firm outcomes are observed among first-time CEOs rather than seasoned CEOs, it is more likely that a CEO's quality was not completely known at the time of hiring. I split the sample based on CEOs' past experiences. First-time CEOs are identified as chief executives without prior CEO experience. Seasoned CEOs are those with prior 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, this relation does not hold for seasoned CEOs. The empirical evidence is consistent with the view that a board is less effective in choosing a CEO when there is an asymmetry of information.

TABLE 13

First-Time CEOs and Seasoned CEOs

Table 13 reports OLS regression estimates on the relation between CEOs' endowed family wealth and firm performance. I split the sample into 2 subsamples. First-time CEOs are CEOs without prior CEO experience. Seasoned CEOs are those with CEO experience. Year and industry fixed effects, defined by 2-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		
Variables	1	2	3	4	5	6
FAMILY_WEALTH	−0.018**	−0.018**	−0.017**	0.036	0.033	−0.033
	(−2.25)	(−2.23)	(−2.19)	(1.28)	(1.03)	(−0.67)
FIRM_SIZE	0.012***	0.012***	0.011***	0.019***	0.014*	0.007
	(4.64)	(4.72)	(3.76)	(2.82)	(1.74)	(0.64)
MARKET_TO_BOOK	0.032***	0.032***	0.033***	0.019***	0.018***	0.031**
	(14.42)	(14.56)	(13.39)	(2.90)	(2.81)	(2.66)
CEO_AGE	−0.000	−0.000	0.000	−0.000	0.000	0.000
	(−0.64)	(−0.67)	(0.34)	(−0.72)	(0.39)	(0.48)
LEVERAGE	−0.106***	−0.106***	−0.100***	−0.053	−0.149	−0.090
	(−5.35)	(−5.35)	(−4.37)	(−0.66)	(−1.37)	(−0.56)
R&D	−0.406***	−0.402***	−0.291***	−0.589**	−0.527**	−0.526**
	(−4.40)	(−4.18)	(−5.05)	(−2.26)	(−2.32)	(−2.22)
FEMALE		0.000	−0.016		−0.013	−0.015
		(0.02)	(−1.25)		(−0.40)	(−0.55)
PRIOR_IND_EXPERIENCE		−0.000	−0.000		0.057*	0.023
		(−0.07)	(−0.01)		(1.69)	(0.62)
BA_DEGREE		−0.001	0.002		0.097	−0.031
		(−0.06)	(0.14)		(1.41)	(−0.60)
MBA_DEGREE		0.002	0.002		−0.000	0.034*
		(0.27)	(0.33)		(−0.00)	(1.97)
PHD_DEGREE		−0.003	−0.003		0.025	
		(−0.34)	(−0.51)		(0.68)	
CEO_DUALITY			−0.007			0.011
			(−1.29)			(0.77)
BOARD_INDEPENDENCE			−0.010			0.118**
			(−0.62)			(2.51)
BOARD_SIZE			−0.018			0.031
			(−1.31)			(0.78)
No. of obs.	3,393	3,393	2,574	261	261	166
R^2	0.469	0.470	0.509	0.606	0.636	0.642

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

IX. Conclusion

This article studies the relation between CEOs' family wealth in their formative years and their managerial performance. 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 endowed family wealth. I find that, on average, CEOs born into lower-wealth families outperform those born into wealthier families. My evidence is consistent with the argument that less advantaged individuals face dramatically higher barriers to entry into managerial positions, and thus 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 firms operating in high-competition industries, and it is weaker in firms with larger managerial teams, which may dilute the CEO's influence on firm strategy and performance. Consistent with the selection mechanism, I find that the negative sensitivity of managerial performance to family wealth is more pronounced when an individual faces a higher entry barrier to the leadership position. The evidence presented in this article might have implications for the debate on the effectiveness of boards of directors. My findings suggest that regulators should consider both visible and less observable governance features in setting disclosure rules. More broadly, this article provides guidance for policy makers to make education more affordable for the general population (i.e., provide more merit-based scholarships). Better access to an elite education might offer talented but less privileged individuals more direct pathways to success.

Appendix. Variable Definitions

ASSET_TURNOVER: The firm's sales scaled by total assets. Source: Compustat.

BA_DEGREE: An indicator variable equal to 1 if the CEO has a BA degree or equivalent, and 0 otherwise. Source: BoardEx.

BOARD_INDEPENDENCE: The number of independent directors divided by the total number of all directors. Source: BoardEx.

BOARD_SIZE: The logarithm of the number of directors on the board. Source: BoardEx.

CAPEX: Net capital expenditures scaled by total assets. Source: Compustat.

CAR: The acquirer's cumulative abnormal return over the window $(-1,+1)$ around the merger announcement based on the market model.

CEO_AGE: CEO's age at the end of the fiscal year. Source: ExecuComp.

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CEO_DUALITY: An indicator variable equal to 1 if the CEO is the board's chair, 0 otherwise. Source: BoardEx.

CEO_OWNERSHIP: The ratio of the number of shares owned by the CEO to total shares outstanding.

CEO_TENURE: CEO tenure in years.

CLASS_ACTION_LAWSUIT: The number of shareholder lawsuits of which a firm is a target during the fiscal year.

DELTA: Change in the dollar value of the executive's wealth for a 1% change in stock price.

FAMILY_WEALTH: The logarithm of 1 plus the median household income in the census tract that a CEO resided in during his or her formative years, adjusted for 1940 dollars.

FAMILY_WEALTH_1940: The logarithm of 1 plus the total household income of the CEO's family in 1940 (1940 Census record).

FEMALE: An indicator variable equal to 1 if the CEO is a female, and 0 otherwise. Source: ExecuComp.

FINANCIAL_RESTATEMENT: A binary variable that equals 1 if a current-year annual report is subsequently restated, and 0 otherwise.

FIRM_AGE: The number of years since the first date of the firm's incorporation. Source: CRSP.

FIRM_SIZE: The logarithm of the firm's sales. Source: Compustat.

FOUNDER_CEO: An indicator variable equal to 1 if the CEO is a founder of the firm, and 0 otherwise.

HIGH_FAMILY_WEALTH: An indicator variable equal to 1 if FAMILY_ WEALTH is above the annual median, and 0 otherwise.

HIGH_FAMILY_WEALTH_1940: An indicator equal to 1 if FAMILY_ WEALTH_1940 is above the annual median, and 0 otherwise.

HIGH_POLICY_UNCERTAINTY: A dummy variable that takes a value of 1 if the BBD index is above the median of the reporting period, and 0 otherwise.

INCENTIVE_PAY: The logarithm of 1 plus bonus, Black–Scholes value of options granted, and restricted stock grant. Source: ExecuComp.

IDIOSYNCRATIC_VOL: The standard deviation of the residuals from regressing the firm's daily stock return on the market model over the period ($t-365$, $t-28$).

IVY_LEAGUE_COLLEGE: An indicator variable equal to 1 if the CEO attended an Ivy League college (Brown University, Columbia University, Cornell University, Dartmouth College, Harvard University, Princeton University, University of Pennsylvania, or Yale University) at any academic level, and 0 otherwise. Source: BoardEx.

LEVERAGE: Long-term debt plus debt in current liabilities over the market value of assets. Source: Compustat.

M&A_DEALS: The number of M&A deals announced by the firm during the fiscal year.

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MARKET_TO_BOOK: Market value of assets scaled by total assets. Source: Compustat.

MBA_DEGREE: An indicator variable equal to 1 if the CEO has an MBA degree, and 0 otherwise. Source: BoardEx.

PHD_DEGREE: An indicator variable equal to 1 if the CEO has a PhD degree, and 0 otherwise. Source: BoardEx.

PRIOR_CEO_EXPERIENCE: An indicator equal to 1 if the individual has a prior CEO experience, and 0 otherwise. Source: BoardEx.

PRIOR_IND_EXPERIENCE: An indicator equal to 1 if the CEO has worked in publicly traded firms in the same industry (2-digit SIC), and 0 otherwise. Source: BoardEx.

PRIVATE_HIGH_SCHOOL: An indicator variable equal to 1 if the CEO attended a private high school, and 0 otherwise.

R&D: Research and development expenses scaled by sales. Source: Compustat.

RELATIVE_RETURN: The residuals from regressing the firm stock return on the value-weighted industry stock return. Industries are defined using 2-digit SIC code.

RETURN: The annualized stock return from the CRSP daily file over the period $(t-365, t-28)$.

ROA: Operating income before depreciation scaled by total assets. Source: Compustat.

VEGA: Change in the dollar value of the executive's wealth for a 1% change in the annualized standard deviation of stock returns.

VOLATILITY: The standard deviation of the firm's daily stock return over the period $(t-365, t-28)$.

Supplementary Material

To view supplementary material for this article, please visit http://doi.org/10.1017/S0022109021000089.

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