Internet Appendix for "From Playground to Boardroom: Endowed Social Status and Managerial Performance"

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I. Validation of Family Wealth Measure

In my main analysis, I estimate a CEO's family wealth as the median household income in the neighborhood of the CEO's place of residence in his or her formative years. This estimation is imperfect and does not give me a direct measure of CEOs' endowed family wealth. I attempt to validate this measure (*FAMILY_WEALTH*) in several ways. First, I verify that it is positively and significantly correlated with the measure of CEO family income obtained from the 1940 U.S. Census report (*FAMILY_WEALTH_1940*). For example, Table A.1 shows that the correlation between the two measures is 0.34, and it is significantly different from zero at conventional levels. Second, *FAMILY_WEALTH* is positively correlated with CEOs' education. CEOs with high *FAMILY_WEALTH* are more likely to attend private high schools, obtain a BA degree, and attend an Ivy League college. All of these correlations suggest that *FAMILY_WEALTH* is a reasonable measure of CEOs' endowed social status, and that low *FAMILY_WEALTH* is likely to proxy for barriers to entry to prestigious jobs.

Third, I plot the spatial distribution of CEOs' family wealth in the United States (see Figure 1). CEOs endowed with family wealth above the annual median are indicated with red dots in the figure, and those with family wealth below the annual median are indicated with blue stars. Chetty et al. (2014) argue that geography matters for intergenerational mobility in the United States and show that climbing the income ladder occurs less often in the Southeast and industrial Midwest of the United States. By contrast, some of the highest mobility rates are observed in the Northeast, Great Plains, and West, including New York, Boston, Salt Lake City, Pittsburgh, Seattle, and large

swaths of California and Minnesota. It can be seen from Figure 1 that more CEOs in my sample grew up in the eastern United States. CEOs from high-wealth families are more likely to be from the northeastern states, e.g., New York, New Jersey, and Pennsylvania, whereas the distribution of CEOs from low-wealth families is more evenly dispersed across the country. CEOs from less-privileged families tend to have grown up in areas with few opportunities and low mobility, and they are at a disadvantage in obtaining a prestigious education and in connecting with influential people.

Fourth, I collect the CEOs' employment history from different sources, including the LinkedIn, Bloomberg, Forbes, and BoardEx databases. I obtain information about the different companies in which a manager worked over his or her career, the position(s) held in each firm, and the dates of employment. If my measure of family wealth indeed proxies well for the endowed social status of a CEO, I should expect the CEO's family wealth to be correlated with measures of barriers to entry to prestigious careers. For example, CEOs from wealthier families may be more likely to inherit greater wealth, be members of prestigious clubs, and belong to the social networks of their parents, and thus be more likely to start their professional careers earlier. The analysis of CEOs' career paths and social networks generally supports this conjecture (see Panel B of Table 2). On average, the CEO from a higher-wealth family starts his or her first job at the age of 26, whereas the CEO from a lower-wealth family starts at the age of 30. I find that the age gap between CEOs from affluent and less-privileged backgrounds becomes bigger as the positions are more prestigious. For example, individuals with high family wealth become CEOs when they are 45 years of age, as compared with 50 for individuals with low family wealth.

A similar picture emerges when I look at the CEOs' connections to firm directors. Individuals from wealthier families have better connections and access to resources, which should make it easier to obtain employment conditional on having the same track record. I construct several proxies of network connections between directors and the CEO: (1) prior employment—i.e., directors and CEOs have overlapping prior employment in the same company; (2) education—i.e., directors and CEOs are alumni of the same school and graduated within two years of each other; and (3) social activities—i.e., connections between directors and the CEO through shared membership in other organizations with active participation in the organization. I sum the number of connections between directors and the CEO for each fiscal year in my sample. The results are reported in Panel C of Table 2. CEOs from low-wealth families are more likely to have worked with the directors of their firms in the past, which may indicate that they are more likely to be promoted from inside the firm than to be hired in the capacity of CEO from outside. In contrast, CEOs from wealthier families are more likely to be connected to firm directors through prior education and social activities.

II. Validation of Sampling Strategy

A potential problem with my sampling strategy concerns the coverage of CEO biographies in public sources, such as the Lexis-Nexis database. One might reasonably expect CEOs of larger and more prominent firms to garner greater public interest and therefore to be more likely to be included in public databases. While my estimation controls for firm size and other firm characteristics, a particular concern in my setting is

that CEOs of poorly performing firms are more likely to be omitted from public databases if they are also born into low-wealth families. To obtain a more representative sample, I supplement the data collection with birth certificates and high school yearbooks from the interface provided by ancestry.com. However, I observe that even after using a combination of these sources there is indeed more systematic coverage of CEOs of larger and more profitable firms.

To assess the importance of sample selection bias for my results, I implement the two-stage sample selection model of Heckman (1979). In the first stage, I estimate a Probit model predicting the likelihood of the entity selecting into my sample. The dependent variable in this model is equal to one if a CEO is included in my main sample (i.e., he or she is one of 506 CEOs for whom I obtain the proxy for endowed family wealth) and zero if a CEO drops out of my sample.[1] The independent variables are firm size, market-to-book ratio, R&D expenses, etc. In the second stage, I include the inverse Mills ratio computed from the first-stage model to control for sample selection bias. Specifically, I replicate the models in Table 3, but include the inverse Mills ratio as a control variable. In both stages, I include industry and year fixed effects. The standard errors are clustered at the firm level.

The first- and second- stage equations share the same predictors, The predicted value from the first-stage regression correlates strongly with the control variables in the second-stage model, and high collinearity could yield inconsistent estimates. To alleviate

[1]My initial sample consisted of 2,137 unique CEOs. After excluding 1,631 CEOs who were foreign-born and for whom the estimates of endowed family wealth were not available, my final sample consisted of 506 CEOs.

the potential concern about high collinearity, I introduce an instrumental variable to the estimation. It is a dummy variable (*BEFORE_1940*) that takes the value of one if the CEOs in the pool were born before 1940, and zero otherwise. This instrument variable should influence the selection into the sample because individual records from the U.S. Census survey are available for CEOs born before 1940; these provide more demographic information, such as parents' names, home address, and birth date. It is useful to link the information available from different public resources. Thus the likelihood of CEOs born before 1940 selecting into the sample condition is high; however, the dummy *BEFORE_1940* is unlikely to correlate with firm performance, which suggests that it might be a valid instrumental variable. I apply the two-stage Heckman correction model by including the exclusion restriction variable in the first stage. The results are reported in Table A.2. The results show that the coefficients for the inverse Mills ratio are not statistically different from zero and the coefficients on family wealth are of similar magnitude and significance as those reported in Table 3, suggesting that sample selection is not important.

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

TABLE A.1. Correlation between Family Wealth Estimates and CEO Education

Table A.1 reports the correlation between the measures of CEOs' endowed family wealth and their education. FAMILY_WEALTH is defined as the logarithm of one 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 is the logarithm of one plus the total household income of the CEO's family in 1940.

	FAMILY_WEALTH	FAMILY_WEALTH_1940
FAMILY_WEALTH_1940	0.341***	
PRIVATE_HIGH_SCHOOL	0.167***	0.156***
BA_DEGREE	0.065***	0.164***
MBA_DEGREE	-0.014	0.194***
IVY_LEAGUE_COLLEGE	0.168***	0.240***

TABLE A.2. Two-Stage Heckman Selection Model

Table A.2 shows the results of the estimation of the two-stage Heckman selection model. *BEFORE_1940* is a dummy variable that takes the value of one if the CEO was born before 1940, and zero otherwise. Year and industry fixed effects, defined by two-digit SIC codes, are included in all specifications. T-statistics are in parentheses. Standard errors are clustered at the firm level. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Variables	Probability of Selection	ROA		
BEFORE_1940	1.121***			
	(5.75)			
INVERSE_MILLS_RATIO		0.015	0.015	0.015
		(1.62)	(1.53)	(1.44)
FAMILY_WEALTH		-0.020**	-0.019**	-0.019**
		(-2.58)	(-2.47)	(-2.54)
FIRM_SIZE	0.319***	0.011***	0.011***	0.013***
	(7.70)	(3.91)	(3.72)	(3.75)
MARKET_TO_BOOK	0.061*	0.036***	0.035***	0.035***
	(1.78)	(13.62)	(13.71)	(13.52)
FIRM_AGE	0.005	0.000	0.000	0.000
	(1.41)	(0.39)	(0.29)	(0.53)
LEVERAGE	-0.476	-0.102***	-0.101***	-0.099***
	(-1.47)	(-4.44)	(-4.39)	(-4.31)
R&D	1.687	-0.293***	-0.295***	-0.295***
	(1.49)	(-5.39)	(-5.29)	(-5.33)
FEMALE	0.797**		-0.011	-0.013
	(2.44)		(-0.74)	(-0.87)
PRIOR_IND_EXPERIENCE	0.160		0.002	0.002
	(1.37)		(0.33)	(0.29)
PRIOR_CEO_EXPERIENCE	-0.108		-0.021*	-0.022*
	(-0.67)		(-1.94)	(-1.93)
BA_DEGREE	0.508***		0.004	0.004
	(3.37)		(0.35)	(0.33)
MBA_DEGREE	-0.039		-0.000	0.000
	(-0.40)		(-0.06)	(0.03)
PHD_DEGREE	0.083		0.002	0.002
	(0.42)		(0.27)	(0.29)
CEO_DUALITY	0.267***			-0.002
	(3.59)			(-0.35)
BOARD_INDEPENDENCE	-0.423			-0.005
	(-1.50)			(-0.29)
BOARD_SIZE	0.040			-0.018
	(0.20)			(-1.38)
Observations	9,793	2,736	2,736	2,736
R-squared/Pseudo R-squared	0.246	0.497	0.501	0.502

TABLE A.3. CEO Family Background and Firm Performance: Robustness of Fixed Effects

Table A.3 reports OLS regression estimates of models where the dependent variable is ROA at the fiscal year-end. *FAMILY_WEALTH* is defined as the logarithm of one plus the median household income of the CEO's place of residence in his or her formative years, adjusted for 1940 dollars. Industry fixed effect is defined by two-digit SIC codes. 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
FAMILY_WEALTH	-0.015*	-0.017*		
	(-1.76)	(-1.86)		
HIGH_FAMILY_WEALTH			-0.012**	-0.014***
			(-2.26)	(-2.60)
FIRM_SIZE	0.009***	0.013***	0.009***	0.013***
	(2.99)	(4.10)	(2.95)	(4.07)
MARKET_TO_BOOK	0.036***	0.036***	0.036***	0.036***
	(12.95)	(12.57)	(12.88)	(12.52)
FIRM_AGE	0.000	0.000	0.000	0.000
	(0.24)	(0.10)	(0.53)	(0.43)
LEVERAGE	-0.069***	-0.069***	-0.067***	-0.067***
	(-3.03)	(-3.02)	(-2.94)	(-2.95)
R&D	-0.317***	-0.272***	-0.314***	-0.264***
	(-5.06)	(-4.16)	(-5.13)	(-4.16)
FEMALE	-0.018	-0.014	-0.018	-0.013
	(-1.06)	(-0.77)	(-1.00)	(-0.67)
PRIOR_IND_EXPERIENCE	-0.003	-0.004	-0.002	-0.003
	(-0.45)	(-0.49)	(-0.34)	(-0.36)
PRIOR_CEO_EXPERIENCE	-0.014	-0.012	-0.016	-0.014
	(-1.18)	(-0.99)	(-1.27)	(-1.13)
BA_DEGREE	-0.002	-0.009	-0.004	-0.011
	(-0.15)	(-0.62)	(-0.27)	(-0.74)
MBA_DEGREE	0.001	-0.000	0.001	0.000
	(0.11)	(-0.06)	(0.21)	(0.04)
PHD_DEGREE	0.005	0.004	0.006	0.005
	(0.55)	(0.50)	(0.72)	(0.65)
CEO_DUALITY	-0.002	-0.002	-0.002	-0.002
	(-0.28)	(-0.34)	(-0.27)	(-0.31)
BOARD_INDEPENDENCE	0.009	0.014	0.010	0.015
	(0.50)	(0.74)	(0.55)	(0.84)
BOARD_SIZE	-0.013	-0.023	-0.013	-0.023
	(-0.84)	(-1.57)	(-0.84)	(-1.57)
Industry x Year FE	Yes	Yes	Yes	Yes
State FE	No	Yes	No	Yes
Observations	2,740	2,740	2,740	2,740
R-squared	0.669	0.691	0.670	0.693

TABLE A.4. CEO Family Background and Firm Performance: Fixed Effects Only

Table A.4 reports OLS regression estimates of models where the dependent variable is ROA at the fiscal year-end. *FAMILY_WEALTH* is defined as the logarithm of one plus the median household income of the CEO's place of residence during his or her formative years. Industry fixed effect is defined by two-digit SIC codes. 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
FAMILY_WEALTH	-0.017**	-0.016*	-0.018**	-0.020**
	(-1.99)	(-1.76)	(-1.98)	(-2.00)
Year FE	No	Yes	Yes	No
Industry FE	No	Yes	Yes	No
State FE	No	No	Yes	Yes
Industry x Year FE	No	No	No	Yes
Observations	4,623	4,607	4,607	4,607
R-squared	0.006	0.147	0.182	0.337

TABLE A.5. CEO and Firm Characteristics around CEO Appointment

Table A.5 reports summary statistics for firm characteristics one year before the CEO appointment (Panel A) and measures of firm risk one year after the CEO appointment (Panel B). FAMILY_WEALTH denotes the natural logarithm of one plus the median household income of the CEO's place of residence in his or her formative years, adjusted for 1940 dollars. *High family wealth* (*low family wealth*) refers to the sample of CEOs with FAMILY_WEALTH above (below) the annual median.

Variables	Low Family Wealth	High Family Wealth	Difference in Means	t-stat
Panel A: Firm Characteristics One Year before the CEO's Appointment				
SALES ($ million)	6435.31	8246.69	-1811.38	-1.08
MARKET_TO_BOOK	2.15	2.63	-0.48	-2.33
LEVERAGE	0.16	0.13	0.02	1.36
CAPEX	0.07	0.07	0.00	-0.47
R&D	0.03	0.04	-0.01	-2.18
ROA	0.15	0.15	0.00	0.47
ASSET_TURNOVER	1.29	1.19	0.10	1.20
Panel B: Firm Risk One Year after the CEO's Appointment				
VOLATILITY	0.43	0.47	-0.03	-1.50
IDIOSYNCRATIC_VOL	0.39	0.41	-0.02	-1.07
CLASS_ACTION_LAWSUIT	0.05	0.14	-0.09	-1.65
FINANCIAL_RESTATEMENT	0.01	0.01	0.00	0.08

References

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