The Origins and Real Effects of the Gender Gap:
Evidence from CEOs' Formative Years[*]

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Abstract

CEOs allocate more investment capital to male managers than to female managers in the same divisions. Using data from individual Census records, we find that this gender gap is driven by CEOs who grew up in male-dominated families—those where the father was the only income earner and had more education than the mother. The gender gap also increases for CEOs who attended all-male high schools and grew up in neighborhoods with greater gender inequality. The effect of gender on capital budgeting introduces frictions and erodes investment efficiency. Overall, the gender gap originates in CEO preferences developed during formative years and produces significant real effects.

Key words: internal capital markets, conglomerates, division managers, gender, family descent

JEL Codes: G30, G31, G40, J16, J71, H31

1. Introduction

Optimal allocation of resources across agents is critical for economic outcomes, both at the level of an individual firm and the entire economy. An ongoing debate in the literature revolves around the claim that male managers obtain more resources, such as capital or pay, than their female counterparts, a pattern labeled the gender gap. If such a gap exists, it remains unclear whether it reflects a potential bias of the decision makers or results from economic factors correlated with gender, such as agents' productivity or risk aversion. Similarly, the real effects on economic outcomes are not fully understood.

These two open questions—the origins and real effects of the gender gap—are the primary focus of this paper. An answer to them matters both for firm outcomes and economic policy. In particular, many proposed policy responses aimed at narrowing the alleged gender gap, which range from disclosure to governance, assume that it reflects a personal bias of the decision maker, such as the CEO, which introduces market frictions. Yet, this fundamental premise is difficult to test because it requires eliciting CEO preferences and making a reliable connection between resource allocations and subsequent outcomes.

This paper makes a step toward addressing both challenges. We study the allocations of capital budgets to male and female division managers at U.S. conglomerates, using hand-collected data on division managers and their characteristics. In this setting, the decision-making authority rests with the CEO (Xuan 2009; Graham, Harvey, and Puri 2015), division managers are peers in the firm hierarchy, and we can observe their annual capital allocations and subsequent outcomes. Because conglomerates account for over 60% of investment in the S&P 1500, this decision has important economic consequences.

To elicit CEO preferences, we rely on the evidence in social economics that an individual's views on gender issues are heavily influenced by familial, environmental, and educational factors experienced until early adulthood, a period commonly referred to as formative years (see Epstein and Ward 2011 for a review). In particular, individuals form an outlook on gender roles by observing the responsibilities of their parents and the norms on gender equity in the local community and at school (Mischel 1966; Leve and Fagot 1997; Martin et al. 2002, among others).

To study CEOs' formative years, we hand-collect data on the households and communities where CEOs grew up by examining individual census records compiled by the National Archives. These records provide detailed information on the each parent's employment, education, income, and other characteristics,

as well as the home address where the CEO grew up. To study the role of educational factors, we also construct a novel dataset on CEOs' high schools.

We begin by providing the first descriptive evidence on the family descent of U.S. CEOs. We document that CEOs come from well-to-do families where the father is the primary wage earner, has more education, and earns a higher income than the mother. These within-family socioeconomic differences between CEOs' parents typically exceed those in the general population. The median CEO father has 4.1 more years of education than the median adult male. Over two-thirds of CEOs' fathers hold white-collar jobs, and 37% are managers or business owners. The median income of CEOs' fathers is at the 75th national percentile. CEOs' mothers are less likely to work outside their home (21%) than women nationwide (42%). When they do, the median income of CEOs' mothers is at the 57th national percentile. About 14% of CEOs grow up in families with female servants, compared with only 2% nationwide. Finally, CEOs are more likely to attend all-male high schools (16.4%) and all-male colleges (9.9%) compared with other students.

Our first finding is that female division managers obtain about 90 basis points less in annual capital expenditures than male managers, an economically important difference of $2.8 million dollars per year for the median sample firm. This analysis controls for managers' education, age, experience, performance record, social connections, and external influence, as well as division and firm characteristics.

By exploiting within-firm variation in the decision maker on capital budgets, we find that the gender gap in capital allocations is driven by CEO characteristics. We identify important treatment effects of familial, environmental, and educational factors from CEOs' formative years. Among these factors, the CEO's immediate family has the strongest effects. The gender gap in capital allocations is driven by CEOs who grew up in male-dominated families where the father was the only income earner and had more education than the mother and who have no female children. We show incorporating said familial factors helps explain the majority of the gap in capital allocations.

Environmental factors—proxies for gender equity in the county where the CEO grew up—have meaningful independent effects, but are dominated by familial factors. The gap in capital budgets between male and female division managers expands if the CEO grew up in a community with larger differences in labor force participation, education, and income between male and female residents of working age. However, when these factors are included jointly with CEO family characteristics, their effect is subsumed

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by the familial factors. This suggests that the community where the CEO grew up has a similar, albeit weaker, effect as the family environment. Put differently, families choose to live in communities that broadly match their family characteristics.

Educational factors have important mediating effects. The gender gap in capital budgets is greater for CEOs who attended all-male high schools. Similarly, using variation in the gender composition of colleges resulting from the opening of many U.S. colleges to women, we show that the gender gap is higher for CEOs who attended same-gender rather than coeducational colleges.

Taken together, the effect of familial, environmental, and educational factors from CEOs' formative years explains up to 70% of the economic gap in capital allocations between male and female division managers. As an external validation of the factors extracted from CEOs' formative years, we show that they are significantly correlated (median pairwise correlation is 41%) with CEO policies on gender issues, such as promotion of women and women contracting, measured by an independent research firm KLD Research & Analytics. Since our analysis exploits within-firm variation, these gender policies are specific to CEOs and cannot be explained by time-persistent firm attributes, such as industry, business complexity, firm hierarchy, or geographic location.

We identify two economic mechanisms that contribute to the gender gap in capital budgeting: (i) appointment of managers to capital-rich divisions (the appointment channel) and (ii) extra capital allocations after the appointment (the capital allocation channel). In the analysis of appointment events of division managers, we find that male managers are assigned to divisions that historically receive more capital and some evidence that male managers are assigned to larger divisions. To disentangle the capital allocation channel from the appointment channel, we exploit CEO turnovers and focus on the change in capital allocations when CEO characteristics change, but the assignment of managers to divisions remains constant. This approach controls for unobservable, time-persistent characteristics of divisions (such as complexity and capital intensity), and division managers (such as risk-aversion, expertise, and productivity). We find that a change in the decision maker in the capital budgeting process is associated with a change in capital allocations to male and female division managers predicted by the familial, environmental, and educational factors extracted from the CEO's formative years.

In our final analysis, we study the consequences of the gender gap on economic outcomes. The effect of a division manager's gender on the allocation of investment funds introduces frictions in capital budgeting. An increase in the effect of gender on capital allocations weakens the responsiveness of investment to growth opportunities, as measured by the sensitivity of investment to Tobin's Q. Further, a larger gender gap in capital allocations, unexplained by division and manager characteristics, erodes operating performance. A one standard deviation increase in the intra-firm gender gap in capital allocations is associated with a 38 basis point decline in the annual ROA. This result is consistent with survey evidence that the CEO's personal attitude to division managers has profound real effects. For example, in a study of financial decision making at S&P 500 firms, Graham, Harvey, and Puri (2015) find that the CEO's opinion of a division manager is the second most important factor in capital budgeting after the NPV rule.

In summary, our evidence suggests that the gender gap in resource allocation is related to the decision maker's gender attitudes, whether conscious or subconscious, and that the origins of such attitudes can be traced to one's formative years. This effect has large implications for capital investment and introduces frictions in financial decisions. In contrast, our evidence is inconsistent with the view that lower resource allocations to female agents can be entirely explained by their economic characteristics correlated with gender and that such under-allocations are value-enhancing.

The central contribution of this article is to provide the first evidence on the family descent of U.S. CEOs and to demonstrate that the origins of gender effects in financial policies are linked to CEO experiences during formative years. Our findings contribute to research on (i) the origins of managerial preferences, (ii) the role of gender in financial policies, and (iii) the operation of internal capital markets.

A small number of recent papers underscore the importance of early-life experiences for shaping CEO's financial policies. Malmendier, Tate, and Yan (2011) find that CEOs who grew up during the Great Depression are averse to taking on debt and lean excessively on internal finance. Benmelech and Frydman (2015) show that CEOs with military experience pursue more conservative corporate policies. Cronqvist and Yu (2017) provide evidence that CEOs who experience the birth of a daughter tend to increase spending on corporate social responsibility. Yet, despite the importance of early-life experiences for financial decision making, we know little about CEOs' personal backgrounds before their professional career. Our paper seeks to provide the first systematic evidence on CEOs' family backgrounds, home communities, and

early schooling in an effort to achieve a more complete view of CEOs' formative years. This approach allows us to study jointly the effects of familial, educational, and environmental factors and compare their relative importance.

Our evidence adds to the literature on gender effects in financial policies. Prior work documents that male agents are responsible for top financial decisions at the overwhelming majority of U.S. firms (e.g., Huang and Kisgen 2013). In this setting, female agents appear to receive fewer economic resources and promotion opportunities, albeit the reasons for these patterns remain a subject of debate (Bertrand, Goldin, and Katz (2010) provide a recent review). Our paper is one of the first to show that the origins of gender effects in financial decisions are linked to the decision maker's early-life exposure to gender inequality in the family, community, and school. We demonstrate that these factors affect both managerial appointments and resource allocations between male and female agents and produce significant real effects.

Finally, we contribute to the literature on internal capital markets. Prior work finds evidence of inefficiencies in capital budgeting at U.S. conglomerates (Servaes 1996; Denis, Denis, and Yost 2002; Ozbas and Scharfstein 2010). Yet, in the analysis of capital allocations, most of prior work examines corporate divisions without considering the role of their managers. Our paper extends this research by demonstrating that the characteristics of division managers matter for capital allocations and that the effect of division managers' demographics serves as one source of the frictions inside conglomerates.

2. Data and summary statistics

2.1. Firms and divisions

We begin our sample construction with the universe of industrial conglomerates included in the S&P 1500 index in 2000–2008.[1] Industrial conglomerates comprise firms that report at least two operating segments on Compustat and operate in industries other than financial services and utilities (one-digit SIC codes 6 and 4, respectively).[2] The universe of conglomerates that meet these criteria comprises 806 firms.

Next, we manually go through each firm's organization structure, as reported in quarterly and annual reports, proxy statements, and information prospectuses, to identify the sample of firms with

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[1] Our sample begins in 2000 because data coverage in BoardEx is sparse before 2000. Our sample ends at the end of 2008 because the hand-collected data on division managers are available for this period from Duchin, Goldberg, and Sosyura (2017).
[2] Operating segments exclude corporate accounts, allocation adjustments, and divisions with zero or negative sales.

divisional organization structures where managers oversee specific operating segments. This filter ensures a clean one-to-one match between managers and divisions. Given this sample criterion, we alert the reader that our analysis applies only to firms with such organization structures.

We exclude firms with organization structures that lack a clear correspondence between managers and divisions (396 firms). The excluded firms usually use a functional organization structure where managers are assigned on the basis of their functional roles (e.g., vice president of manufacturing), so that each manager supervises an entire functional area across all divisions. Some of the excluded firms have a geographic organization structure where managers are assigned on the basis of regional markets (e.g., vice president – Northwest), so that each manager oversees a target market across all divisions.

To identify the division manager responsible for each business segment, we read biographical sketches of the firms' executives in annual reports, proxy statements, and management directories. We consider a manager to be in charge of a division if he or she is the highest-level executive directly responsible for the business segment during a given time period.

Next, we collect the starting and ending dates of each division manager's tenure. To obtain them, we supplement corporate disclosure with executive biographies from the Forbes Executive Directory, Reuters, Marquis's Who's Who, and Notable Names Database, as well as firms' press releases which provide appointment dates. We are able to identify all division managers for 91.5% of the firms that meet our sample criteria, and we exclude the remaining 35 firms with missing data on division managers. After imposing this filter, we arrive at our main sample that comprises 375 firms.

Table 1, Panel A reports summary statistics for our sample firms and their divisions. The conglomerates in our sample are large firms. The average (median) conglomerate has a book value of assets of $13.5 ($3.6) billion, consists of 4.1 (4.0) divisions, earns an annual revenue of $8.0 (3.4) billion, and generates an annual return on assets of 4.3% (5.3%). The firms in our sample account for over 70% of book assets and market equity of all industrial conglomerates in the S&P 1500.

The divisions in our sample represent economically important operating units. The average (median) division operates assets with a book value of $3.1 ($0.8) billion, produces $3.2 ($1.1) billion in sales, and earns a net profit equal to 14.7% (12.8%) of the sales revenue. The average division obtains $147.2 million per year in investment funds, an amount equivalent to 5.1% of its book assets.

2.2. CEOs and division managers

After linking divisions to managers, we collect data on the characteristics of CEOs and division managers. We retrieve appointment dates for CEOs and division managers from Execucomp and press releases, respectively. Next, we hand-match CEOs and managers to BoardEx, where we obtain information on their education, employment history, board memberships, and affiliations with nonprofit organizations. We cross-check and supplement BoardEx data with managerial biographies in corporate disclosures (biographical sketches in press releases, annual reports, and proxy statements) and the executive databases discussed above. We also collect governance data from BoardEx and RiskMetrics, including information on individual directors and board structures.

We obtain demographic information (such as age and gender) for CEOs, division managers, and directors from the Lexis Nexis Public Records database (LNPR), which aggregates data on over 500 million U.S. individuals (both alive and deceased) from sources such as birth and death records, property tax assessment records, and voting records. Prior work has used this database to obtain personal data on executives (Cronqvist, Makhija, and Yonker 2012; Yermack 2014), fund managers (Pool, Stoffman, and Yonker 2012; Chuprinin and Sosyura 2017), and financial journalists (Ahern and Sosyura 2015). All records in the database are linked to an individual's social security number (observable with the exception of the last four digits) and are assigned a unique ID. We manually verify our matches to LNPR using the combination of an individual's full name and employment record (verified against the employment locator LNPR).

Our sample comprises 5,679 individuals: 596 CEOs, 1,819 division managers, and 3,264 directors. Table 1, Panel B shows summary statistics for CEO and division managers. The CEOs of conglomerates are almost exclusively male (98.5%) and are, on average, 56 years old. Nearly 62% of CEOs have graduate degrees, the majority of which are MBAs. The dominant majority of CEOs serve on the boards of other companies, and the median CEO holds two external board seats.

In comparison with CEOs, division managers are younger and significantly more diverse. The average manager is 50 years old, and about 8% are female. Compared with CEOs, division managers are more likely hold specialized graduate degrees (79%) and less likely to hold MBA degrees (39%). Division managers are also significantly less likely to hold external board seats.

2.3. Family descent and formative years

We collect a comprehensive set of characteristics on the immediate family, early education, and local community for the CEOs in our sample and describe our data in that order. We focus on CEOs because they are the main decision makers in the allocation of capital across divisions. Prior work demonstrates this decision authority both analytically (Rajan, Servaes, and Zingales 2000; Scharfstein and Stein 2000) and empirically (Xuan 2009; Ozbas and Scharfstein 2010; Duchin and Sosyura 2013). Direct survey evidence from CEOs of S&P 500 firms confirms this conclusion and shows that CEOs are unlikely to delegate this decision authority to other agents (Graham, Harvey, and Puri 2015).

Family characteristics

To obtain information on CEOs' families, we use several data sources, including federal and state census records, state records of birth, marriage and death, digital archives of white page directories, and obituaries. We briefly describe these data here and provide examples in Appendix A.

We follow a three-step algorithm to identify the CEO's household in the federal and state censuses by sequentially checking three types of state records—birth, marriage, and death—for the CEO and his relatives. To ensure a reliable match to the census, we require establishing the CEO's parents and, in some cases, siblings. This criterion nearly eliminates the possibility of a spurious match, because the census record identified in this process contains the unique combination of the CEO's parents and siblings.

We obtain the image file of the family's records in the federal and state censuses from the digital archive maintained by the U.S. National Archives and Records Administration. Appendix A shows a blank federal census form. The federal census form in our sample provides 41 standardized variables on each member of the household, including education (in years), occupation, employment status, the number of weeks worked during the year, annual income, and place of birth, among others. The census form also provides a number of characteristics for the entire household, including the exact residential address, home ownership status (rent or own), and the estimated value of the home or monthly rental payments.

We alert the reader to an important data constraint. Access to census data with personally identifiable information is restricted by the U.S. public law, and the latest state and federal census records with personally identifiable information are available for the years 1945 and 1940, respectively, as well as for any previous years. To overcome this constraint, we complement our census data with additional

information from two other digital archives: (i) historical city directories (obtained from the family search service Ancestry.com) and (ii) state death records and obituaries (obtained from the digital archive of state records on Ancestry.com and the newspaper archive service Newspapers.com, respectively). These records allow us to obtain the same information on the employment status, education, and occupations of the CEO's parents for younger CEOs born after 1945. For overlapping observations, we cross-check the information obtained from city directories and death and obituary announcements against the information provided in the census and find that the two sources provide very similar information. In particular, city directories show the residential address of the household and the occupation status of each parent, while the obituaries for CEOs' parents give extensive detail on their education, careers, and family. At the time of writing, the overwhelming majority of CEOs' parents are deceased, and their obituaries are available.

We collect information on CEOs' children from the personal background data compiled by the executive intelligence firm Boardroom Insiders and the personal background databases Prabook and Notable Names. We cross-check and supplement these data with information obtained from LNPR (which lists the members of the CEO's household and provides their age) and obituaries for CEOs' parents (which often list the CEO's children as the surviving family members).

High school and college education

We construct the first dataset of CEO high schools by using the digital archive of high school yearbooks maintained by Ancestry.com. We supplement this resource with data from Boardroom Insiders, CEO biographies, and high school publications that identify notable alumni. When high school information is missing from the above sources, we contact the registrar of the university attended by the CEO and request this information in writing. We record the following characteristics for each CEO high school: address, gender composition status (same-gender or co-educational), religious affiliation (if any), and private/public status. For each high school, we record this information for the period of the CEO's attendance (ages 14-18), using the history section of the high school's website.

For each CEO, we also record the gender composition of the college where he earned his undergraduate degree by computing the average fraction of female students during the period of CEO attendance (ages 18-22). We obtain this information from the U.S. Department of Education.

Community characteristics

To study the effect of community norms, we obtain information on gender-related demographic variables in the county where the CEO grew up. We identify the CEO's home county based on the location of his high school and his parents' home address in the census. For each CEO, we collect the following information for his home county from summary census records: (i) the labor force participation rate for adult males and females, (ii) the annual income for employed males and females, (iii) the number of years of education for males and females, and (iv) the unemployment rate for males and females of working age. These data come from the Integrated Public Use Microdata Series (IPUMS)—the anonymized set of household census records. We measure the above community characteristics as of the decennial census year closest to year when the CEO reaches the age of 18. For example, for a CEO born in 1944 (who reaches the age of 18 in 1962), we use the community characteristics from the 1960 decennial federal census.

3. Descriptive and univariate evidence

3.1. Which families and communities do CEOs come from?

Before proceeding with a formal analysis, we provide descriptive evidence on the family descent of CEOs, their early education, and communities where they grew up. To offer a comparative perspective, we juxtapose, where possible, their family characteristics with those of other households in the same census.

Table 2, Panel A shows summary statistics for the immediate families of CEOs, focusing on their parents and children. Three main conclusions emerge from these statistics. First, CEOs' parents are well-educated. The father and mother of the median CEO have 14 and 12 years of formal education, respectively, approximately four years more than the median males and females in the general population in the same census. The contrast in education between the CEOs' families and the general population is stark. For example, approximately 56% of CEOs' fathers and 44% of CEOs' mothers attended college, while the fraction of individuals with college education in the general population in the same census is only 10% for male and 8% for female respondents, respectively.

Second, CEOs come from well-to-do families with white-collar occupations. Nearly 71% of CEOs' fathers hold white-collar jobs, and 37% are managers or business owners. In untabulated summary statistics, we find that other frequent occupations among CEOs' fathers are sales (8%), engineering and research (8%), academia (5%), and medicine (4%). These occupations put the median CEO father in the top quartile

of the national income distribution. Moreover, a sizable fraction (16%) of CEOs grew up in ultra-wealthy families with incomes in the top 1% of the national distribution.

Third, CEOs' fathers typically have a higher economic status than CEOs' mothers, and these within-family differences exceed those in the general population. The father is the primary income earner in the dominant majority of CEOs' families. In contrast, CEOs' mothers are less likely to work outside their home (21%) than women nationwide (42%). When they do, their median income is approximately one half (46%) of that of the CEO's father. The average difference in educational attainment between the CEOs' parents (1.6 years) exceeds the corresponding difference between males and females in the general population (0.4 years).

The bottom rows of Panel A provide information on the CEO's children. The average (median) CEO has about 3 children (mean = 2.8), slightly more than the number of children for the average male of the same age (2.0), as expected for wealthy families. These statistics align closely with the data on CEOs' children in Cronqvist and Yu (2017). As expected, the fractions of male and female children in CEOs' own families are approximately equal.

Table 2, Panel B provides summary statistics on CEOs' education. Compared with the general population, CEOs are more likely to attend private educational institutions designated only for men. The top rows of Panel B show that approximately one quarter of CEOs attend private high schools, and 16.4% of CEOs attend all-male high schools. The bottom rows show that 49% of CEOs attend private colleges, and 9.9% attend colleges restricted to male students at the time of attendance.

Table 2, Panel C shows the characteristics of neighborhoods where our sample CEOs grew up. As discussed, these community characteristics are measured approximately when a CEO reaches the age of 18. The data reveal a large difference in the labor force participation between male residents (94%) and female residents of working age (42%) in the CEOs' home communities. For working adults, the average annual income of men ($5,726 in 1960 dollars) is more than twice as large as that of women ($2,846 in 1960 dollars). For those seeking employment, the average unemployment rate is lower for men (4.8%) than for women (5.5%). Interpreted together, these statistics suggest that CEOs grow up in communities where, at

the time of their formative years, males are more likely to hold outside employment, and when they do, they earn higher incomes and face lower unemployment than their female counterparts.

In summary, CEOs come from white-collar, well-educated families with the typical incomes in the top quartile of the national distribution. In the majority of CEOs' families, the father is the only income earner and the more educated spouse. Similar, albeit smaller, differences in the socioeconomic status of men and women are observed in the communities where the CEOs spend their adolescence.

3.2. Univariate evidence

Table 3 shows univariate evidence on the relation between the characteristics of CEOs' immediate families, education, and home communities and the allocation of capital between male and female division managers. The first row of Table 3 compares the allocation of capital between male and female division managers across the entire sample. The average annual capital allocation to male division managers, measured by the ratio of a division's capital expenditures to its book assets is 0.051. The average capital allocation to female division managers is 0.042, suggesting that female division managers obtain about 90 basis points less in annual capital expenditures than male managers. This difference is reliably statistically significant at 1%. It is also economically important: it corresponds to a difference of $2.8 million dollars per year for the median sample firm.

The next panel of Table 3 focuses on three family characteristics of CEOs: *Working mother*, *Parents' education imbalance*, and *Children's gender imbalance*. We define the variable *Working mother* as an indicator that equals 1 if the CEO had a working mother and 0 if she was a housewife, and compare the allocation of capital to male and female division managers across firms run by the two types of CEOs. The results show that female division managers obtain about 150 basis points less in annual capital in firms run by CEOs whose mother did not work. Conversely, there is not statistically significant difference between the allocation to male and female managers in firms run by CEOs with a working mother.

Next, we consider the education of CEOs' parents. The variable *Parents' education imbalance* equals the difference between the number of education years for the CEO's father and the CEO's mother. Higher values of *Parents' education imbalance* imply that the CEO's father has a higher educational attainment than the CEO's mother. Table 3 divides the sample around the median level of *Parents' education imbalance* and shows that female division managers obtain less capital only in firms run by CEOs

with high *Parents' education imbalance*. In particular, female division managers in such firms obtain about 120 basis points less in annual capital than male managers.

We also investigate whether parenting daughters affects CEOs' allocation of capital between female and male division managers. We define the variable *Children's gender imbalance* as the difference between CEOs' number of sons and daughters, normalized by their total number of children. Table 3 divides the sample around the median level of *Children's gender imbalance* and shows that female division managers obtain less capital in firms run by CEOs with high *Children's gender imbalance*. However, the difference in capital allocation between male and female managers disappears in firms run by CEOs with a balanced number of sons and daughters.

To capture the overall effect of CEOs' family backgrounds, we calculate a comprehensive family index as the average between the percentile rankings of each CEO's *Working mother*, *Parents' education imbalance*, and *Children's gender imbalance* values. Table 3 divides the sample around the median level of the *CEO family index* and shows that female managers obtain 170 basis points in capital expenditure in firms run by CEOs with higher family-related gender imbalance. In contrast, there is no difference in allocation between male and female managers in firms run by CEOs with low values of the family index.

The next panel of Table 3 considers CEOs' educational backgrounds. *High school gender imbalance* is defined as an indicator variable that equals 1 if the CEO attended a single-sex high school and zero otherwise. *University gender imbalance* is defined as the fraction of female students in the university that the CEO attended as an undergraduate student (as of the dates of attendance). Table 3 shows that female division managers obtain significantly less capital only in firms run by CEOs that attended gender-imbalanced educational institutions. A high gender imbalance in CEOs' high schools corresponds to about 160 basis points less capital allocated to female managers, whereas a high imbalance in CEOs' universities corresponds to about 120 basis points less capital. The differences in allocation to male and female managers are insignificant in firms run by CEOs that attended gender-balanced high schools or universities.

As before, we also calculate a comprehensive index of education gender imbalance as the average percentile ranking of *High school gender imbalance* and *University gender imbalance*. We find that CEOs' high education gender imbalance corresponds to a difference of 140 basis points in the allocation of capital

to male and female managers. We do not find a significant difference in capital allocation to female and male managers in firms run by CEOs with low education gender imbalance

The last panel of Table 3 considers the community where the CEO grew up. Specifically, we focus on the gender imbalance in labor force participation, income, and education in the county where the CEO grew up. *Labor force participation gender imbalance* is defined as the difference between male and female labor force participation rate. *Income gender imbalance* is defined as the difference between the average income of men and women in the county where the CEO grew up. *Education gender imbalance* is defined as the difference between the number of education years of men and women in the county where the CEO grew up. Table 3 shows that high gender imbalances in CEOs' communities correspond to 95-117 basis points less annual capital allocated to female division managers than male division managers. In contrast, the allocation to female and male managers is not significantly different in firms run by CEOs who grew up in communities with low gender imbalances. We also calculate a similar comprehensive index of community gender imbalance and find that a high gender imbalance corresponds to about 110 basis points less capital obtained by female division managers relative to their male counterparts.

Finally, Table 3 calculates a comprehensive *Gender imbalance index* as the arithmetic average of the percentile rankings of the CEOs' family, education, and community indices. The results suggest that in firms run by CEOs with above-median *Gender imbalance index*, female division managers obtain about 190 basis points less capital. In contrast, female and male division managers obtain similar annual capital in firms run by CEOs with below-median *Gender imbalance index.*

4. Multivariate evidence

4.1. Main results

Table 4 provides multivariate regression evidence on the allocation of capital to male and female division managers. The unit of observation is a division-year, and the dependent variable is the ratio of segment-level capital expenditure to book assets. Columns 1-3 gradually introduce year, industry, and firm fixed effects, and columns 4-6 augment these analyses with controls for managers' education, age, experience, performance record, social connections, and external influence, as well as division and firm characteristics.

Across all 6 columns of Table 4, the coefficient on the key independent variable *Female divisional manager* is negative and statistically significant at the 5 percent level or better. The economic magnitudes

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vary from 90 to 140 basis points less annual capital allocated to female division managers, largely consistent with the univariate evidence in Table 3.

At the division level, an analysis of the control variables reveals that divisions with higher Tobin's Qs, as measured by the industry median Q of standalone firms, receive more capital. While not statistically significant, the point estimates suggest that core divisions and divisions with higher ROA also receive more capital. At the division manager's level, managers with longer tenures or those that are socially connected to the CEO receive more capital, consistent with the findings in Duchin and Sosyura (2013).

Table 5 investigates the role of CEOs' attributes in the allocation of capital to male and female division managers, controlling for manager, division and firm characteristics as in Table 4. The unit of observation is a division-year, and the dependent variable is the ratio of segment-level capital expenditure to book assets. Panels A, B, and C consider the effect of family, education, and community characteristics, respectively, in subsamples that partition the sample on CEO attributes. Panel D estimates the effects in the unpartitioned sample by interacting the division managers' gender with CEO characteristics. For brevity, Panel D only reports the results for the CEO gender imbalance indices. All the regressions reported in Table 5 include year, industry, and firm fixed effects. Thus, the resulting estimates are identified from within-firm variation in capital allocation that absorbs unobservable differences across time and industries.

Panel A focuses on CEOs' family backgrounds. The results show that female division managers obtain significantly less capital in firms run by CEOs whose mother did not work, whose father's educational attainment exceeded their mother's, and whose children are predominantly male. These effects are evident from the negative and statistically significant coefficients on *Female divisional manager* in columns 1, 3, and 5. In contrast, the coefficients on *Female divisional manager* are virtually zero and statistically insignificant in firms run by CEOs who had a working mother, and whose imbalance in their parents' education and their children's gender is relatively low. These results continue to hold when we aggregate CEOs' family gender imbalance into the *CEO family index*. Based on column 7, above-median CEO family gender imbalance leads to 170 basis points less capital allocated to female division managers,

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statistically significant at the 5 percent level. In contrast, based on column 8, the effects are nonexistent for CEOs with below-median family gender imbalance (regression coefficient = -0.006).

Panel B considers CEOs' educational backgrounds. The results show that female division managers obtain significantly less capital in firms run by CEOs who attended same-sex high schools or universities where the number of male students far exceeded that of female students. These effects are evident from the negative and statistically significant coefficients on *Female divisional manager* in columns 1 and 3. In column 2 and 4, which correspond to firms run by CEOs with low educational gender imbalance, female and male division managers obtain similar capital allocations. These results continue to hold when we aggregate CEOs' educational gender imbalance into the *CEO education index*. Based on column 5, above-median CEO education gender imbalance leads to 210 basis points less capital allocated to female division managers, statistically significant at 1%. In contrast, based on column 6, the effects are virtually nonexistent for CEOs with below-median education gender imbalance (regression coefficient = 0.005).

Panel C considers CEOs' community backgrounds. The results show that female division managers obtain significantly less capital in firms run by CEOs who grew up in counties with high gender imbalance in labor force participation, income, and education. These effects are evident from the negative and statistically significant coefficients on *Female divisional manager* in columns 1, 3, and 5. As columns 2, 4 and 6 show, female and male division managers obtain similar capital allocations in firms run by CEOs who grew up in counties with low gender imbalance in labor force participation, income, and education, respectively. These effects are summarized in columns 7 and 8, which correspond to the comprehensive *CEO community index*. Based on column 7, above-median CEO community gender imbalance leads to 180 basis points less capital allocated to female division managers, statistically significant at the 5 percent level. In contrast, based on column 8, the effects are nonexistent for CEOs with below-median community gender imbalance (regression coefficient = -0.010).

Panel D of Table 5 reports the results from interaction terms focusing on the continuous indices of CEO family, education, and community. The odd columns reports regression estimates from specifications that do not include firm fixed effects, whereas the even columns also include firm fixed effects.

Columns 1-6 of Table 5, Panel D show that the interaction term *Female divisional manager x CEO index* is negative and statistically significant at conventional levels across all three indices. These results

suggest that female division managers obtain less capital when the gender imbalance in CEOs' family, education, and community backgrounds is higher. In columns 8-9, we run a horse race between the gender imbalance in CEOs' family, education, and community backgrounds. The findings suggest that gender imbalance in CEOs' family and education backgrounds absorbs the effects of community gender imbalance.

In summary, the gender gap in capital allocations is strongly related to the CEO's early-life exposure to gender imbalances in the family, at school, and in the home community. The joint effect of these factors explains most of the economic gap in capital allocations between male and female managers.

4.2. Robustness and external validity

The evidence so far suggests that female division managers obtain smaller capital budgets than their male counterparts at the same firm and that this pattern in capital allocations is related to the CEO's formative experiences on gender issues. This section examines the robustness and external validity of this interpretation.

Table 6, Panel A compares male and female division managers along a broad set of managerial characteristics that could explain the difference in capital budgets, such as the level of education (graduate degree), experience (number of years at the firm), prior performance record (industry-adjusted division ROA), busyness (external board commitments), social connections to the CEO, and age. Panel A tests for the differences between male and female division managers along these characteristics in a regression setting with firm fixed effects. This within-firm analysis matches the within-firm comparisons between divisions and managers in capital allocation decisions.

The results show that male and female division managers working in the same conglomerates are statistically indistinguishable across measures of education, experience, and skill. The only difference we can identify (significant at 10%) is that female managers are slightly younger than their male counterparts in the same firm. This difference in age appears to be economically small. According to the point estimate in column 6, female division managers are about one year younger than their male counterparts.

Overall, we do not detect significant economic differences between male and female division managers of the same conglomerates across a broad range of characteristics. Yet, there these two groups can differ on important unobservable characteristics relevant for capital budgeting, such as risk aversion, leadership, and execution skills. In Section 5, we examine the role of these unobservable factors.

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Table 6, Panel B examines the external validity of our proxies for CEOs' gender attitudes constructed from formative years. In this table, we test for the correlation between the CEOs' formative experiences and independent assessments of CEOs' gender policies provided by the research firm KLD Research & Analytics (henceforth, KLD). The annual assessment scores by KLD are based on the analysis of corporate policies, employee interviews, and a review of pending litigation. Prior research demonstrates that KLD assessment scores provide informed signals about CEO policies on employee relations, diversity, and social responsibility (Chatterji, Levine, and Toffel 2009; Cheng, Hong, and Shue 2016) and that KLD assessment scores align well with CEOs' liberal or conservative attitudes (DiGiuli and Kostovetsky 2014).

We focus on three categories of KLD scores that characterize the CEO's gender issues: (i) promotion of women and minorities, (ii) work-life benefits, and (iii) women and minority contracting. The first category evaluates promotion opportunities for women in positions with profit-and-loss responsibilities. The second category examines the CEO's policies in accommodating working mothers in terms of the provision of childcare and family benefits. The third category examines the allocation of a firm's purchasing contracts to businesses owned or operated by women and minorities.

Table 6, Panel B shows that CEOs' exposure to gender imbalances during formative years is strongly correlated with their policies on gender issues in the firm. This relation is particularly strong for CEOs' family and community characteristics. In particular, the CEOs' family and community imbalance indexes are reliably negatively correlated (significant at least at 5%) with KLD assessment scores on all of the three categories of women-friendly policies: promotion, work-life benefits, and contracting. In other words, CEOs with exposure to gender imbalances in their immediate family and home community are significantly less likely to adopt women-friendly policies inside the firm. A directionally similar, but statistically weaker effect arises for CEOs' exposure to gender imbalances at school (columns 2, 5, and 8).

In summary, male and female division managers in the same firm are observationally similar according to measures of education, experience, and past performance. The difference in capital budgets allocated to male and female managers is related to proxies for CEOs' gender attitudes constructed from their formative years. These proxies are strongly correlated with independent assessments of intra-firm policies aimed at promoting female managers and allocating resources to female contractors.

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5. Economic mechanisms

This section studies two non-mutually exclusive mechanisms that may contribute to the gender gap in capital budgets: (i) the appointment channel and (ii) the capital allocation channel. The first channel posits that male managers get extra capital by being appointed to capital-rich divisions. The second channel captures the additional allocations to male managers, while holding constant their assignment to divisions.

5.1. The appointment channel

To capture the effect of the appointment channel, we investigate the relation between division managers' attributes and observable characteristics of the divisions to which they are appointed. To test this relation, we focus on segment-year observations in which the divisional manager has changed (new appointments) but the CEO has not. In this regression analysis, the dependent variable is one of the division's characteristics measured during the year preceding the manager's appointment. Division characteristics include capital investment, size, profitability, and the core status within the firm (an indicator equal to one if the division operates in the conglomerate's core industry proxied by the three-digit SIC code). As before, all regressions include firm, industry, and year fixed effects and use standard errors clustered by firm.

Columns 1-4 in Table 7, Panel A show that female managers are less likely to be appointed to divisions that historically receive larger capital allocations and that this tilt in managerial appointments is related to CEOs' early-life exposure to gender imbalances. The effect of CEOs' formative years on managerial appointments is captured by the interaction terms of the CEOs' gender imbalance indexes with the indicator *Female divisional manager*. This interaction term is consistently negative across all specifications, suggesting that exposure to gender imbalances is associated with a lower probability of female appointments to capital-rich divisions. This effect is statistically significant for the CEOs' family and education characteristics (columns 2-3), but insignificant at conventional levels for community characteristics (*t*-stat = 1.36 in column 4).

Columns 5-8 in Table 7, Panel A test for similar effects in the appointment of women to larger divisions. The dependent variable in this setting is division size (book assets) in the year preceding the appointment. The evidence on female appointments to larger divisions is statistically weaker. While we observe directionally similar relations that CEOs' exposure to gender inequality during formative years is

negatively associated with the likelihood of appointing female managers to larger divisions, these relations fall short of being statistically significant (t-stats = 0.55 to 1.60).

Panel B repeats studies the determinants of managerial appointments to more profitable divisions (measured by the ratio of the division's net income to book assets, columns 1-4) and core divisions of the firm (columns 5-8). The evidence in both panes of Panel B suggests that CEOs' exposure to gender imbalances is negatively related to the likelihood of appointing female managers to more profitable divisions and to core divisions of the firm. For both division characteristics, these effects are stronger for CEOs' family and education attributes (columns 2-3 and 6-7), whose interaction terms are significant at least at 10% across all specifications with these variables.

Our specification in Table 7 is based on the assumption that appointments of division managers are based on historical characteristics of divisions. It is also possible that appointments of division managers incorporate forward-looking information about divisions. For example, male managers may be appointed to divisions that are expected to receive more capital in the future. In this case, our estimates of the economic magnitude of the appointment channel likely represent a lower bound for its economic importance.

In summary, the appointment channel appears operative in our setting. CEOs with exposure to gender imbalances in their formative years are less likely to appoint female division managers to important and capital-rich divisions, as proxied by divisions' profitability, historical capital allocations, and core status within the firm.

5.2. The capital allocation channel

To capture the effect of the capital allocation channel incremental to the appointment channel, we focus on CEO turnovers, a setting in which a manager's assignment to a division remains constant but CEO gender attitudes experience a shock as a result of the CEO change.

Table 8 reports estimates from first-difference regressions in which the dependent variable is the annual change in the division's capital expenditures for division-year observations in which the CEO has changed from the previous year but the divisional manager has not. This test specification mitigates the effect of omitted or unobservable characteristics correlated with a division manager's gender. To the extent that these characteristics—such as intellect, risk aversion, and leadership—remain constant within a short

time window around the CEO turnover, this approach captures the effect of a change in CEO gender attitudes while controlling for all other time-invariant attributes of division managers.

The results in Table 8 suggest that an increase in a CEO's exposure to gender imbalances during formative years is associated with lower capital allocations to female division managers. These results are statistically significant for all three indexes of gender imbalances. Since the division manager remains unchanged and the new CEO is unlikely to have influenced the appointment of the division manager (which occurred well before the new CEO's arrival), these results indicate that CEO gender attitudes affect capital allocation over and above the appointment channel. Comparing the effects across the three indexes of gender imbalances, we find that family and education characteristics (columns 2-3) have a stronger effect than community characteristics (column 4).

In summary, the capital allocation channel contributes to the gender gap in capital budgeting. Holding the assignment of managers to divisions, an increase in a CEO's exposure to gender imbalances is associated with lower capital allocations to female managers. This this research design accounts for most division managers' characteristics which remain constant around CEO changes, it demonstrates that the gender gap in capital allocation decisions is unlikely to be explained by unobservable characteristics of division managers correlated with gender.

6. Governance and investment efficiency

The analysis so far suggests that the gender gap in capital allocation to female and male division managers is related to CEOs' early-life exposure to gender imbalances during formative years. If these attributes reflect a subjective (and possible unconscious) bias of the CEO, such as homophily, the effects should be weaker in the presence of governance mechanisms that could mitigate this bias, such as the board of directors unaffected by similar subjective judgments. To test this hypothesis, we focus on boards of directors headed by a woman and estimate the capital allocation regressions separately for firms with male and female board chairs.

Table 9 reports these results. The odd columns correspond to male board chairs and the even columns correspond to female board chairs. Across all columns, CEOs' gender imbalance tilts the capital budget toward male division managers significantly more in firms with male board chairs than in firms with

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female board chairs. The coefficients on the interaction terms *Female divisional manager x CEO index* are 2-3 times larger and highly statistically significant when the board chair is a male. Moreover, for both *CEO education index* and *CEO community index*, the interaction term *Female divisional manager x CEO index* is statistically insignificant when the CEO chair is a woman.

In our final set of analyses, we study the consequences of the gender gap for economic outcomes. Table 10 focuses on investment efficiency, measured by the sensitivity of investment to Tobin's Q in a division's industry. The unit of analysis is a division-year pair, and the dependent variable is the capital allocation to a division. Odd columns estimate the regressions for firms that include divisions overseen by female managers, whereas even columns focus on firms that only include male division managers. The key independent variable is the interaction term *CEO imbalance index x Tobin's Q*, which measures how the investment-Q sensitivity varies with the CEO's family, education, and community gender imbalances.

The results in Table 10 suggest that the sensitivity of investment to Tobin's Q is significantly lower in firms run by gender-imbalanced CEOs with divisions overseen by female managers. In contrast, CEO gender imbalance does not affect the investment-to-Q sensitivity in firms without female managers. These findings indicate that the effect of a division manager's gender on investment allocations introduces frictions in capital budgeting and reduces the sensitivity of capital investment to marginal product.

Table 11 studies the consequences on firm performance. The dependent variable is the performance of a firm, as measured by the return on assets (Columns 1-3), Tobin's Q (Columns 4-6), and annual stock returns (Columns 7-9). The unit of analysis in Table 11 is a firm-year pair, and all the regressions include year and firm fixed effects. The key independent variable is the interaction term *CEO imbalance index x Female divisional managers*, which captures the effect of CEO gender imbalance on firm performance in firms that have at least one division overseen by a female manager.

The results in Table 11 indicate that CEO gender imbalance is associated with weaker firm performance in firms with female division managers. This can be seen from the negative coefficients on the interaction term *CEO imbalance index x Female divisional managers*. We note that while the coefficients are consistently negative across all measures of firm performance, the results for stock returns are statistically insignificant at conventional levels.

In summary, the relation between a CEO's early-life exposure to gender diversity and capital allocations weakens in the presence of women in the top monitoring role as board chairs. The incremental effect of a manager's gender on capital allocations over and above the effect of economic characteristics is associated with lower investment efficiency and weaker performance. Overall, a CEO's gender attitudes introduce subjective tilts in capital allocations which do not appear to be value improving.

7. Conclusion

This article has studied the origins and real effects of the gender gap in resource allocations between male and female agents in the internal capital markets of U.S. conglomerates. We find that male managers obtain more investment capital than female managers in the same divisions of the same firm. Our evidence suggests that the gender gap in resource allocations reflects the decision maker's personal gender attitudes, whose origins can be traced to one's formative years. When such personal attitudes influence the allocation of capital over and above the effect of economic factors, they introduce frictions in investment decisions.

Recent work suggests that our findings may extend to other economic settings. In contemporaneous work on venture capital firms, Gompers and Wang (2017) find that a decision maker's parenting of daughters leads to an increased propensity to hire female partners, resulting in better performance outcomes. The authors conclude that a gender bias in venture capital introduces value-reducing frictions even when the decision makers are financial experts with strong performance incentives.

Other evidence suggests that similar effects influence the allocation of resources at the macro level by affecting national legislation and federal courts. Washington (2008) finds that U.S. Congressmen's exposure to gender diversity via parenting daughters increases their propensity to support policies on women's rights. Glynn and Sen (2015) show that Federal Court judges with more daughters are more likely to support women's issues in their case decisions.

Taken together, this evidence underscores the importance of an agent's familial factors for decision-making across a variety of contexts with profound economic implications. In financial economics, we know very little about the personal backgrounds of the key decision makers at U.S. firms. In complement to prior work that has focused on the role of one familial factor, such as parenting daughters, we consider an extended set of formative experiences and evaluate their relative importance. Our paper makes a step towards compiling systematic evidence on the family descent, early education, and home environments of U.S. CEOs and understanding their role in financial policies. We hope that the growing interest in the role of agents' formative experiences will continue to yield novel insights into their financial decisions.

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Appendix A. Federal census form for the year 1940.

STATE				ENUMERATION DISTRICT NO.	SHEET NO.
COUNTY			**1940 Federal Census**	SUPERVISOR'S DISTRICT NO.	
TOWNSHIP OR OTHER DIVISION OF COUNTY				ENUMERATED BY ME ON	, 1940
INCORPORATED PLACE					, ENUMERATOR
WARD OF CITY			BLOCK NO.	UNINCORPORATED PLACE	INSTITUTION

LOCAT-ION		HOUSEHOLD DATA				NAME	RELATION	PERSONAL DESCRIPTION					EDUCATION			PLACE OF BIRTH		CITI-ZEN-SHIP	RESIDENCE, APRIL 1, 1935				

(Column header detail below)

Line No.	Street, Avenue, road, etc.	House Number	No. of Household in order of visitation	Home owned (O) or rented (R)	Value of home or Monthly rental if rented.	Farm? (Yes or No)	Name of each person whose *usual* place of residence on April 1, 1940, was in this household. BE SURE TO INCLUDE: 1. Persons temporarily absent from household. Write "Ab" after names of such persons. 2. Children under 1 year of age. Write "Infant" if child has not been given a first name. Enter (x) after name of person furnishing information.	Relationship of this person to the head of the household, as wife, daughter, father, mother-in-law, grandson, lodger, lodger's wife, servant, hired hand, etc.	CODE (Leave Blank)	Sex	Color or Race	Age at Last Birthday	Marital Status	Attended school or college at any time since March 1, 1940?	Highest grade of school completed	CODE (Leave Blank)	If born in U.S. give state, territory or possession. If foreign born, give country in which birthplace was situated on Jan. 1, 1937. Distinguish: Canada-French from Canada-English and Irish Free State from Northern Ireland.	CODE (Leave Blank)	Citizenship of the foreign born	City, town, or village having 2,600 or more inhabitants If less, enter "R."	County	State (or Territory or foreign country)	On a Farm? (Y or N)	CODE (Leave Blank)
	1	2	3	4	5	6	7	8	A	9	10	11	12	13	14	B	15	C	16	17	18	19	20	D
1.																								
2.																								
3.																								
4.																								
5.																								
6.																								
7.																								

PERSONS 14 YEARS OLD AND OVER – EMPLOYMENT STATUS

Line No.	Was this person AT WORK for pay or profit in private or nonemergency Govt. work during week of March 24-30? (Y or N)	If not, was he at work on, or assigned to, public EMERGENCY WORK (WPA, NYA, CCC, etc.) during week of March 24-30? (Y or N)	If neither at work nor assigned to public emergency work. ("No" in cols. 21 & 22)		For persons answering "No" to questions 21-24.		If at private or nonemergency Govt. work. "Yes" in col. 21	If seeking work or assigned to public emergency work. "Yes" in col. 22 or 23	OCCUPATION, INDUSTRY, AND CLASS OF WORKER				Number of weeks worked in 1939 (Equivalent full-time weeks)	INCOME IN 1939 (12 months ending Dec. 31, 1939.)		Number of Farm Schedule

Line No.	Was this person AT WORK for pay or profit in private or nonemergency Govt. work during week of March 24-30? (Y or N)	If not, was he at work on, or assigned to, public EMERGENCY WORK (WPA, NYA, CCC, etc.) during week of March 24-30? (Y or N)	Was this person SEEKING WORK? (Y or N)	If not seeking work, did he HAVE A JOB, business, etc.? (Y or N)	Indicate whether engaged in home housework (H), in school (S), unable to work (U), or other (Ot).	CODE	Number of hours worked during week of March 24-30, 1940.	Duration of un-employment up to March 30, 1940 – in weeks.	OCCUPATION Trade, profession, or particular kind of work, as – *Frame spinner Salesman Laborer Rivet heater Music teacher*	INDUSTRY Industry or business, as— *Cotton mill Retail grocery Farm Shipyard Public school*	Class of Worker	CODE (leave blank)	Number of weeks worked in 1939 (Equivalent full-time weeks)	Amount of money, wages or salary received (including commissions)	Did this person receive income of $50 or more from sources other than money wages or salary (Y or N)	Number of Farm Schedule
	21	22	23	24	25	E	26	27	28	29	30	F.	31	32	33	34
1.																
2.																
3.																
4.																
5.																
6.																
7.																

| | | SUPPLEMENTARY QUESTIONS | FOR PERSONS OF ALL AGES | | | | | | | | | FOR PERSONS 14 YEARS OLD AND OVER | | | | | | | | FOR ALL WOMEN WHO ARE OR HAVE BEEN MARRIED | | |

SUPPLEMENTARY QUESTIONS

For Persons Enumerated on Lines 14 and 29.

Line No.	Name	PLACE OF BIRTH OF FATHER AND MOTHER — If born in U.S. give state, territory or possession. If foreign born, give country in which birthplace was situated on Jan. 1, 1937. Distinguish: Canada-French from Canada-English and Irish Free State from Northern Ireland.		CODE (leave blank)	MOTHER TONGUE — Language spoken in home in earliest childhood.	CODE (leave blank)	VETERANS — Is this person a veteran of the United States military forces: or the wife, widow, or under 18-year-old child of a veteran?			CODE (leave blank)	SOCIAL SECURITY			USUAL OCCUPATION, INDUSTRY, AND CLASS OF WORKER			CODE (leave blank)	FOR ALL WOMEN WHO ARE OR HAVE BEEN MARRIED		
		Father	Mother				If so enter "Yes"	If child, is veteran-father dead? (Y or N)	War or Military Service		Does this person have a Federal Social Security Number? (Yes or No)	Were deductions for Federal Old-Age Insurance or Railroad Retirement made from this persons wages or salary in 1939? (Yes or No)	If so, were deductions made from all, ½ or more, part but less than ½, of wages or salary?	Usual Occupation	Usual Industry	Usual class of worker		Has this woman been married more than once? (Yes or No)	Age at first marriage.	Number of children ever born. (Do not include stillbirths.)
	35	36	37	G	38	H	39	40	41	I	42	43	44	45	46	47	J	48	49	50
14																				
29																				

SYMBOLS AND EXPLANATORY NOTES

Col. 5 VALUE OF HOME, IF OWNED:

Where owner's household occupies only a part of a structure, estimate value of portion occupied by owner's household. Thus the value of the unit occupied by the owner of a two-family house might be approximately one-half the total value of the structure.

Col. 10 COLOR OR RACE:

White	W
Negro	Neg
Indian	In
Chinese	Chi
Japanese	Jp
Filipino	Fil
Hindu	Hin
Korean	Kor

Other races, spell out in full.

Col. 11 AGE AT LAST BIRTHDAY:

Enter age of children born on or after April 1, 1939, as follows. Born in:

April 1939	11/12
May 1939	10/12
June 1939	9/12
July 1939	8/12
August 1939	7/12
September 1939	6/12
October 1939	5/12
November 1939	4/12
December 1939	3/12
January 1940	2/12
February 1940	1/12
March 1940	0/12

(Do not include children born on or after April 1, 1940.)

Col. 14 HIGHEST GRADE OF SCHOOL COMPLETED:

None	0
Elementary school, 1st – 8th	1, 2, 3, 4, 5, 6, 7, 8
High school, 1st – 4th year	H-1, H-2, H-3, H-4
College, 1st – 4th year	C-1, C-2, C-3, C-4
College, 5th or subsequent year	C-5

Col. 16 CITIZENSHIP OF THE FOREIGN BORN:

Naturalized	Na
Having first papers	Pa
Alien	Al
American citizen born abroad	Am Cit

Col. 21 WAS THIS PERSON AT WORK ?

Enter "Yes" for persons at work for pay or profit in private or nonemergency Government work. Include unpaid family workers – that is, related members of the family working without money wages or salary on work (other then housework or incidental chores) which contributed to the family income.

Col. 24 DID THIS PERSON HAVE A JOB ?

Enter "Yes" for a person (not seeking work) who had a job, business, or professional enterprise, but did not work during week of March 24–30 for any of the following reasons: Vacation; temporary illness; industrial dispute; layoff not exceeding 4 weeks with instructions to return to work at a specific date; layoff due to temporarily bad weather conditions.

Cols. 30 and 47 CLASS OF WORKER:

Wage or salary worker in private work	PW
Wage or salary worker in Gov't work	GW
Employer	E
Working on own account	OA
Unpaid family worker	NP

Col. 41 WAR OR MILITARY SERVICE:

World War	W
Spanish -American War; Philippine Insurrection or Boxer Rebellion	S
Spanish-American War & World War	SW
Regular establishment (Army, Navy or Marine Corps) Peace-Time Service only	R
Other war or expedition	Ot

<div align="center">

TABLE 1
Summary Statistics

</div>

This table reports summary statistics. The sample consists of multi-divisional firms in the S&P 1500 index, excluding financials and utilities, and firms with functional organizational structure. The values reported are time-series averages over the sample period. The sample period is from January 2000 to December 2008. All variable definitions appear in Appendix A.

Panel A: Companies and Divisions

Variable	Mean	25th percentile	Median	75th percentile	Standard deviation
Company level					
Market value, $millions	14,913.530	1,203.458	3,473.617	11,064.310	38,867.420
Book assets, $millions	13,547.820	1,544.500	3,625.700	10,480.200	50,750.520
Sales, $millions	7,988.040	1,461.052	3,448.000	8,871.000	10,377.130
Capital expenditure, $millions	487.262	44.900	123.440	360.000	1,293.958
Capital expenditure/assets	0.042	0.022	0.033	0.051	0.033
Number of divisions	4.108	3.000	4.000	5.000	1.374
Earnings per share (EPS)	1.663	0.612	1.591	2.879	3.231
Return on assets (ROA)	0.043	0.020	0.053	0.087	0.113
Tobin's Q	1.858	1.273	1.598	2.105	0.913
Division level					
Book assets, $millions	3197.990	284.000	856.000	2440.000	14938.790
Sales, $millions	3175.857	382.237	1117.200	2951.900	6963.144
Capital expenditure, $millions	147.166	7.991	31.206	100.000	588.484
Capital expenditure/assets	0.051	0.019	0.037	0.064	0.056
Profitability	0.147	0.070	0.128	0.206	0.163
Industry Tobin's Q	1.593	1.245	1.480	1.845	0.475
Core division indicator	0.545	0.000	1.000	1.000	0.498

Panel B: CEOs, Directors and Divisional Managers

Variable	Mean	25th percentile	Median	75th percentile	Standard deviation
CEOs					
Age	55.906	51.000	56.000	60.000	6.510
Male indicator	0.985	1.000	1.000	1.000	0.122
Tenure with the firm	14.528	5.099	11.609	18.079	10.836
Graduate degree indicator	0.617	0.000	1.000	1.000	0.486
MBA indicator	0.413	0.000	0.000	1.000	0.492
External board seats	2.172	1.000	2.000	3.000	1.268
Directors					
Board size	9.663	8.000	10.000	11.000	2.919
Number of female directors	1.267	1.000	1.000	2.000	0.934
Fraction of female directors	0.123	0.077	0.111	0.182	0.090
Female board chair indicator	0.084	0.000	0.000	0.000	0.277
Divisional managers					
Age	50.573	48.000	50.356	54.000	5.544
Male indicator	0.924	1.000	1.000	1.000	0.265
Tenure with the firm	10.778	3.000	8.000	16.000	9.754
Graduate degree indicator	0.787	1.000	1.000	1.000	0.410
MBA indicator	0.390	0.000	0.000	1.000	0.487
External board seats	0.216	0.000	0.000	0.000	0.412
Social connections to CEO	0.005	-0.158	0.000	0.138	0.337
Performance record (division profitability)	0.151	0.070	0.127	0.205	0.265

TABLE 2
CEO Family Characteristics and Formative Years

This table describes the familial and community background of CEOs. The sample consists of multi-divisional firms in the S&P 1500 index, excluding financials and utilities, and firms with functional organizational structure. The sample period is from January 2000 to December 2008. All variable definitions appear in Appendix A.

Panel A: Family Characteristics

Variable	Mean	25th percentile	Median	75th percentile	Standard deviation
Parents					
Father education (years)	13.541	12.000	14.000	16.000	3.254
Father attended college, indicator	0.558	0.000	1.000	1.000	0.497
Mother education (years)	12.966	12.000	12.000	16.000	2.636
Mother attended college, indicator	0.435	0.000	0.000	1.000	0.497
Parents' education imbalance	0.337	0.000	0.000	2.000	2.463
Father white-collar job, indicator	0.708	0.000	1.000	1.000	0.455
Working mother, indicator	0.211	0.000	0.000	0.000	0.408
Mother income	816	480	728	1,040	521
Father income	1,860	1,047	1,600	2,350	1,170
Children					
Number of children	2.799	2.000	2.000	3.000	1.374
Number of sons	1.586	1.000	1.000	2.000	1.031
Number of daughters	1.545	1.000	1.000	2.000	0.972
Children's gender imbalance	0.006	-0.333	0.000	0.333	0.516

Panel B: Education Characteristics

Variable	Mean	25th percentile	Median	75th percentile	Standard deviation
High school					
Private indicator	0.254	0.000	0.000	1.000	0.436
All-male indicator	0.164	0.000	0.000	0.000	0.371
Religious	0.182	0.000	0.000	0.000	0.386
University					
Private indicator	0.488	0.000	0.000	1.000	0.500
All-male indicator	0.099	0.000	0.000	0.000	0.298
Fraction of females in student body	0.346	0.280	0.381	0.444	0.163

Panel C: Community Characteristics

Variable	Mean	25th percentile	Median	75th percentile	Standard deviation
Labor force participation rate, males	0.940	0.928	0.944	0.958	0.035
Labor force participation rate, females	0.419	0.360	0.413	0.452	0.106
Labor force participation gender imbalance	0.522	0.469	0.538	0.595	0.114
Income for employed males (1960 dollars)	5726.263	3045.935	5416.657	6721.114	3988.159
Income for employed females (1960 dollars)	2846.422	1766.312	2731.208	3067.582	1915.391
Income gap between employed males and females	2879.841	1291.198	2796.710	3707.818	2145.512
Male education (years)	11.307	10.592	11.373	12.130	1.328
Female education (years)	11.139	10.615	11.266	11.795	1.087
Education gender imbalance	0.168	0.025	0.241	0.379	0.356
Unemployment rate, males	0.048	0.028	0.039	0.061	0.029
Unemployment rate, females	0.055	0.039	0.054	0.066	0.024
Employment gender imbalance	-0.007	-0.018	-0.009	0.005	0.020

Panel D: Gender Imbalance Indexes

Variable	Mean	25th percentile	Median	75th percentile	Standard deviation
Family gender imbalance index	0.506	0.373	0.599	0.620	0.179
Education gender imbalance index	0.503	0.340	0.487	0.644	0.203
Community gender imbalance index	0.501	0.408	0.503	0.583	0.134
Gender imbalance index	0.507	0.436	0.507	0.587	0.111

TABLE 3
Univariate Evidence

This table presents univariate evidence on the relation between CEO backgrounds and internal capital allocation across male and female divisional managers. For each attribute of CEO background, the table reports the average ratio of divisional capital expenditures to divisional book assets for divisions overseen by male and female managers. The sample consists of industrial conglomerates in the S&P 1500 index with available data on capital expenditures, book assets, divisional managers, and CEO backgrounds. The sample period is from 2000 to 2008. All variable definitions are given in Appendix A. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

CEO background		Male divisional manager	Female divisional manager	Difference	t-statistic
		(1)	(2)	(3)	(4)
All CEOs		0.051	0.042	-0.0096	2.754***
Family characteristics					
Working mother	No	0.0526	0.0374	-0.0152	3.831***
	Yes	0.0482	0.0583	0.0100	1.236
Parents education imbalance	High	0.0512	0.0388	-0.0124	1.719*
	Low	0.0509	0.0522	0.0013	0.219
Children's gender imbalance	High	0.0517	0.0283	-0.0234	2.692***
	Low	0.0448	0.0436	-0.0013	0.122
CEO family index (higher values --> greater imbalance)	High	0.0528	0.0358	-0.0170	3.772***
	Low	0.0501	0.0495	-0.0006	0.1196
Education					
High school gender imbalance	High	0.0592	0.0428	-0.0164	2.264**
	Low	0.0499	0.0427	-0.0071	1.610
University gender imbalance	High	0.0527	0.0406	-0.0121	2.624***
	Low	0.0512	0.0473	-0.0038	0.615
CEO education index (higher values --> greater imbalance)	High	0.0536	0.0396	-0.0140	3.009***
	Low	0.0498	0.0481	-0.0017	0.2878
Community where CEO grew up					
Labor force participation gender imbalance	High	0.0525	0.0408	-0.0117	2.084**
	Low	0.0504	0.0459	-0.0046	0.886
Income gender imbalance	High	0.0544	0.0439	-0.0105	1.733*
	Low	0.0485	0.0429	-0.0055	1.140
Education gender imbalance	High	0.0541	0.0446	-0.0095	1.852*
	Low	0.0489	0.0422	-0.0067	1.441
CEO community index (higher values --> greater imbalance)	High	0.0539	0.0430	-0.0109	2.036***
	Low	0.0491	0.0437	-0.0053	0.983
Gender imbalance index (higher values --> greater imbalance)	High	0.0558	0.0365	-0.0193	4.109***
	Low	0.0468	0.0495	0.0027	0.519

TABLE 4
Allocation of Capital between Male and Female Divisional Managers

This table studies the allocation of investment capital between male and female divisional managers. The dependent variable is the ratio of segment-level capital expenditure to book assets. The sample consists of industrial conglomerates in the S&P 1500 index with available data on capital expenditures, book assets, divisional managers, and CEO backgrounds. The sample period is from 2000 to 2008. All variable definitions are given in Appendix A. The regressions include year, year and industry, or year, industry and firm fixed effects. The t-statistics (in brackets) are based on standard errors that are heteroskedasticity consistent and clustered at the division level. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Sample	No controls			Controls		
Model	(1)	(2)	(3)	(4)	(5)	(6)
Female divisional manager	-0.009**	-0.014***	-0.013***	-0.009**	-0.011***	-0.014***
	[2.163]	[3.997]	[2.786]	[2.152]	[2.738]	[2.874]
Firm controls						
Firm cash flow				0.056	0.052	0.036
				[1.068]	[1.282]	[0.705]
Firm EPS				0.001	0.001**	0.001
				[1.308]	[2.049]	[0.976]
CEO controls						
CEO age				0.002	-0.001	-0.017
				[0.116]	[0.037]	[1.375]
External board seats				0.001	0.001	0.001
				[0.038]	[0.671]	[1.514]
Graduate degree				-0.004	-0.001	-0.001
				[1.012]	[0.305]	[0.072]
Tenure with the firm				-0.002	-0.001	0.001
				[0.116]	[0.213]	[0.454]
Division controls						
Industry Tobin's Q				0.008***	0.008***	0.007**
				[2.851]	[2.888]	[2.014]
Division ROA				0.004	0.006	0.009
				[0.251]	[0.323]	[0.422]
Division size				-0.004**	-0.004**	-0.002
				[2.310]	[2.401]	[0.615]
Core division				0.004	0.002	0.001
				[1.532]	[0.608]	[0.404]
Division manager controls						
External board seats				-0.006*	-0.002	-0.001
				[1.917]	[0.851]	[0.180]
Graduate degree				0.002	0.004	0.001
				[0.640]	[0.598]	[0.318]
Tenure				0.007***	0.006***	0.001
				[4.645]	[4.480]	[0.506]
Performance record				0.002	0.003**	0.001
				[1.154]	[2.068]	[0.784]
Social connections to CEO				0.008**	0.013***	0.011***
				[2.247]	[2.857]	[2.906]
Age				-0.010	-0.014	-0.021
				[0.731]	[1.178]	[1.456]
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	No	Yes	Yes	No	Yes	Yes
Firm fixed effects	No	No	Yes	No	No	Yes
R²	0.017	0.150	0.383	0.047	0.205	0.387
N_obs	3,954	3,954	3,954	3,904	3,904	3,904

TABLE 5

CEO Background

This table studies how CEO characteristics affect the allocation of capital between male and female divisional managers. The dependent variable is the ratio of segment-level capital expenditure to book assets. The sample consists of industrial conglomerates in the S&P 1500 index with available data on capital expenditures, book assets, divisional managers, and CEO backgrounds. The sample period is from 2000 to 2008. Control variables include the same characteristics of the firm, division, CEO, and divisional manager as in Table 2. All variable definitions are given in Appendix A. All the regressions include year, industry, and firm fixed effects. The t-statistics (in brackets) are based on standard errors that are heteroskedasticity consistent and clustered at the division level. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Panel A: Family imbalance

Subsample	Working mother		Parents education imbalance		Children's gender imbalance		CEO family index	
	No	Yes	High	Low	High	Low	High	Low
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female divisional manager	-0.015***	-0.004	-0.013**	-0.007	-0.027**	-0.001	-0.017**	-0.006
	[2.761]	[0.752]	[2.058]	[1.058]	[2.364]	[0.093]	[2.515]	[1.352]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.412	0.360	0.411	0.536	0.509	0.410	0.405	0.411
N_obs	3,193	636	1,389	859	336	409	2,049	1,894

Panel B: Education Imbalance

Subsample	High school gender imbalance		University gender imbalance		CEO education index	
	High	Low	High	Low	High	Low
Model	(1)	(2)	(3)	(4)	(5)	(6)
Female divisional manager	-0.026**	-0.007	-0.020***	-0.004	-0.021***	0.005
	[2.666]	[1.592]	[3.264]	[0.681]	[3.352]	[0.766]
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.462	0.406	0.424	0.409	0.402	0.446
N_obs	760	2,666	1,684	1,945	1,976	1,756

Panel C: Community Imbalance

Subsample	Labor force participation gender imbalance		Income gender imbalance		Education gender imbalance		CEO community index	
	High	Low	High	Low	High	Low	High	Low
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female divisional manager	-0.017*** [2.762]	-0.013 [1.526]	-0.019** [2.365]	-0.008 [1.345]	-0.017** [2.034]	-0.009 [1.595]	-0.018** [2.519]	-0.010 [1.299]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.468	0.451	0.495	0.445	0.478	0.439	0.462	0.462
N_obs	1,377	1,446	1,397	1,426	1,435	1,388	1,395	1,428

Panel D: Family, Education, and Community Imbalance Interactions

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Female divisional manager	-0.013*** [3.369]	-0.013*** [2.901]	-0.001 [0.094]	0.001 [0.179]	-0.001 [0.015]	0.005 [0.431]	-0.008* [1.860]	-0.010** [2.024]	0.008 [0.615]	0.016 [1.357]
CEO family index			-0.041** [2.061]	-0.031* [1.763]					-0.039** [2.401]	-0.028* [1.687]
Female divisional manager x CEO family index			-0.025** [2.134]	-0.033** [2.349]					-0.025* [1.772]	-0.032* [1.907]
CEO education index					-0.027** [2.034]	-0.021 [1.021]			-0.018 [1.249]	-0.025 [1.307]
Female divisional manager x CEO education index					-0.024** [2.296]	-0.034* [1.837]			-0.020* [1.880]	-0.037** [2.001]
CEO community index							-0.012 [1.011]	-0.009 [0.628]	-0.008 [0.695]	0.014 [0.957]
Female divisional manager x CEO community index							-0.006* [1.763]	-0.007* [1.694]	-0.001 [0.093]	0.011 [0.880]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
R^2	0.191	0.392	0.195	0.392	0.197	0.397	0.195	0.396	0.201	0.399
N_obs	3,904	3,904	3,893	3,893	3,684	3,684	3,734	3,734	3,647	3,647

TABLE 6
Divisional Managers' Attributes and Firms' Social Ratings

Panel A studies how managerial attributes vary between male and female divisional managers. Panel B studies how CEO characteristics affect firm-specific practices reported by the KLD social ratings database. The sample consists of industrial conglomerates in the S&P 1500 index with available data on capital expenditures, book assets, divisional managers, and CEO backgrounds. The sample period is from 2000 to 2008. All variable definitions are given in Appendix A. All the regressions include firm fixed effects. The t-statistics (in brackets) are based on standard errors that are heteroskedasticity consistent and clustered at the division level. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Panel A: Divisional managers' attributes

Divisional manager attribute	Busy manager (external board seats)	Graduate degree	Ln(1+Tenure)	Performance record	Social connections to CEO	Ln(Age)
Model	(1)	(2)	(3)	(4)	(5)	(6)
Female divisional manager	-0.001 [0.009]	0.037 [0.604]	-0.091 [0.815]	-0.066 [0.576]	-0.070 [1.289]	-0.030* [1.830]
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.527	0.378	0.424	0.499	0.480	0.339
N_obs	3,954	3,954	3,954	3,954	3,954	3,954

Panel B: Firms' social ratings

Dependent variable	Promotion of women and minorities			Outstanding work/life benefits			Women & Minority contracting		
CEO imbalance index	Family	Education	Community	Family	Education	Community	Family	Education	Community
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CEO imbalance index	-0.372*** [2.766]	-0.084 [1.069]	-0.102** [2.131]	-0.323** [2.420]	-0.141 [1.163]	-0.154** [2.087]	-0.212** [2.010]	-0.154* [1.767]	-0.078** [2.460]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.200	0.203	0.208	0.181	0.159	0.163	0.129	0.139	0.136
N_obs	1,314	1,241	1,228	1,314	1,241	1,228	1,314	1,241	1,228

TABLE 7
The Appointment of Male and Female Managers to Divisions

This table studies how CEO characteristics are associated with the appointment of male and female managers to divisions. The dependent variable is the characteristic of a division to which a particular manager is assigned at the time of turnover. Characteristics of divisions are measured in the year immediately preceding the year of divisional managers' appointments. In Panel A, divisions' characteristics include capital investment (columns 1-4) and division size, measured by book assets (columns 5-8). In Panel B, divisions' characteristics include profitability, measured by the division's return on assets (columns 1-4), and the core segment dummy, defined as an indicator that equals one if the division operates in the conglomerate's core industry (columns 5-8). The base sample consists of industrial conglomerates in the S&P 1500 index with available data on capital expenditures, book assets, divisional managers, and CEO backgrounds. The sample period is from 2000 to 2008. All variable definitions are given in Appendix A. All regressions include year, industry, and firm fixed effects. The t-statistics (in brackets) are based on standard errors that are heteroscedasticity consistent and clustered at the division level. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Panel A: Capital investment and division size

Dependent variable	Division characteristics in the year preceding divisional manager's appointment							
	Division CapEx				Division size			
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female divisional manager	-0.007 [0.481]	0.005 [0.622]	-0.024 [0.807]	-0.02 [1.012]	-0.488 [1.205]	-0.455 [0.996]	-0.556 [0.874]	-0.388 [0.968]
CEO family index		-0.009 [0.859]				0.129 [1.598]		
Female divisional manager x CEO family index		-0.0017** [2.102]				-0.045 [0.552]		
CEO education index			-0.008 [0.630]				0.155 [1.599]	
Female divisional manager x CEO education index			-0.015* [1.874]				-0.037 [0.240]	
CEO community index				-0.005 [1.363]				0.102 [1.064]
Female divisional manager x CEO community index				-0.004 [1.521]				-0.026 [1.382]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.554	0.557	0.558	0.554	0.871	0.873	0.867	0.866
N_obs	492	492	470	478	517	517	495	503

Panel B: Profitability and core division

Dependent variable	Division characteristics in the year preceding divisional manager's appointment							
	Division profitability				Core division indicator			
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female divisional manager	-0.251 [0.675]	-0.274 [0.780]	-0.347 [0.528]	-0.262 [0.419]	-0.076 [1.338]	-0.076 [1.338]	-0.072 [1.433]	-0.051 1.226]
CEO family index		-0.089 [0.075]				-0.040 [0.083]		
Female divisional manager x CEO family index		-0.134* [1.665]				-0.056** [2.206]		
CEO education index			-0.094 [0.299]				-0.069 [1.196]	
Female divisional manager x CEO education index			-0.191* [1.734]				-0.037** [1.971]	
CEO community index				-0.062 [0.573]				-0.039 [0.745]
Female divisional manager x CEO community index				-0.122 [1.259]				-0.016 [1.358]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.791	0.795	0.798	0.790	0.652	0.652	0.655	0.658
N_obs	516	516	494	501	621	621	587	606

TABLE 8

The Capital Allocation Channel: CEO Turnover

This table studies how changes in CEO characteristics at the time of CEO turnover affect the allocation of capital to male and female managers, while holding constant their appointments to divisions. It presents estimates from first-difference regressions, in which the dependent variable is the annual change in the ratio of segment-level capital expenditure to book assets, for segment-year observations where the CEO has changed from the previous year but the divisional manager has not changed. The base sample consists of industrial conglomerates in the S&P 1500 index with available data on capital expenditures, book assets, divisional managers, and CEO backgrounds. The sample period is from 2000 to 2008. Control variables include first-differences in the same characteristics of the firm, division, CEO, and divisional manager as in Table 2. All variable definitions are given in Appendix A. The regressions include year, industry, and firm fixed effects. The t-statistics (in brackets) are based on standard errors that are heteroscedasticity consistent and clustered at the division level. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Dependent variable	ΔCapEx			
Model	(1)	(2)	(3)	(4)
Female divisional manager	-0.051 [1.387]	0.017 [0.734]	-0.011 [0.542]	0.012 [0.749]
ΔCEO family index		-0.030 [0.360]		
Female divisional manager x ΔCEO family index		-0.039** [2.290]		
ΔCEO education index			-0.031 [0.539]	
Female divisional manager x ΔCEO education index			-0.037** [2.477]	
ΔCEO community index				-0.019 [0.739]
Female divisional manager x ΔCEO community index				-0.020* [1.742]
Controls	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
R^2	0.728	0.733	0.751	0.750
N_obs	512	512	467	479

TABLE 9
Gender Composition of the Board

This table studies how CEO characteristics affect the allocation of capital between male and female divisional managers. The dependent variable is the ratio of segment-level capital expenditure to book assets. The sample consists of industrial conglomerates in the S&P 1500 index with available data on capital expenditures, book assets, divisional managers, and CEO backgrounds. The sample period is from 2000 to 2008. Control variables include the same characteristics of the firm, division, CEO, and divisional manager as in Table 2. All variable definitions are given in Appendix A. All the regressions include year, industry, and firm fixed effects. The t-statistics (in brackets) are based on standard errors that are heteroskedasticity consistent and clustered at the division level. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Female board chair?	No	Yes	No	Yes	No	Yes
Model	(1)	(2)	(3)	(4)	(5)	(6)
Female divisional manager	-0.001 [0.127]	0.001 [0.363]	-0.001 [0.084]	0.003 [0.292]	-0.005* [1.712]	-0.008* [1.873]
CEO family index	-0.036** [1.994]	-0.028 [1.249				
Female divisional manager x CEO family index	-0.032** [2.582]	-0.014* [1.725]				
CEO education index			-0.029** [2.261]	-0.016 [1.384]		
Female divisional manager x CEO education index			-0.035** [2.408]	-0.016 [1.499]		
CEO community index					-0.009 [0.887]	-0.006 [0.937]
Female divisional manager x CEO community index					-0.011** [2.281]	-0.003 [1.218]
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	No	No	No	No	No	No
R^2	0.203	0.187	0.206	0.192	0.199	0.190
N_obs	3,563	330	3,376	308	3,423	311

TABLE 10
Capital Allocation Efficiency

This table studies how the allocation of capital between male and female divisional managers affects the efficiency of capital investment, measured as the sensitivity of divisional CapEx to Tobin's Q in the division's industry. It presents estimates from panel regressions, in which the dependent variable is the capital allocation of a division. Odd columns estimate the regressions for firms that include divisions overseen by female managers, whereas even columns focus on firms that only include male divisional managers. The sample consists of industrial conglomerates in the S&P 1500 index with available data on capital expenditures, book assets, divisional managers, and CEO backgrounds. The sample period is from 2000 to 2008. All variable definitions are given in Appendix A. The t-statistics (in brackets) are based on standard errors that are heteroscedasticity consistent and clustered at the division level. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Index type	Family		Education		Community	
Female divisional managers?	Yes	No	Yes	No	Yes	No
Model	(1)	(2)	(3)	(4)	(5)	(6)
CEO imbalance index	-0.040** [2.183]	-0.035** [2.226]	-0.019* [1.858]	-0.012 [1.490]	-0.023** [2.268]	0.031 [1.433]
Tobin's Q	0.008** [2.360]	0.007** [2.001]	0.008** [2.025]	0.008** [2.273]	0.010** [2.392]	0.008** [2.228]
CEO imbalance index x Tobin's Q	-0.013** [2.076]	-0.004 [1.355]	-0.009* [1.752]	-0.002 [1.172]	-0.010** [2.041]	-0.005 [1.407]
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.320	0.333	0.318	0.335	0.324	0.334
N_obs	694	3,199	644	3,040	682	3,052

TABLE 11
Firm Performance

This table presents estimates from panel regressions, in which the dependent variable is the performance of a firm, as measured by the return on assets (Columns 1-3), Tobin's Q (Columns 4-6), and annual stock returns (Columns 7-9). The sample consists of industrial conglomerates in the S&P 1500 index with available data on capital expenditures, book assets, divisional managers, and CEO backgrounds. The sample period is from 2000 to 2008. All variable definitions are given in Appendix A. The t-statistics (in brackets) are based on standard errors that are heteroscedasticity consistent and clustered at the division level. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Performance measure	ROA			Tobin's Q			Stock returns		
Index type	Family	Education	Community	Family	Education	Community	Family	Education	Community
Model number	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Female divisional managers	-0.019 [0.614]	-0.004 [0.171]	0.013 [0.745]	-0.259* [1.755]	-0.170 [1.263]	-0.151 [1.487]	-0.002 [0.015]	-0.067 [0.608]	-0.081 [0.965]
CEO imbalance index	0.016** [2.204]	0.025** [2.220]	0.013* [1.861]	0.077** [2.356]	0.051** [2.199]	0.070* [1.731]	0.102 [0.891]	0.031 [0.297]	0.081 [1.011]
CEO imbalance index x Female divisional managers	-0.028** [2.387]	-0.025** [2.245]	-0.011 [0.746]	-0.425** [2.337]	-0.447* [1.822]	-0.233* [1.814]	-0.029 [0.125]	-0.019 [0.949]	-0.015 [0.946]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.467	0.483	0.485	0.808	0.815	0.810	0.389	0.408	0.401
N_obs	1,431	1,337	1,346	1,423	1,329	1,358	1,404	1,311	1,330