

Family Descent as a Signal of Managerial Quality: Evidence from Mutual Funds

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Abstract

We study the relation between mutual fund managers' family backgrounds and their professional performance. Using hand-collected data from individual Census records on the wealth and income of managers' parents, we find that managers from poor families deliver higher alphas than managers from rich families. This result is robust to alternative measures of fund performance, such as benchmark-adjusted return and value extracted from capital markets. We argue that managers born poor face higher entry barriers into asset management, and only the most skilled succeed. Consistent with this view, managers born rich are more likely to be promoted, while those born poor are promoted only if they outperform. Overall, we establish the first link between family descent of investment professionals and their ability to create value.

Key words: mutual funds, fund managers, family background

JEL Codes: G12, G23, H31

Introduction

In the majority of financial decisions, shareholders delegate decision rights to professional managers. Thus, one of the most important tasks of shareholders is to select the most capable, high-type managers as their agents. Inferring managerial type ex-ante is challenging. For example, the majority of CEOs at S&P1500 firms have no prior CEO experience. Yet, given the frictions and costs of replacing managers, this task is of first-order importance for economic outcomes in all public firms.

This paper provides evidence that public information about a manager's family descent and access to resources during his formative years serves as a powerful signal of managerial ability. We exploit the fact that individuals are endowed with different opportunities at birth and, as a result, face dramatically different entry barriers into managerial roles. For example, some can ascend to leadership roles with the help of their inherited status, wealth, or access to professional networks, as in the extreme case of the heirs of family-owned firms. Others are born in poverty and face limited access to education and professional advancement during their formative years, a crucial period for subsequent career outcomes (e.g., Bowles and Herbert (2002); Black, Devereux, and Salvanes (2005)). Because individuals from less privileged backgrounds have much higher barriers to entry into prestigious positions, only the most skilled types can exceed these thresholds and build a career in a management profession.

Delegated asset management provides a convenient setting to test this selection mechanism. First, because this is a service industry requiring professional qualifications, barriers to entry are particularly steep. Second, in contrast to industrial firms where daily decisions are made by dozens of managers and implemented by thousands of employees, managers of solo-managed mutual funds have the principal authority over the fund's portfolio. Third, fund managers perform standardized professional tasks within a well-defined investment universe, and their outcomes are easily comparable in the time-series and cross-section. In contrast, many corporate decisions are not standardized, and the investment opportunity set of corporate managers is unobservable. Finally, mutual funds account for over a half of financial wealth of the average household, and the performance of money managers has a major impact on the majority of U.S. investors, indicating a question of broad public interest.

In this paper, we study the relation between mutual fund managers' family descent and their performance. To identify managers' family characteristics, we hand-collect data on the households where managers grew up by examining photo images of individual Census records at the National Archives.¹ These records provide detailed information on the income, home value, education, and occupation of a manager's parents during his childhood, as well as other demographic characteristics. As expected, most fund managers come from wealthier and more educated families than those in the general population or even the local community; e.g., the average (median) annual income of managers' fathers at the time of Census is at the 89th (84th) percentile of the income distribution in the general U.S. male population.² On average, managers' fathers report 26% more years of formal education than the median male in their census tract and own homes valued at 91% higher than the median house in their census tract. Consistent with the notion that family economic status is an important factor for an individual's subsequent career progression, we observe that managers from wealthier backgrounds are more likely to attend private universities with lower admission rates and higher tuition; e.g., the median undergraduate tuition was five times as high in universities attended by managers from the top quintile of family wealth than those from the bottom quintile, while the admission rate was 38 percentage points lower (78% vs 40%).

Our main finding is that mutual fund managers from wealthier backgrounds deliver significantly weaker performance than managers descending from less wealthy families. For example, managers from families in the top quintile of wealth underperform managers in the bottom quintile by 2.16% per year (significant at 1%) on the basis of the four-factor alpha. Similar results hold for alternative measures of performance, such as benchmark-adjusted fund returns and dollar value extracted from capital markets (Berk and Van Binsbergen (2015)). E.g., an interquartile-range increase in the manager's family wealth translates to a monthly loss equivalent to \$3.34 million in 2012.

¹ See Appendix 2 for the form layout and an example of a photo-image record.

² See Figure 1 for the graphical comparison of our sample and the general population distribution.

Our analysis accounts for a comprehensive set of controls which proxy for the quality and type of the manager's own education and demographics, his parents' education and professional expertise, and fund and management firm characteristics. While it is not feasible to control for all potentially relevant effects, it should be noted that plausible omitted variables, such as professional connections or privileged access to information, would favor a positive relationship between family wealth and performance and thus are unlikely to explain our findings. Likewise, the results are unlikely to be driven by differences in risk attitudes among manager types, since our analysis features risk-adjusted performance measures. In addition, we control for fund return volatility and skewness in all the regressions.

If less stringent selection criteria apply to the more privileged candidates, one should expect to see a greater dispersion in quality among managers from wealthy backgrounds. In contrast, the candidates who passed tighter selection should be more uniform in type. Consistent with this conjecture, we find that the performance dispersion is higher in the sub-sample of managers from wealthier families. The F-ratio of the alpha variance of the top wealth group to that of the low wealth group is robustly greater than 1, with most of the results significant at the 1% level. E.g., the alpha variance is 12.7% (28.4%) higher in the top tercile (quartile) than in the bottom tercile (quartile) of the wealth distribution.

Overall, our main evidence is consistent with the idea that candidates endowed with fewer opportunities face higher selection thresholds, and only the most skilled make it into fund management.³ To shed more light on this issue, we investigate fund managers' career progressions and study how a manager's likelihood of promotion varies with his family background and past performance. We define a promotion as an event when a manager obtains an additional fund or is reassigned to a fund with greater assets under management. For managers with negative to neutral past performance, as measured by their past five-year alpha, promotion chances are increasing in family wealth. However, managers from poorer families can close this gap by delivering better performance, as indicated by the negative significant coefficient on the interaction between past performance and wealth. In other words, only the best-

³ Bowles, Gintis, and Osborne (2005) provide a comprehensive review of the research in sociology on the role of parental economic status on individuals' careers and the associated survival mechanisms.

performing poor managers can compete with the wealthy managers for promotion, thus ensuring the selection of the more talented managers among the less privileged candidates.

Next, we examine the relationship between managers' family wealth and a variety of portfolio activity measures, such as turnover, portfolio concentration, holding horizon, and herding. The results are directionally similar across these measures and suggest that less wealthy managers tend to be more active: they have higher turnover and concentration but shorter holding horizon and weaker herding tendencies. However, only the turnover coefficient is statistically significant: an interquartile-range reduction in the family wealth increases the fund's annual turnover by 5.4% of the portfolio TNA, or about 21% of the median annual turnover in the sample. Combined with the earlier findings, this result lends support to the argument that more frequent trading can foster value creation (Pastor, Stambaugh, and Taylor (2015)).

In our final analysis, we test whether mutual fund investors infer managerial ability from managers' familial backgrounds and find little evidence that they do. Mutual fund capital flows are not significantly related to fund managers' family backgrounds, and this effect is similar in specifications with and without the fund's past performance. It appears that fund investors are unlikely to incorporate information on the fund manager's background into their investment decisions.

The central contribution of this article is to provide the first evidence on how the family descent of investment professionals signals their ability to create value. Our findings add novel insights to academic research on (i) managerial characteristics that predict professional performance and (ii) the effect of formative years on individuals' career progression and economic outcomes.

We contribute to a small number of papers in asset management that identify personal characteristics of fund managers that predict their professional performance. So far, this literature has focused mostly on the role of managers' education. Chevalier and Ellison (1999) find that mutual fund managers who attended colleges with higher average SAT scores deliver superior risk-adjusted returns, and Li, Zhang, and Zhao (2011) find similar evidence in the context of hedge funds. Cohen, Frazzini and Malloy (2008) show that fund managers' educational networks yield valuable information that improves managerial performance in connected stocks. Chaudhuri, Ivkovich, Pollet, and Trzcinka (2015) provide

evidence that investment funds managed by PhD graduates deliver superior risk-adjusted performance and charge lower fees. In contrast to previous work, we document how endowed low economic status serves as an important screening mechanism of managerial ability. Our paper is among the first in the mutual fund literature to emphasize signaling of managerial quality based on selection.

We also extend the literature on the effect of individuals' family environment on subsequent economic outcomes. So far, this research has focused mostly on the economic behavior of individual households. For example, using data from a field experiment, Chetty et al. (2011) find that a child's access to education predicts college attendance, earnings, and retirement savings. In two studies of Swedish twins, the socioeconomic status of an individual's parents helps explain future savings behavior (Cronqvist and Siegel (2015)) and preference for value vs. growth stocks (Cronqvist, Siegel, and Yu (2015)). In contrast to studying households' personal decisions, we provide evidence on sophisticated financial intermediaries whose professional choices have large welfare implications for millions of investors. Also, to identify exposure to a socioeconomic environment, prior papers have used general time-series patterns, such as growing up during the Great Depression (Malmendier and Nagel (2011)) or entering the labor market in a recession (Schoar and Zuo (2013)). Our approach uses a sharper identification by focusing on the unique economic status of each household and uncovers important cross-sectional patterns.

The remainder of the paper is organized as follows. Section II describes the data and presents summary statistics. Section III establishes the relationship between managers' family wealth and performance measures. Section IV investigates ancillary implications of selection. Section V focuses on portfolio activity and capital flows. A brief conclusion follows.

II. Data and main variables

II.A Sample construction

We begin our sample construction with the universe of U.S.-domiciled mutual funds covered by Morningstar in 1975-2012.⁴ We include both defunct and active investment products (fund share classes), ensuring that any fund ever appearing in the Morningstar database during our time period is present in the initial sample.

To ensure an equitable comparison basis for investment managers, we restrict our sample to domestic actively managed funds specializing in U.S. equity, thus excluding international funds, index funds, and funds specializing in bonds, commodities, and alternative asset classes.⁵ To eliminate possible errors in the data, we exclude funds with a missing name and funds whose total net assets (TNA) never exceed \$10 million during our sample period. Finally, to establish a clean correspondence between a fund manager's decisions and performance outcomes, we focus on solo-managed mutual funds. Accordingly, we exclude funds that are always managed by a team of managers during our sample period.

For each fund that passes the initial filters, we obtain its historical management data from Morningstar, which details the name of the manager and his starting and ending dates (months) in a fund. To provide a sufficient period for evaluating managerial performance, we limit our sample to managers with at least 24 monthly return observations. For managers who pass these initial criteria, we initiate the data collection process described below.

First, we obtain managers' education and employment history from their biographies in Morningstar and FactSet and verify these data against the employment records in the Nelson Directory of Investment Managers. We complement our data on managers' education with records from university alumni publications and archived university yearbooks available from ancestry.com. Where information about a manager's degree is missing, we contact the registrars of the university attended or the National

⁴ Even though some funds have return series dating back to 1960, the data on net assets is generally not available before 1975.

⁵ This filter excludes index funds, funds whose U.S. Broad Asset Class is not "U.S. Stock", funds for which Morningstar equity style classification is not available, and funds that have sector restrictions or specialty focus (Global Category includes the word "Sector" or Prospectus Objective includes the word "Specialty").

Student Clearinghouse, a degree-verification service provider. We supplement this information with data on the quality of the educational institution (average SAT score of the entering class), its competitiveness (undergraduate acceptance rate), affordability (annual tuition), and elite status (Ivy League indicator). This information is obtained from the College Handbook, published by the College Entrance Examination Board, and most variables are based on the 1979 data (one of the oldest editions), except for the standardized scores, which are recorded as of 2004 due to better data availability.⁶

Second, we match fund managers to the Lexis Nexis Public Records database (LNPR). This database aggregates information on nearly 500 million U.S. individuals (both alive and deceased) from sources such as birth and death records, property tax assessment records, voting records, and utility connection records. Prior research in finance has relied on this database to obtain personal data on fund managers (Pool, Stoffman, and Yonker (2012); Pool, Stoffman, Yonker, and Zhang (2015)), corporate executives (Cronqvist, Makhija, and Yonker (2012); Yermack (2014)), and financial journalists (Ahern and Sosyura (2015)). All personal records in the database are linked to the individual's social security number (observable with the exception of the last four digits and linked to a unique ID). Using a manager's full name, age, and employment history, we establish reliable matches to LNPR for 92% of managers in our sample. Appendix 1.A details our matching process and verification procedure. The 8% of unmatched managers are typically those who live outside the U.S. (funds delegated to a foreign subadvisor) and those who have the most common combinations of first and last names (e.g., Robert Jones or John Miller) and no additional information to establish an unambiguous match. These managers are excluded from the sample.

Next, we proceed to the main stage in our data collection – extracting personal census records for the households where fund managers grew up. Our sample construction is guided by regulatory constraints imposed on working with individual census records. The U.S. public law prohibits the release of individual decennial census records with personally identifiable information for 72 years after these

⁶ Our results are virtually identical if we use the 2004 handbook throughout – there is a high correlation between the 1979 and the 2004 variables.

records are collected (92 Stat. 915; Public Law 95-416; October 5, 1978). Because of the 72-year moratorium, the latest decennial census with personally identifiable information available at the time of writing is the 1940 federal census (and any earlier decennial censuses), which constitutes our main source of data. Appendix 2 shows the census form presented to households and provides an example of a completed form.

To ensure that the census record provides an accurate reflection of a manager's endowed social status during childhood, we restrict our sample to managers born in or before 1945. In other words, we allow for a maximum delay of five years between the measurement of family characteristics and the manager's birth. After investigating the managers' backgrounds, we find that some of the managers were raised outside the U.S., and, as a result, their families were not covered in the publicly available censuses. After eliminating these cases, we end up with 357 managers with potential census records.

We follow a three-step algorithm to identify a manager's household in the census by sequentially checking three types of records – birth, marriage, and death – for the manager and his relatives. To ensure a reliable match to the census, we require establishing a manager'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 manager's parents and siblings who are further verified based on their year of birth. Appendix 1.B describes how we identify the manager's parents and siblings and provides examples of birth, marriage, and obituary records used in the data collection. The combination of these records allows us to establish the full names of both parents for 305 fund managers or 85% of the 357 managers that satisfy our sample criteria.

In our final step, we use the combination of the manager's parents and siblings to identify the family's record in the 1940 census (for a small subset of older managers, we also obtain the 1930 census records). We obtain the image file of the family's census record (shown in Appendix 2) from the digital archive maintained by the U.S. National Archives and Records Administration. To search and access these records, we use the interface provided by ancestry.com.

We are able to identify census records for 267 (88%) of the 305 managers that satisfy prior sample filters. The unmatched observations mainly result from transcription errors in the indexing of hand-written family names in the digital archive, which prevent us from being able to locate the record in the archive. While we recover some of the mis-indexed records by manually going through census records in the manager's enumeration district, a full recovery of these observations is prohibitively costly. For a small number of observations, we are unable to locate the 1940 census record because the managers' parents were on an overseas trip (identified via vessel departure records) or on military duty abroad (identified via military enlistment records). Appendix 1.B summarizes the sequence of steps in the data collection process and provides examples of relevant records.

Because of the data limitations in this study, our sample is naturally restricted to older managers born before or shortly after the 1940 Census. These managers account for 482 unique funds (multiple shareclasses of the same fund are aggregated to the fund level) spanning a long time period from 1975 to 2012. This sample size is comparable to that in other studies that focus on older fund managers, such as Grinblatt, Titman, and Wermers (1995) (274 funds) and Chevalier and Ellison (1997) (398 funds).

After locating the manager's parents' household on ancestry.com, we manually record the information from the digital image of the filled census form. The following data fields are of particular interest: the father's and the mother's birth years, their annual incomes (as of 1939), their occupation/profession, whether the family owned or rented an accommodation in 1940, the monthly rent (if the accommodation was rented) or the approximate house value (if it was owned),⁷ the parents' employment type (a private or a government worker, an employer, a self-employed individual, or an unpaid worker), the parents' education (completed years of elementary school, high school, and college), and some auxiliary information, such as the number of children in the household and the number of resident servants.

In the next section, we discuss the characteristics of fund managers and compare them with those of other U.S. households. To make these comparisons possible, we obtain tract-level census data for the

⁷ Home values are recorded in increments of \$500.

entire U.S. population and compare the characteristics of the fund manager's household with the characteristics of other households located in the same census tract, same county, or nationwide.⁸ We obtain tract-level data for the 1940 census from the Elizabeth Mullen Bogue File, which has been used in prior work in social economics (e.g., Sugrue (1995), Elliott and Frickel (2013)).⁹ Examples of tract-level variables include total population in the tract, median home value, median monthly rent (both gross and contract), the number of residents with school and college education, median education years, and the number of residents without paid employment.

II.B Summary statistics

Table 1 reports summary statistics on mutual funds and fund managers in our sample. The average (median) manager in our sample is born in 1938 (1940) – three years (same year) before we measure the household characteristics. Even for managers born before (10th percentile is 1930) and after (90th percentile is 1944) 1940, the Census records are close enough in time to accurately reflect the manager's family's social situation during his childhood years. The average (median) managerial career, as measured by the time difference between the manager's first and last appearance in the sample, is 13.4 (11.6) years, although some managers have long careers approaching 30 years (90th percentile is 26.3 years). The peak dollar value of assets controlled by managers in our sample has an average value of \$2.96 billion and a median value of only \$647 million, highlighting the fact that a number of managers are in charge of particularly big funds. Both figures are economically large and imply significant value effects for the funds' investors. Most managers have strong educational backgrounds and graduate from universities with an average (median) SAT rank of 84.4 (88.0). However, the average (median) admission rate is only 54.8% (55.9%), while the variable itself has a fairly even and wide distribution (from 10th percentile of 22.6% to 90th percentile of 86.0%), suggesting some variation in the education exclusivity.

⁸ The matching of addresses from individual census records to the 1940 census tracts is conducted via the Unified Census ED Finder engine available at www.stevemorse.org/census/unified.html.

⁹ This data can be found, among other sources, at www.icpsr.umich.edu/icpsrweb/DSDR/studies/2930 and is available for researchers from ICPSR member institutions. The digital copy of the dataset was created by Dr. Donald Bogue and his wife, Elizabeth Mullen Bogue, who manually entered information from printed publications released by the Bureau of the Census.

The estimated average (median) value of the manager's parents' home in 1940 is \$10,097 (\$7,350) but its variation is substantial (from 10th percentile of \$2,500 to 90th percentile of \$20,000). Monthly rent shows a similar pattern: an average (median) rent is \$43.5 (\$40.0) but the 10th and 90th percentiles are wide apart (\$14.0 and \$70.0, respectively). An inspection of the parents' incomes reveals that over 75% of mothers are either out of the labor force or report an income of \$0 (as evidenced by the occupation records, many of the wives are either housewives or attend school, while most husbands hold at least a part-time job), whereas fathers report an average (median) annual income of \$2,246 (\$1,900). In Figure 1 we show how the distribution of the managers' fathers' incomes compares with the distribution of incomes in the general male population in the U.S. in 1940 (data from Census Labor Force summary files). Finally, for both parents, the mean and the median years of education at the time of the census is 12, with most of the respondents having completed at least the elementary school.¹⁰

Comparing household-level home values and rent to their tract-level counterparts does not reveal a striking difference for the mean or the median. Household homes are generally more expensive than those of the tract (median \$7,350 vs. median \$5,071) but the rent is similar. This pattern suggests that managers whose parents already owned a house in their youth come from wealthier backgrounds while those whose parents rented an accommodation are more representative of the tract's average. Naturally, measures of variation, such as the standard deviation or the percentile range, are significantly lower at the tract level than the household level due to diversification.

Statistics from the fund sample confirm the disparity between the mean and the median size of managed funds (\$654.9 million vs. \$134.4 million). A similar pattern is observed at the fund family level and is also confirmed by the statistics on the number of equity holdings in a fund (mean of 87.4 vs. median of 62.0). An average (median) monthly fund return is positive at 1.00% (1.26%); however one must consider that the stock market grew at an unprecedented rate during our sample period between 1975 and 2012. An examination of fund alphas – fund returns in excess of the returns predicted by the

¹⁰ Individual Census records report years in the elementary school, high school, and college separately, while the tract-level Census data report the total years of education, assuming 8 (4) years for the elementary school (high school). We follow the latter convention in constructing our measure of the duration of education.

four-factor model (Section III describes the computation methodology in greater detail) – reveals that an average and median monthly alphas in our sample are negative at -0.04% (-0.48% annualized).

Panel B of Table 1 reports some sample composition statistics. 68.9% of the managers earned some graduate degree; in particular 57.0% earned an MBA degree, while 2.9% completed a PhD. 90.4% of the managers have either an undergraduate or a graduate degree in a field which we classify as economics-related (see Appendix 3.A for the classification methodology) and 8.2% hold a degree in sciences, such as physics, engineering, or mathematics. The vast majority of the managers' parents' were employed in the private sector in 1940 and 20.8% had a finance-related job, such as an accountant or an insurance advisor (see Appendix 3.B for the classification methodology). As expected, most of the funds in our sample (close to 65%) belong to the Large Cap styles with the Large Growth being the dominant category (28.4%).

In Table 2 we examine relationships among our main variables in correlation tables and by quintiles of the managers' family income. In Panel A we focus on the parents and include household wealth and education characteristics as well as tract wealth characteristics. Using the data from the Census personal records, we define the following major variables: *FatherIncome* is the reported annual income of the manager's father in thousands of dollars; *FatherYearsEdu* is the aggregate years of education of the father by the time of the census; *ParYearsEdu* is the average of the father's and the mother's education years; *FinanceRelated* is a dummy variable equal to 1 if at least one of the parents held a job that we classify as finance-related, and 0 otherwise; *Managerial* is a dummy variable equal to 1 if at least one of the parents held a job that we classify as being in a managerial position, and 0 otherwise (Appendix 3.B explains the classification); *Rent* is the monthly rent in dollars; and *HomeValue* is the estimated value of the parents' home, if owned, in thousands of dollars.

The rent is strongly positively related to the father's income (correlation of 0.686). However, the correlation between the income and the home value is weaker (0.472). We cannot correlate home value with rent directly since these variables are available for complementary sub-samples, namely, for owned and rented properties. The parents' education is positively related to both income and rent, with the

correlation coefficients of 0.372-0.373. The income, rent, and home value are all higher if at least one of the parents has a finance-related or a managerial job, e.g., the correlation between dummy *FinanceRelated* and *FatherIncome* is 0.352. Larger families, as proxied by the number of siblings, tend to earn slightly smaller incomes. Tract-level median rent and home value are weakly related to the measures of household wealth; we should note, however, that the tract-level statistics are available for only about 28% of the municipal districts in our sample (these are main agglomerations such as New York, Boston, or Saint Louis) and are given here for comparison only – none of our regression analysis uses tract-level variables.

In Panel B, we examine the relationship between the parents' wealth/education and the attributes of the manager's education. For most of the variables featuring in this panel, the variable name directly defines the measure, e.g., variables *HasGraduate*, *HasMBA*, and *HasPhD* are dummies taking the value of 1 if the manager holds any graduate degree, an MBA degree, or a PhD, respectively, and 0 otherwise, while *IvyLeague* is a dummy which takes the value of 1 if the manager's undergraduate institution belongs to the Ivy League, and 0 otherwise. In addition, we define several classification variables to characterize the type of the manager's scholarly specialization, creating dummies for economics-related fields, science fields, and a psychology fields (see Appendix 3.A for details).

The results in Panel B reveal a robust positive relationship between the parents' wealth and the quality or exclusivity of the manager's education. E.g., the father's income has a correlation of 0.466 with the university tuition, 0.364 with the university's private status, 0.472 with the median university ACT score, and -0.368 with the admission rate (correlations among the university variables have the expected signs and do not warrant special attention). In addition, graduate education in general was more often pursued by managers from poorer backgrounds, although this effect is not strong. Finally, the manager's own education quality is consistently positively related to his parents' education, e.g., there is a 0.213 correlation of the parents' education years with the Ivy League dummy and a 0.343 correlation of the parents' education with the manager's university SAT rank. Also, the manager was somewhat more likely to pursue an economics-related education if at least one of his parents was occupied in a finance

profession. Perhaps surprisingly, the probability of attaining an MBA degree is slightly lower for managers whose parents held a finance-related or a managerial position.

In Panel C of Table 2 we report mean and median values of several key variables for each quintile of the managers' parents' household wealth. To this purpose we first construct the wealth rank variable (henceforth, *WealthRank*) combining information on the income, home value, and rent. We define *WealthRank* as the percentile rank of the father's income, if its value is non-missing, and the percentile rank of *HomeValue* or *Rent*, otherwise.

Several clarifications are in order. First, we do not incorporate the mother's income in the measure because about 80% of mothers do not report any income even if the record indicates some employment. Also, most of the mothers are homemakers and this is more likely to happen in wealthier families. For these reasons, incorporating mother income would detract from the precision of the wealth estimate. Second, for about 35% of observations the fathers do not report any salary or wage income either. However, this generally happens when the father is a proprietor of a business or an entrepreneur. In such cases, we use the data on home value and rent to proxy for the household wealth. To make all these measures comparable we compute their ranked percentiles which range from 1 to 100. In our main test in Table 3 we present the analysis for both the raw measures and the ranked wealth to demonstrate the consistency of the results. Finally, it is worth reminding that *HomeValue* and *Rent* are defined on the non-overlapping subsamples, meaning that it does not matter in which order they enter the ranked wealth measure.

The top three rows in Panel C of Table 2 show how the father's income, home value, and rent vary by the wealth quintile. Both the means and the medians of all three measures are monotonically increasing in wealth. The next row shows how the annualized fund four-factor alpha varies by its manager's family wealth. This analysis is preliminary and does not feature any controls or fixed effects, which are required in the formal analysis, since family wealth produces multiple effects some of which are performance-related. At this stage we can only point out that managers from the top wealth quintile deliver the worst performance while those from the bottom quintile are the best by comparison. This

result holds for both the mean and the median alpha; e.g., the top- and bottom- quintile median alphas are -0.92% and -0.17%, respectively. However, the wealth-performance relationship is not monotonic across the quintiles and is likely masked by many confounding effects, which we address in our multivariate analysis in Section III. Some of these effects are even apparent in Panel C of Table 2. E.g., we can see that the parents' education depth is robustly increasing in wealth, while the manager's own education quality is also positively related to his parents' wealth (the manager's university admission rate decreases from the median of 78.3% to the median of 39.7% as we move from the lowest to the highest wealth quintile, while the median tuition increases from \$975 to \$4,825). Both these variables can have implications for fund performance and need to be controlled for. The main takeaway at this stage is that despite the fact that natural drivers of performance are increasing in wealth, the performance measure itself shows the reverse pattern.

III. Family wealth and managers' performance

III.A Main results

We now investigate how fund managers' ability to create value for fund investors relates to their familial backgrounds. Our main analysis focuses on fund alpha which we calculate as follows. For each fund j and month t we estimate the coefficients in the four-factor model, which includes the three Fama-French factors (Fama and French (1993)) and the Carhart momentum factor (Carhart (1997)),¹¹ using monthly return observations from the previous 36 months ($t-36$ to $t-1$) and compute the difference between the actual fund return in month t and the return predicted by the model. This procedure yields rolling alphas at monthly frequency, $Alpha_{jt}$, which we express in percentage points in all of our tests. We require at least 30 non-missing observations for this estimation, otherwise we set $Alpha_{jt}$ to missing.¹²

¹¹ The data is from the Kenneth French's website: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html. We thanks the authors for making this data available.

¹² Our results are robust to the choice of the estimation window. However, many funds in our sample have long return series which stretch across different market cycles. The three-year period allows reasonable statistical

The fund alpha computed from net returns is a standard measure of fund performance and fits several objectives of our study: it quantifies the percentage value created over the salient benchmark portfolios (size and value are the major styles in Morningstar and Lipper) and is easily available to fund investors. However, it is not without issues. First, the alpha measure can be dynamically altered. Even though such a manipulation cannot be directly inferred from the return series, it tends to increase the volatility and skewness of returns. For this reason, we control for the fund volatility and skewness in all our regressions. Second, funds often operate within the boundaries of their investment mandates and are restricted in their investment behavior. For this reason, all our regressions include fund style fixed effects. Moreover, even though the main market trends are cleansed in the construction of alpha, we include time fixed effects to allow for the possibility that alpha might be easier to earn in a growing market. Finally, we investigate the robustness of our findings to several alternative measures of performance, such as the return net of benchmark and the value extracted from capital markets, and reach similar conclusions.

Our main right-hand side variables are designed to measure the financial standing of the manager's family during his childhood years. For our initial tests we consider three different variables: *FatherIncome*, *HomeValue*, and *Rent* defined in the previous section. We collectively call the three right-hand side variables *Wealth* and run the following regression specifications:

$$Alpha_{mjt} = \beta Wealth_m + \Gamma_1 \times \mathbf{MControls}_{mt-1} + \Gamma_2 \times \mathbf{FControls}_{jt-1} + \alpha_Y + \delta_s + \varepsilon_{mjt}, \quad (1)$$

where j indexes funds, t indexes months, m indexes managers, and s denotes Morningstar fund style. *Wealth* is one of the three measures of the household wealth in 1940. **MControls** is a vector of controls for the manager which includes *ManagerAge* (the difference between the observation year and the manager's birth year) and a set of education and employment characteristics described in the previous section, namely, *ParYearsEdu*, *HasGraduate*, *HasMBA*, *AdmissionRate*, *FinanceRelated*, and *Managerial*. **FControls** is a vector of standard fund and fund family controls which includes *FundSize*

accuracy in the estimation without imposing the condition that the factor loadings have to remain constant over a long period of time.

(log of the fund's TNA in millions of dollars), *FundAge* (the time in years from the month of the fund's first appearance in the sample to month $t-1$), *FirmSize* (log of the mutual fund family TNA in millions of dollars), *LogFirmNFunds* (log of the number of funds in the family), *Volatility* (standard deviation of fund returns over the trailing twelve months), and *Skewness* (skewness of fund returns computed over the trailing twelve months). All the controls are measured as of the end of month $t-1$. In these and all the subsequent tests the standard errors are clustered at the fund level to allow for possible serial correlation in fund returns resulting from some unobservable fund-specific institutional features.

We report the results in Panel A of Table 3. All of the three wealth measures – *FatherIncome*, *HomeValue*, and *Rent* – are robustly negatively related to *Alpha*, with all the coefficients significant at least at the 10% level. The results become stronger as manager-specific controls (such as education) are added, suggesting that any failure to control for factors likely to affect performance would generally understate the significance of the negative relationship between performance and wealth. To evaluate economic magnitudes, consider two managers whose fathers' incomes differ by 1.8 (\$1,800), which is the interquartile range for *FatherIncome* in the panel sample. The monthly alpha for the manager with the higher *FatherIncome* is lower by 6.9 bp (0.83% annualized).¹³ To compare, the median monthly alpha in the sample is only -4.3 bp (-0.52% annualized). Considering that our managers have long careers, the difference in the compounded risk-adjusted returns earned by different manager types over the years can be substantial, underscoring the importance of the quality signalling mechanism discussed in this paper.

In Panel B of Table 3, we consider the aggregate measure of wealth – *WealthRank* – which does not lose observations and which will be used in all the subsequent tests in the paper. For convenience, the regression version of *WealthRank* is scaled by 0.01 and thus ranges from 0 to 1. In the right pane, we focus on the quintiles of wealth; e.g., *WealthRankQ2* is equal to 1 for a manager if his *WealthRank* is between 0.2 and 0.4.

¹³ All the effects in this section are computed from the coefficients in the full specification, e.g., $1.8 \times -0.0384 = -6.9$ bp.

The results from Panel B confirm and strengthen our initial conclusions. First, higher *WealthRank* robustly predicts lower *Alpha*: an increase in *WealthRank* of 0.5 reduces the manager's monthly (annual) *Alpha* by 7.3 bp (0.88%). Second, this effect is monotonic across the quintiles in the full specification: the coefficient on the quintile dummy is decreasing in the quintile's ordinal number (each coefficient captures the average difference in *Alpha* between that quintile and the omitted category, which is the lowest quintile). The difference between the performance of managers from the fifth quintile of wealth and those from the first quintile is highly significant both statistically and economically; e.g., managers from the richest families underperform those from the poorest families by 18.0 bp monthly (2.16% annually).

The strength of the results in this section becomes even more apparent if we acknowledge that various unobserved effects should favor richer managers and improve their performance. Even though we strive to control for different aspects of the manager's skill set and his family's expertise, potentially important omitted variables always exist in this type of studies. However, a reasonable endogeneity argument would point to a positive relationship between the parents' wealth and the manager's performance. E.g., individuals from wealthier families have better connections and access to resources, which should aid their portfolio management task. And yet, these same privileges make it possible to make career advancements without showing strong performance, and only if this biased selection channel is in full effect, would we observe a negative relationship between a manager's performance and his endowed wealth in the sample. In the next section we explore this advancement hypothesis directly by studying the link between managers' promotions and their parents' wealth.

III.B Alternative measures of performance

In this subsection, we consider several alternative measures of fund performance. In the original tests, we used net fund returns to construct the alpha, since we were interested in the value effects from the perspective of a fund investor, i.e. portfolio performance net of fees. However, if we calculate the fund's gross return by summing the expense ratio and the return earned by investors (gross return = (1+net

return)*(1+expense ratio)-1), re-estimate the alpha, and rerun our tests, the results remain almost identical, as can be seen in the first two columns of Table 4.

Next, we consider fund performance evaluated relative to the fund's prospectus benchmark index. We define *BenchmarkAdjReturn* as the difference between the fund's monthly gross return and the return on the fund's benchmark index as reported by Morningstar. We also consider the abnormal return over the benchmark (*AbnReturnOverBenchmark*) computed as the difference between the fund's return and the return predicted by the factor model in which the factor is the index return series (as before, the model is estimated over the trailing 36 months). The results for these two measures are reported in columns 3 to 4 of Table 4. Similar to the main test, the significance improves with the addition of controls. For the benchmark-adjusted measures of performance, the economic effects are slightly stronger than for the alpha. Interestingly, the ability to beat the benchmark is significantly higher for managers who graduated from more elite universities: a decrease in the manager's university admission rate of 50% improves the annualized benchmark-adjusted return by 1.05% ($=-0.5*-0.1753*12$).

Finally, we turn our attention to the dollar measure of the value extracted from capital markets introduced in Berk and Van Binsbergen (2015). We compute this measure as the product of the fund's beginning-of-the-month TNA (this TNA is adjusted for inflation by the Consumer Price Index of the Federal Reserve Bank of St. Louis and is expressed in millions of 2012 dollars) and its benchmark-adjusted monthly return. This variable is different from the return-based measures of performance as it explicitly takes into account the size of the fund portfolio. The size component is important, since the neoclassical framework posits that fund size should adjust endogenously to the manager's ability through flows, thus driving down the return-based measures of performance under the assumption of decreasing returns to scale (Berk and Van Binsbergen (2015)). At the same time, as long as the equilibrium is not reached, the value-added measure would understate the ability of managers who are constrained by fund size. Moreover, the equity market grew rapidly over our sample period offering new investment opportunities for fund managers every year, thus relaxing the effect of diminishing returns to scale. Empirically, the dollar measure of value-added has correlation of 0.121 with the alpha and 0.220 with the

benchmark-adjusted return in our sample. The last two columns of Table 4 show the relationship between this measure and the managers' family wealth. This relationship is negative and statistically significant at 5%. To interpret the economic effect, consider, as before, an increase in *WealthRank* of 0.5. This increment is associated with a monthly loss of \$3.34 million ($=0.5 \times -6.6870$), or about 58% of the interquartile range of the value-added measure.

Overall, our evidence indicates that higher wealth at birth is negatively related to various measures of managers' performance, the result consistent with more stringent selection of the less privileged candidates into the profession. It is possible that managers are allocated to funds non-randomly and that some managers end up running funds where it is easier to earn abnormal returns, such as funds investing in the least efficient market segments (Fang, Kempf, and Trapp (2015)). However, this channel is unlikely to explain our main results. We specifically exclude non-U.S. and specialty-focus funds, so it is difficult to predict the ex-ante performance solely on the basis on the characteristics of the funds in our sample. Still, we include fund-level controls and style fixed effects to capture the possibility that funds' institutional features or mandates drive performance, as opposed to the managers' decisions. Also, to the extent that the allocation of managers to funds is biased, we would expect managers from wealthier families to command the more lucrative investment opportunities and earn higher returns.

IV. Additional implications of selection

In this section we examine the implications of the selection mechanism that extend beyond the relationship between family wealth and performance.

IV.A Directional heteroscedasticity

Our explanation of the results in Section III does not imply that managers born poor are ex ante more skilled or grow to be more skilled. Rather, we contend that candidates from wealthy families face less stringent screening standards and, for a given level of skill, are more likely to be appointed managers. On the other hand, unskilled candidates from poor families are filtered out and only the skilled ones make it

into the sample. If this mechanism holds, we should observe a higher dispersion in performance among the managers from wealthier families, because both the low and the high type wealthy candidates make it though. In contrast, only the high type poor candidates are able to pass the selection hurdle. Such a selection should produce the directional heteroscedasticity effect: the variance should increase in *WealthRank*.

Conventional tests for heteroscedasticity, such as White test or Breusch-Pagan-Godfrey test, cannot identify the directional effect: any uneven pattern in residual variance will cause us to reject the null hypothesis of no-heteroscedasticity. We therefore employ the Goldfeld-Quandt test that allows us to compare the residual variance between low and high sub-samples of wealth. When the sample is divided into the high and the low bin, some observations in between can be dropped to improve test precision. Sacrificing these observations trades off Type I against Type II error. To ensure the robustness of our findings, we consider three specifications for the Goldfeld-Quandt test: in specification 1 (2, 3) we assign managers with *WealthRank* from the top half (top tercile, top quartile) of the distribution to the high bin and managers with *WealthRank* from the bottom half (bottom tercile, bottom quartile) of the distribution to the low bin. In specification 2 (3), managers from the middle tercile (two quartiles) of the distribution are omitted from the test.

We present the results in Table 5 where for both bins we report the full and the residual variance, calculated as the (residual) sum of squares divided by the degrees of freedom, and the F-ratio along with the associated p-value. As we improve the precision of the test by moving closer to the ends of the distribution, the difference in the variance grows: e.g., the unconditional F-ratio in specification (1) is only 1.035 (significant at 5%) while that in specification (3) is 1.284 (significant at 1%). The only case where the ratio is below 1 (insignificant 0.99) is the full-controls sample in the least precise specification (1).

Overall, the results in this sub-section affirm the presence of the directional heteroscedasticity in our sample. This effect is consistent with the major prediction of the selection hypothesis: that individuals from wealthier backgrounds do not face a tight skill-contingent filter on their way to fund management.

Notably, our measure of performance is risk-adjusted and we also include return volatility as a control, hence the results reported here are unlikely to be explained by differential risk-attitudes of wealthy and poor individuals.

IV.B Promotion-to-performance sensitivity

If we could observe the whole set of prospective managers and compare it to the set of managers eventually selected, this study would be trivial. Even though we cannot conduct such a test, we can consider its in-sample analogue: conditional on being in the sample, a manager from a wealthier family should find it easier to get promoted, while a manager from a poor family is only promoted if he proves his high-quality type, i.e. shows strong performance. In conducting this analysis, we are effectively assuming that the selection mechanism related to family wealth plays a similar role in promotions as it plays in the initial hiring decisions.

To identify plausible promotion events in our sample we focus on the number of funds the manager controls and the aggregate assets of these funds. We define as promotion an event when the number of funds the manager is in charge of increases or when his managed assets increase in such a way that this growth cannot be attributed to capital flows or returns earned by the funds. These two promotion events are sometimes related: the assets grow significantly because a new fund is added to the manager's portfolio, but sometimes the assets of the old fund increase because another fund is merged with it. We do not attempt to identify any "demotion events" because most demotions result in the termination of a manager's employment and his exit from the sample. However, we cannot use sample exits to proxy for these firing events because managers can, and most often do, exit the sample when they voluntarily accept a new position outside of the mutual fund industry (e.g., become hedge fund managers).

Formally, we define two left-hand side variables as follows. *IncreaseFunds* is a dummy variable equal to 1 if the number of funds the manager manages in the observation month is higher than in the previous month, and 0 otherwise. *IncreaseAssetsX2* is a dummy variable equal to 1 if the manager's total

managed assets in dollars in the observation month is more than double the assets in the previous month, and 0 otherwise. The unconditional probability of being promoted in any given month is naturally low: 1.2% for *IncreaseFunds* and 0.75% for *IncreaseAssetsX2*.

Next, we relate these promotion dummies to the manager's family wealth, his past performance, and the interaction between the two. For this analysis we only consider managers with at least five years of data and for these managers we define past performance as the average gross monthly alpha delivered by the manager over the past 36 or 60 months, with both periods ending in month $t-1$. The full regression specification is a liner probability model with fixed effects, as indicated:¹⁴

$$Promotion_{mjt} = \beta_1 PastGAlpha_{mt} + \beta_2 WealthRank_m + \beta_3 PastGAlpha_{mt} * WealthRank_m + \Gamma_1 \times MControls_{mt-1} + \Gamma_2 \times FControls_{jt-1} + \alpha_Y + \delta_F + \varepsilon_{mjt} . \quad (2)$$

Table 6 presents the results of this test. In the left pane the manager's past performance is measured over the 36-month horizon (*Past3YearGAlpha*) and in the right pane it is measured over the 60-month horizon (*Past5YearGAlpha*).

We find that the promotion-to-performance sensitivity is higher for managers from less wealthy families; in other words, these managers need to demonstrate better performance in order to get promoted. The interaction coefficient has a consistent negative sign and is significant at the 10% level or better in six out of eight specifications. This result is important for the selection mechanism because it suggests that poor managers are more likely to be selected when they prove their skill whereas the selection of the wealthier managers is less skill-dependent. We can evaluate the marginal economic effects by answering the following question: how much better does the less wealthy manager's (25th percentile of wealth) performance need to be so that he would stand the same chance of promotion as the wealthier manager (75th percentile of wealth). If we consider the coefficients for the first promotion proxy in the five-year

¹⁴ Since this is no longer a fund-level regression, fund-specific variables, such as volatility and skewness, are omitted from this analysis.

specification, the answer to this question is 55 bp per month, or 6.6% annualized.¹⁵ Such a performance differential is practically unfeasible, indicating that wealthier managers continue to hold the promotion edge over the less wealthy at normal levels of performance.

We note that while the evidence on the selective promotion is not definitive given our measurement methodology, the actual promotion can be achieved in numerous ways which we do not capture. A connected manager can be "promoted" by receiving a more lucrative compensation package or a more senior title, without being given extra funds to manage. It is also likely that the selection mechanism is much stronger at the time of entry to a job than at the time of a possible promotion, especially considering that the selected pool of managers from less privileged backgrounds already comprises the most talented candidates.

V. Fund management activities and flows

V.A Measures of fund activity

In this section we investigate whether managers from wealthier backgrounds pursue less or more active fund management strategies. Of course, there are different measures of "activity" in fund management. Most of them are based on the idea that active managers tend to trade more frequently, maintain more concentrated portfolios with larger bets in certain stocks, and deviate more from common trading patterns. Accordingly, we consider the following variables to proxy for managerial activity, each variable reflecting a particular aspect of a fund manager's strategy (see Appendix 4 for the details on the variables' construction, all fractional variables are expressed in percentage points).¹⁶

¹⁵ If the past alpha is x , the gap in promotion probabilities is $0.0053*0.5-0.0096*0.5*x$. Setting this expression to 0 and solving for x gives $x=0.55$.

¹⁶ Most of the variables in this section make use of quarterly portfolio holdings disclosed in CDA filings and available from Thomson Reuters. We match Morningstar funds to funds in the CRSP Mutual Fund Database by CUSIP of the share class (this match is nearly 100% accurate as evidenced by similar fund names and a 0.99 correlation between Morningstar and CRSP fund returns) and then match CRSP funds to CDA portfolios. In the latter step, we use the MF Links files maintained by Russ Wermers but extend the match to 2012 and verify its quality by visually comparing fund names.

Turnover is defined as the annualized ratio of the sum of absolute values of dollar changes in equity positions of the fund over the quarter to the average dollar value of the fund's portfolio (similar to Gaspar, Massa, and Matos (2005)). The turnover measure captures the fraction of the portfolio that is "new" relative to the previously reported snapshot of holdings.

PortfolioConcentration is the Herfindahl measure of the concentration of holdings in the fund's portfolio at the end of the previous quarter.

HoldingHorizon measures how many months, on average, the shares present in the fund's portfolio at the end of the quarter are held in that portfolio. This variable is calculated as in Lan, Moneta, and Wermers (2015) "FIFO Horizon Measure" and is based on the assumption that shares bought first are also sold first.

Herding is computed as the correlation between changes in holdings (as measured by the percentage change in the number of shares held) of the fund over the quarter and the corresponding changes in holdings of a hypothetical average fund in the style, whose portfolio position in a given stock is calculated as the sum of the aggregate positions in the stock of all the funds in the style. By construction, each herding variable is constrained between -100 and 100 and is higher for funds whose trades are closer to the style's average in both direction and magnitude.

Next, we examine how each of these activity variables is related to the manager's family wealth by running the following regression specification:

$$Activity_{mjT} = \beta WealthRank_m + \Gamma_1 \times MControls_{mT-1} + \Gamma_2 \times FControls_{T-1} + \alpha_Y + \delta_s + \varepsilon_{mjT}, \quad (3)$$

where the right-hand side variables are defined as in equation (1) and the left-hand side variables are our measures of activity for fund j in quarter T . Table 7 presents the results of the estimation.

The evidence is directionally consistent across all the activity measures: managers from less wealthy families tend to be more active, i.e. they have higher turnover and portfolio concentration but shorter holding horizons and weaker herding tendencies. However, only the turnover coefficient passes the conventional hurdles of statistical significance. The associated economic effect is also sizable: a

reduction in *WealthRank* of 0.5 increases the fund's turnover by 5.41% ($=-0.5 \times -10.8176$) of the fund's TNA, or approximately 21% of the unconditional turnover of the median fund in the sample. This result is consistent with the idea that turnover can be conducive to value as long as the manager has skill (Pastor, Stambaugh, and Taylor (2015)).

V.B Flow effects

If a manager's family wealth is an observable signal of his quality, how is this signal used by individual investors, if at all? In our final test we focus on fund flows, computed as the dollar flow (the difference between the end-of-quarter fund TNA and the previous-quarter fund TNA multiplied by one plus the gross return of the fund over the quarter) divided by the previous-quarter fund TNA. We regress fund flows on *WealthRank* and separately consider specifications which include fund past performance (average fund alpha over the previous twelve months) as one of the control variables. The results are reported in Table 8. *WealthRank* is not significant in any specification even though it has a consistent negative sign. In contrast, the effect of past performance – the more salient statistic – is positive and strongly significant. Overall, it appears that most fund investors do not condition their capital allocation on fund managers' family backgrounds. This result is hardly surprising given that information on managers' descent is difficult to collect and that mutual fund investors lack skill and resources to perform such an investigation.

Conclusion

We study the relation between fund managers' family backgrounds and their professional performance and find that managers from poor families deliver higher risk-adjusted returns than managers from rich families. Our evidence suggests that managers endowed with a low economic status at birth face higher entry barriers into asset management, and only the highest-quality candidates succeed in entering the profession. This explanation is supported by the evidence on managers' promotions, which shows that managers with a low endowed status must deliver higher returns to stand a comparable chance of

promotion with their high-status peers. We also document that, consistent with the selection mechanism, managers from wealthier backgrounds show a much higher dispersion in their performance than managers of modest decent.

We believe our findings have implications that extend beyond asset management. Our evidence suggests that an individual's social status at birth may serve as an important signal of quality in other industries with high barriers to entry, such as corporate management or professional services. We hope that an increased focus on the role of an agent's family background will yield valuable insights into professional decisions of financial intermediaries, corporate managers, and other economic agents.

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Appendix 1. Matching of fund managers and identification of their ancestry

1.A Matching of fund managers to the Lexis Nexis Public Records (LNPR) Database

To identify the manager in LNPR, we first establish his full name and age. In our sample, there are no cases of multiple fund managers with identical full names, regardless of age.

To establish a manager's age, we use the annual editions of the Nelson Directory of Investment Managers, which was first published in print in 1988 and was later followed by electronic versions of the directory. For a minority of managers, we obtain data on the fund manager's age from fund registration filings available from the SEC. For managers who do not appear in these sources (such as those who finished their careers before 1988), we approximate a manager's age from the date of college graduation, which we retrieve from the manager's biography or obtain by contacting the university registrar.

Next, obtain the most complete version of the manager's name, including the full middle name and name suffixes, such as Jr., Sr., or III. If the manager's middle name is abbreviated in fund records to a one-letter initial, we first establish the complete middle name (e.g., the full middle name "Atkinson" that spells out the middle initial "A"). For the majority of managers, we are able to establish the complete names and name suffixes by using the Financial Industry Regulatory Authority (FINRA) investment adviser registration records. These records include both active and inactive investment professionals who are or were registered as investment advisers and went through the security industry's registration and licensing process. Because these reports are based on official registration records, they include the most complete versions of managers' names. We use the manager's employment history provided in FINRA reports to confirm the accuracy of the match.

Using the manager's full name and age, we search for that manager nationwide in LNPR. After we establish a match based on the name and age, we require a confirmation of the match according to one of the following criteria: (a) the individual's LNPR employment records include the company where the fund manager has worked; (b) the individual's email addresses in LNPR indicate the domain of the company where the fund manager has worked (e.g., @fidelity.com); (c) the individual lists his occupation on voter registration records as "portfolio manager", "investment manager", or "investment adviser; (d) the individual's professional licenses in LNPR include those in the securities industry; (e) one of the individual's addresses in LNPR matches the official business address of the fund manager's company.

1.B Identifying the ancestry of fund managers

We follow a three-step algorithm to identify a manager's household in the census by sequentially checking three types of records – birth, marriage, and death – for the manager and his relatives.

In the first step in this process, we retrieve a manager's birth record by using his or her name (including the full middle name), date of birth (year and month, from social security records in LNPR), and the state issuing the manager's social security number (from LNPR). Birth records are available from the health department of each state, and we retrieve them via the database maintained by the genealogy research service ancestry.com. The exhibit below provides an example of a birth records in our sample. The amount of detail in each record varies by state: some states provide the full names and birth places of both parents, others provide these data for only one parent, and still others provide only the date of birth or place of birth.

If the full names of the manager's parents are not available from the birth record, we proceed with the second step, which investigates the manager's marriage record(s). This analysis is motivated by the fact that some marriage records provide the names of the parents of the bride and groom (the format of the marriage record varies with the state of marriage). The exhibit below illustrates this by showing an example of a fund manager's marriage record in our sample. We retrieve the fund manager's marriage record from the database of state marriage records maintained by ancestry.com and establish a unique match by obtaining the full names and birth years of the bride and the groom. We identify the manager's spouse, including ex-spouses, from the manager's home deed records available on LNPR. In the overwhelming majority of cases, the manager's home deeds are written to both spouses. For managers that have had multiple spouses, we check marriage records with all the spouses. If the names of the manager's parents do not appear on the marriage record, we search for the announcement of the manager's engagement or marriage in the digital newspaper archive provided by the University of Michigan library, which contains historical copies of over 3,000 publications, including small local newspapers. Marriage announcements usually identify the parents of the bride and the groom.

If we are unable to identify the manager's parents in the first two steps, or if we need to confirm other members of the household, we proceed with the analysis of death records. Using social security records, LNPR identifies deceased individuals and shows their date of death. For fund managers that are deceased at the time of writing, we obtain their obituaries by searching the digital archive of newspaper publications and the database of obituaries maintained by the service provider legacy.com. These records provide information on the manager's parents and siblings (an example is shown in the exhibits below). For the rest of the managers with missing data, we search for obituaries of their parents, most of whom are deceased at the time of writing (the median birth year of the managers' parents is 1908). Because obituaries typically discuss the surviving members of the family and their spouses, we identify the managers' parents by locating the obituaries where the manager and his spouse are listed as the surviving family members. These searches bring up the obituaries of managers' parents and siblings and allow us to reconstruct the entire immediate family of the fund manager.

Example of a birth record:

TEXAS DEPARTMENT OF HEALTH BUREAU OF VITAL STATISTICS					
CYCLE: 01 THROUGH 99 1941 BIRTHS. PAGE 1736					
NAME	COUNTY	DATE	SEX	MOTHER	FATHER
PENNELL, MARITTA JANE	085	FEB 22	F	WILLIAMS, GLADYS EVELYN	PENNELL, OTIS FRANKLIN
PENNELL, THERESA ANN	123	OCT 03	F	HUVAL, MARIE ANITA	PENNELL, BENJAMIN BUTLER
PENNER, JOSEPH STEPHEN JR.	084	AUG 25	M	DONNELL, CATHERINE LOUISE	PENNA, JOSEPH STEPHEN

Example of a marriage record:

1-44

MARGIN RESERVED FOR BINDING. The minister or other person celebrating this marriage is required within five days to fill out and sign both copies of this Certificate of Date and Place of Marriage, and deliver them to the clerk who issued the license. The copy with the license on the back is for the clerk, the other for the Bureau of Vital Statistics.

V. S. 3

CITY Henrico COUNTY OF Henrico COMMONWEALTH OF VIRGINIA

CERTIFICATE OF MARRIAGE

CLERK'S NO. 38450

FULL NAME OF GROOM Richard Arthur Mayo

PRESENT NAME OF BRIDE Sara Page Cosby MAIDEN NAME None

GROOM				BRIDE			
AGE	RACE	SINGLE, WIDOWED, OR DIVORCED	NO. TIMES PREV. MARRIED	AGE	RACE	SINGLE, WIDOWED, OR DIVORCED	NO. TIMES PREV. MARRIED
22	white	single	0	21	white	single	0

OCCUPATION Banker INDUSTRY OR BUSINESS First Union National OCCUPATION None INDUSTRY OR BUSINESS None

BIRTHPLACE Charlotte, North Carolina BIRTHPLACE Richmond, Virginia

FATHER'S FULL NAME Percy Brown Mayo, Jr. FATHER'S FULL NAME John Garland Cosby

MOTHER'S MAIDEN NAME Ella Louise Cronenberg MOTHER'S MAIDEN NAME Margaret Paulett (nmn)

RESIDENCE: CITY OR COUNTY MAILING ADDRESS Charlotte, N. C. 1508 Woodhill Lane 32 RESIDENCE: CITY OR COUNTY MAILING ADDRESS 207 Sunset Drive 143

Proposed Date of Marriage November 7th, 1964 Proposed Place of Marriage Henrico County, Va.

Given under my hand this 6th day of November, 1964.
Helen S. Cleavage Clerk of Henrico Circuit Court.

CERTIFICATE OF DATE AND PLACE OF MARRIAGE

I, Solomon B. Cousins, a Minister of the Baptist Church, (Denomination) 222
 or religious order of that name, do hereby certify that on the 7th day of November, 1964, in the county, city, or town of Richmond, Virginia, under authority of this license I joined together in the Holy State of Matrimony the persons named and described therein. I qualified and gave bond in the county or city of Richmond, year 1964, which authorizes me to celebrate the rites of marriage in the Commonwealth of Virginia. 03

Given under my hand this 7th day of November, 1964.
 Address of celebrant Richmond, Va Solomon B. Cousins
 (Person who performs ceremony sign here.)

Example of an obituary:

Shinn, David C.

February 03, 2002

SHINN, David C.

David C. Shinn, 60, of Wethersfield, beloved husband of Maryanne Shinn, passed away peacefully on Thursday (January 31, 2002) after a courageous battle with leukemia. He was born April 12, 1941 in Bridgeport and was the son of the late Tyler A. and Frances Conrad Shinn. He was raised in Fairfield with his sisters, Gail Nyholt of Branford and Janet Henderson of North Stonington. David was a U.S. Air Force Captain. He graduated from Occidental College, Los Angeles, CA, and received his MBA from UCLA. Dave loved his work and was admired by his colleagues. He strove to be well informed and was always willing to share his insights and expertise. After receiving his CFA designation, he began his career in investment management; he was an Associate Investment Officer for First National Bank, NY; Registered Investment Advisor for Monness, Williams, and Sidel, NY; Vice President, Senior Portfolio Manager of Employee Benefits for the former Connecticut Bank and Trust, Hartford; Managing Director, Senior Equity Portfolio Manager at CIGNA Investments, Inc., Bloomfield; Vice President, Senior Portfolio Manager at Benefit Capital Management Corp., Danbury; and most recently was the Vice President of Equities for the Knights of Columbus, New Haven. Giving back to society was

Appendix 2. 1940 Federal Census form

2.A Form template

1940 Census - United States

1

State			County						Town / Township / City and ward														
Microfilm roll number			Enumeration date			Supervisor's district number			Enumeration district number			Sheet number		Page number									
Line number	LOCATION		HOUSEHOLD DATA			NAME	RELATION	PERSONAL DESCRIPTION				EDUCATION		PLACE OF BIRTH		CITI-ZEN-SHIP	RESIDENCE, APRIL 1, 1935						
	Street, Avenue, road, etc.	House Number (in cities and towns)	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)	Color or Race	Age at Last Birthday	Marital Status	Attended school or college at any time since March 1, 1940 (Y or N)	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.	CODE (Leave Blank)	Citizenship of the foreign born	In what place did this person live on April 1, 1935? For a person who lived in a different place, enter city or town, county, and State.			
1	2	3	4	5	6	7	8	A	9	10	11	12	13	14	B	15	C	16	17	18	19	20	D

PERSONS 14 YEARS OLD AND OVER - EMPLOYMENT STATUS															
Line Number	Was this person AT WORK for pay or profit in private or nonemergency Govt. work during week of March 24, 1940 (Yes or No)	If not, was he at work on, or assigned to, public EMERGENCY WORK (WPA, N.Y.A., CCC, etc.) during week of March 24, 1940 (Yes or No)	If neither at work nor assigned to public emergency work ("No" in cols. 21 & 22)		For persons answering "No" to questions 21, 22, 23, and 24		If at private or nonemergency Government 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					INCOME IN 1939 (12 months ending Dec. 31, 1939.)	
			Was this person SEEKING WORK? (Yes or No)	If not seeking work, did he HAVE A JOB, business, etc.? (Yes or No)	Indicate whether engaged in home housework (H), in school (S), unable to work (U), or other (O)	CODE			Number of hours worked during week of March 24-30, 1940	Duration of unemployment up to March 30, 1940 - in weeks.	OCCUPATION	INDUSTRY	Class of Worker	CODE (leave blank)	Number of weeks worked in 1939 (Equivalent full-time weeks)
21	22	23	24	25	F	26	27	28	29	30	F	31	32	33	34

2.B Example of a filled record

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	RESIDENCE, APRIL 1, 1940										PERSONS 14 YEARS OLD AND OVER—EMPLOYMENT STATUS											
																17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34				
1	R	27	R	135	No	BURNARD, LEEDS	HEAD	0	M	W	36	M	No	C-5	70	NEW YORK	56	Same place	No	XOXO	Yes	-	-	-	1	40	STOCKBROKER	BONDING COMPANY	PW	56	861	52	5000	Yes	1		
2						ELIZABETH	WIFE	1	F	W	37	M	No	C-4	70	MASSACHUSETTS	53	Same place	No	XOXO	No	No	No	No	H	-	25	SECRETARY	HOSPITAL	PW	36	921	0	0	No	2	
3						Hope	DAUGHTER	2	F	W	20	S	No	C-2	-	MASSACHUSETTS	53	Same place	No	XOXO	Yes	-	-	-	-	25	SECRETARY	HOSPITAL	PW	36	921	0	0	No	3		
4						NEDAR, LOUISE	SERVANT	7	F	W	40	No	No	-	8	PORTUGAL	25	Full River	MASSACHUSETTS	No	XOXO	Yes	-	-	-	60	MAID	PRIVATE FAMILY	PW	50	861	52	500	No	4		
5						LANE, HENRY	HEAD	0	M	W	34	M	No	C-5	70	MASSACHUSETTS	73	Same place	No	XOXO	Yes	-	-	-	45	MANUFACTURER	COTTON MANUFACTURE	PW	56	881	52	5000	Yes	5			
6						LUCY	WIFE	1	F	W	33	M	No	C-2	50	ILLINOIS	61	Same place	No	XOXO	No	No	No	No	H	-	45	TREASURER	PRIVATE FAMILY	PW	56	861	52	5000	Yes	6	
7						COLES, MARIAN	HEAD	0	F	W	30	M	No	C-2	70	FLORIDA	71	Same place	No	XOXO	Yes	-	-	-	45	TREASURER	PRIVATE FAMILY	PW	56	861	52	5000	Yes	7			
8						MARSHING	WIFE	1	F	W	30	M	No	C-2	70	SOUTH CAROLINA	71	Same place	No	XOXO	No	No	No	No	H	-	40	ENGINEER	PRIVATE FAMILY	PW	48	881	52	5000	Yes	8	
9						CHARLES	SON	2	M	W	17	S	No	C-1	33	SOUTH CAROLINA	71	Same place	No	XOXO	No	No	No	No	S	-	50	MAID	PRIVATE FAMILY	PW	52	861	52	500	No	9	
10						JACOB, DOROTHY	SERVANT	7	F	W	25	S	No	C-1	15	MASSACHUSETTS	73	Same place	No	XOXO	Yes	-	-	-	50	MAID	PRIVATE FAMILY	PW	52	861	52	500	No	10			
11						WEST, JOHN	HEAD	0	M	W	34	M	No	C-2	50	ALABAMA	84	Same place	No	XOXO	Yes	-	-	-	40	ENGINEER	PRIVATE FAMILY	PW	48	881	52	5000	Yes	11			
12						MARTHA	WIFE	1	F	W	31	M	No	C-2	50	MASSACHUSETTS	84	Same place	No	XOXO	No	No	No	No	H	-	40	STOCKBROKER	PRIVATE FAMILY	PW	56	861	52	5000	Yes	12	
13						ELIZABETH	WIFE	1	F	W	31	M	No	C-2	50	MASSACHUSETTS	84	Same place	No	XOXO	Yes	-	-	-	40	STOCKBROKER	PRIVATE FAMILY	PW	56	861	52	5000	Yes	13			
14						REGINALD	SON	2	M	W	9	S	No	C-3	3	MASSACHUSETTS	84	Same place	No	XOXO	No	No	No	No	S	-	0										14
15						ELAINE	DAUGHTER	2	F	W	7	S	No	C-2	2	MASSACHUSETTS	84	Same place	No	XOXO	No	No	No	No	S	-	0										15
16						NANCY	DAUGHTER	2	F	W	1	S	No	-	-	MASSACHUSETTS	84	Same place	No	XOXO	No	No	No	No	S	-	0										16
17						CASEY, HANNAH	SERVANT	7	F	W	30	S	No	8	8	IRISH FREE STATE	84	Same place	No	XOXO	Yes	-	-	-	60	MAID	PRIVATE FAMILY	PW	52	861	52	500	No	17			
18						PARKER GRACE	SERVANT	7	F	W	33	S	No	C-4	10	MAINE	84	Same place	No	XOXO	Yes	-	-	-	60	NURSEMAID	PRIVATE FAMILY	PW	52	861	52	500	No	18			
19						PLIMPTON, T.B.	HEAD	0	M	W	26	M	No	C-2	70	MASSACHUSETTS	84	Same place	No	XOXO	No	-	-	-	40	PRESIDENT	PRIVATE FAMILY	PW	56	861	52	5000	Yes	19			

R 200 No

"R" indicates a rented accommodation.
Rent is given at \$200 per month.
"No" indicates that the property was not a farm.

HEAD	0	M	W	36	M	No	C-5	70	MASSACHUSETTS
ELIZABETH	1	F	W	37	M	No	C-4	70	MASSACHUSETTS
REGINALD	2	M	W	9	S	Yes	3	3	MASSACHUSETTS
ELAINE	2	F	W	7	S	Yes	2	2	MASSACHUSETTS
NANCY	2	F	W	1	S	No	-	-	MASSACHUSETTS
CASEY, HANNAH	7	F	W	30	S	No	8	8	IRISH FREE STATE
PARKER GRACE	7	F	W	33	S	No	C-4	10	MAINE

This block shows the composition of the household. The columns (from left to right) show: the name of the resident, his/her relationship to the head of the household, census code for the type of resident, gender ("W" for white), age at the time of the census, marital status, whether the resident was attending school or college, highest grade of education completed, education code, and the state of birth.

STOCKBROKER	BONDING COMPANY	PW	56	861	52	5000
					0	0
					0	0
					0	0
MAID	PRIVATE FAMILY	PW	52	861	52	500
NURSEMAID	PRIVATE FAMILY	PW	52	861	52	500

The occupation of the father is given as "Stockbroker" and the place of employment as "Bonding Company".
"PW" indicates the type of employment: private worker.
The last two columns give the number of weeks worked in a year and the income, respectively (52 and \$5000 for the father).
The last two rows show the data for the resident servants.

Appendix 3. Classification of education and employment

3.A Manager's scholarly specialization

We classify a manager as having economics-related education if the manager either holds an MBA degree or holds any degree in one of the following fields of study:¹⁷

Accounting, Administration, Applied Economics, Business, Business Administration, Business Finance, Business Organization, Commerce, Corporate Finance & Accounting, Corporate Financial Management, Corporate/Tax Law, Economics, Economics and Mathematics, Economics and Political Science, Finance and Economics, Finance, Finance & Economics, Finance & Investment, General Business, Industrial Administration, Investment Management, Politics and Economics, Public Accounting, Real Estate

We classify a manager as having science education (as opposed to one in humanities) if the manager holds any degree in one of the following fields of study:¹⁷

Aerospace Engineering, Economics and Mathematics, Electrical engineering, Engineering, Industrial Engineering, Mathematics and Aero Engineering, Mathematical Statistics, Mathematics, Mechanical Engineering

We classify a manager as having a psychology-related education if the manager holds any degree in any field of study that mentions words "psychology" or "psychological".

3.B Parents' employment type

We classify a manager as having a parent with finance-related employment if for at least one of the parents the occupation comes from the following list:¹⁸

Accountant, Analyst (if in a bank), Assistant Vice President, Associate Accountant, Banker, Bond & Stock Sales Broker, Bond Clerk, Bookkeeper, Broker, Cashier (if in a bank or insurance), Cashier Accountant, Credit Department, Executive, Executive Manager, Executive Officer, Fund Manager, Insurance Underwriter, Investment Analyst, Investment Council, Investment Specialist, Loan Officer, Money Manager, President, Manager of Disbursements, Salesmen (if in insurance), Stock Broker, Teller (if in a bank), Treasurer, Underwriter, Vice President

We classify a manager as having a parent with managerial employment if for at least one of the parents the occupation comes from the following list:¹⁸

Assistant Vice President, Assistant Manager, Commander, Direct Manager, Director, Estate Manager, Executive, Executive Manager, Executive Officer, First Lieutenant, Fund Manager, Manager, Money Manager, Plant Superintendent, President, Manager of Disbursements, Restaurant Manager, Sales Manager, Supervisor, Vice President

¹⁷ This list is a subset of the educational disciplines which appear in our sample of managers and is not exhaustive of all possible economics or science fields.

¹⁸ Additionally, we classify owners of medium-to-large size businesses as having both finance-related and managerial employment.

Appendix 4. Definitions of variables used in the analysis

The following indexing convention is used:

m denotes a manager, j denotes a fund, t denotes a month, T denotes a calendar quarter.

Variable name	Description
Household wealth	
$FatherIncome_m$	The annual income of the father of manager m as per the Census record. This variable is expressed in \$000 (thousands of dollars).
$HomeValue_m$	The reported value of the house (in increments of \$500) of manager m 's parents' household as per the Census record. This variable is only reported if the family owned the property and is expressed in \$000.
$Rent_m$	The monthly rent in dollars paid by manager m 's parents' household as per the Census record. This variable is only reported if the family rented the accommodation.
$WealthRank_m$	Equal to 0.01 times the percentile rank of $FatherIncome_m$ in the sample of managers for non-missing values of $FatherIncome_m$ and to 0.01 times the percentile rank of $HomeValue_m$ or $Rent_m$ (these variables are defined on the non-overlapping subsamples) otherwise.
$WealthRankQx_m$	An indicator variable equal to 1 if $WealthRank_m$ falls in the x^{th} quintile of the $WealthRank$ distribution over the sample of managers.
Parents' education and employment	
$ParYearsEdu_m$	The average of total years of education of manager m 's father and mother.
$FinanceRelated_m$	An indicator variable equal to 1 if either of the manager m 's parents was employed in a finance-related occupation, as classified in Appendix 3.
$Managerial_m$	An indicator variable equal to 1 if either of the manager m 's parents was employed in a managerial occupation, as classified in Appendix 3.
Manager's demographics and education	
$ManagerAge_{m(t)}$	The difference between the year of month t (quarter T) and manager m 's birth year.
$HasGraduate_m$	An indicator variable equal to 1 if manager m has a graduate degree. ¹⁹
$HasMBA_m$	An indicator variable equal to 1 if manager m has an MBA degree.
$HasPhD_m$	An indicator variable equal to 1 if manager m has a PhD degree.
$AdmissionRate_m$	The undergraduate admission rate for manager m 's undergraduate institution as reported in the 1979 College Handbook.

¹⁹ Indicator variables characterizing education are set to missing if we cannot reliably establish whether a manager holds a particular degree.

Fund and fund family controls

$FundSize_{jt(T)}$	Log(1 + fund j 's TNA in \$000 at the end of month t (quarter T)).
$FundAge_{jt(T)}$	The time in years from the month of fund j 's first appearance in the sample to the end of month t (quarter T).
$FirmSize_{jt(T)}$	Log(1 + fund j 's total family TNA in \$000 at the end of month t (quarter T)).
$LogFirmNFunds_{jt(T)}$	Log(the number of funds in fund j 's fund family at the end of month t (quarter T)).
$Volatility_{jt}$	The standard deviation of fund j 's monthly returns over the period $[t-35, t]$.
$Skewness_{jt}$	The skewness of fund j 's monthly returns computed over the period $[t-35, t]$.
$Style_j$	Fund j 's Morningstar style (Large Blend, Large Growth, Large Value, Mid Blend, Mid Growth, Mid Value, Small Blend, Small Growth, or Small Value).

Promotion indicators

$IncreaseFunds_{mjt}$	An indicator variable equal to 1 if the number of funds controlled by manager m in charge of fund j at the end of month t is higher than at the end of month $t-1$.
$IncreaseAssetsX2_{mjt}$	An indicator variable equal to 1 if the total dollar assets controlled by manager m in charge of fund j at the end of month t is more than double the assets at the end of month $t-1$.

Fund performance, management activity, and flows

$Alpha_{jt}$ ($GrossAlpha_{jt}$)	Fund j 's net (gross) return in month t minus the fitted value from the four-factor model for which the loadings are estimated over the period $(t-1, t-36)$. If during the estimation period fewer than 30 observations are non-missing, $Alpha_{jt}$ ($GrossAlpha_{jt}$) is set to missing. This variable is expressed in pp (percentage points).
$BenchmarkAdjReturn_{jt}$	Fund j 's gross return in month t minus the return on the fund's prospectus benchmark index. This variable is expressed in pp.

<i>AbnReturnOverBenchmark_{jt}</i>	Fund <i>j</i> 's gross return in month <i>t</i> minus the fitted value from the one-factor model, where the factor is the fund's benchmark index return. The loadings in the model are estimated over the period (<i>t</i> -1, <i>t</i> -36). If the estimation period contains fewer than 30 non-missing observations, <i>AbnRetOverBenchmark_{jt}</i> is set to missing. This variable is expressed in pp.
<i>ValueExtracted_{jt}</i>	Dollar value extracted from capital markets computed as the product between fund <i>j</i> 's benchmark-adjusted return in month <i>t</i> and the fund's TNA at the end of month <i>t</i> -1. The fund's TNA is converted to 2012 dollars by the Consumer Price Index of the Federal Reserve Bank of St. Louis. This variable is expressed in \$mil (millions of dollars).
<i>Past3YearGAlpha_{mt}</i>	The average gross monthly alpha taken across all the fund-month observations for manager <i>m</i> in the period (<i>t</i> -36, <i>t</i> -1).
<i>Past5YearGAlpha_{mt}</i>	The average gross monthly alpha taken across all the fund-month observations for manager <i>m</i> in the period (<i>t</i> -60, <i>t</i> -1).
<i>Past12MonthAlpha_{jt}</i>	The average monthly alpha of fund <i>j</i> in the period (<i>t</i> -12, <i>t</i> -1).
<i>Turnover_{jt}</i>	<p>The annualized ratio of the sum of the absolute dollar changes in fund <i>j</i>'s stock positions from quarter <i>T</i>-1 to quarter <i>T</i> to the average fund portfolio size in these adjacent quarters. Formally,</p> $4 * \frac{\sum_{i \in jT} \frac{P_{iT-1} + P_{iT}}{2} NS_{jiT} - NS_{jiT-1} }{\frac{TNA_{jT-1} + TNA_{jT}}{2}},$ <p>where NS_{jiT} is the number of shares of stock <i>i</i> held by fund <i>j</i> at the end of quarter <i>T</i>, P_{iT} is the price of stock <i>i</i> at the end of quarter <i>T</i>, and TNA_{jT} is the dollar total net assets of fund <i>j</i> at the end of quarter <i>T</i>.</p>
<i>PortfolioConcentration_{jt}</i>	The Herfindahl's measure of concentration of fund <i>j</i> 's portfolio holdings at the end of quarter <i>T</i> .
<i>HoldingHorizon_{jt}</i>	First, for each stock <i>i</i> in fund <i>j</i> 's portfolio at the end of quarter <i>T</i> , we calculate the average number of days that its shares are held in the portfolio, using the FIFO assumption as in Lan, Moneta, and Wermers (2015). Next, we aggregate these stock-level variables to the fund level as the weighted average measure in which the weights are proportional to the stocks' portfolio weights.
<i>Herdin_{jt}</i>	First, we construct a hypothetical style portfolio by aggregating (for each stock and quarter) the dollar positions of all funds in the style. Next, for fund <i>j</i> in quarter <i>T</i> we compute the correlation (across all the stocks in the style portfolio) of the percentage changes in the number of shares held by fund <i>j</i> from quarter <i>T</i> -1 to quarter <i>T</i> with the corresponding changes in positions of the style portfolio. This variable is expressed in pp.
<i>Flow_{jt}</i>	<p>The percentage flow for fund <i>j</i> in quarter <i>T</i> computed as</p> $\frac{TNA_{jT} - (1 + r_{jT})TNA_{jT-1}}{TNA_{jT-1}},$ <p>where TNA_{jT} is the dollar total net assets of fund <i>j</i> at the end of quarter <i>T</i> and r_{jT} is fund <i>j</i>'s gross return over quarter <i>T</i>. This variable is expressed in pp.</p>

Figure 1. Distribution of Census 1940 annual incomes: general male population vs managers' fathers

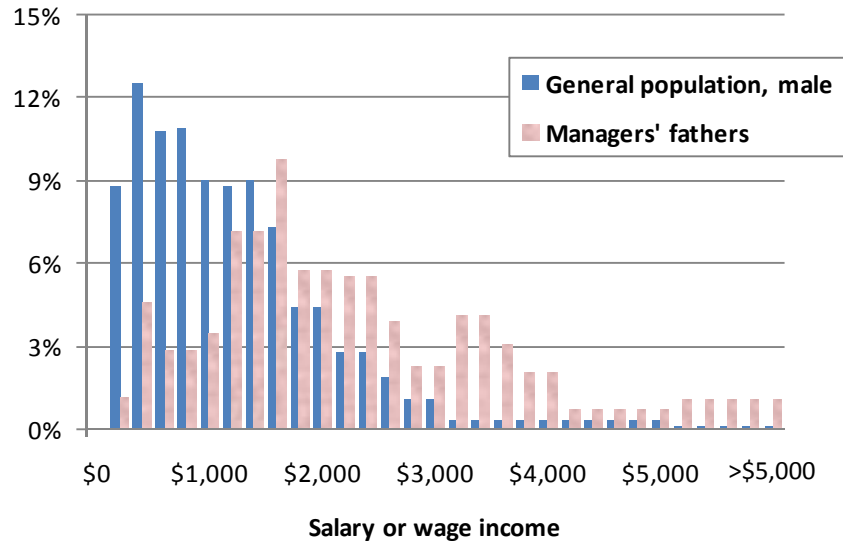


Table 1. Summary statistics

This table shows summary statistics (Panel A) and sample composition statistics (Panel B) for the main sample of 267 managers. Data on managers' careers and education is obtained from Morningstar/FactSet manager biographies and is complemented with university records. Managers' parents' household data is from the 1940 Census household records. Tract-level demographic variables are computed from the summary files for the 1940 Census compiled by Elizabeth Bogue. Mutual fund and family characteristics are from Morningstar. The procedures for the classification of fund managers' scholarly specialization and their parents' employment type are described in Appendix 3.

Panel A. Common summary statistics

	mean	st. dev.	10 perc.	25 perc.	median	75 perc.	90 perc.
<i>Manager's basic information</i>							
Year of birth	1937.9	7.7	1930.0	1936.0	1940.0	1942.0	1944.0
Career length, years	13.4	9.2	3.58	6.25	11.58	19.08	26.25
Maximum (across years of career) assets managed, mil USD	2,957.99	9,945.04	42.12	138.90	647.29	2,141.89	5,853.79
<i>Manager's educational institution (as of 1980, unless stated otherwise)</i>							
University stand. score rank (SAT, 2004)	84.4	14.3	64.0	74.0	88.0	97.0	98.0
University stand. score (median ACT, 2004)	27.6	3.0	23.8	25.0	28.0	30.0	31.0
University size (undergraduate enrollment)	10,110	9,465	1,600	3,323	6,559	12,709	25,146
University tuition	3,217	1,946	702	881	3,725	4,950	5,550
Admission rate	54.8%	25.5%	22.6%	27.6%	55.9%	78.3%	86.0%
<i>Manager's household (household census data, 1940)</i>							
Home value	10,097	8,920	2,500	4,700	7,350	13,150	20,000
Monthly rent	43.46	31.77	14.00	25.00	40.00	50.00	70.00
Number of siblings	1.04	1.41	0.0	0.0	1.0	2.0	3.0
Number of servants	0.14	0.48	0.0	0.0	0.0	0.0	0.0
Father							
Year of birth	1906.1	11.2	1892.0	1902.0	1908.0	1913.0	1917.0
Income	2,246	1,385	610	1,200	1,900	3,200	5,000
Years of education	12.4	4.0	8.0	11.0	12.0	16.0	16.0
Mother							
Year of birth	1909.1	9.3	1897.0	1905.0	1911.0	1915.0	1919.0
Income	223	439	0	0	0	0	1,025
Years of education	12.0	3.3	8.0	11.0	12.0	14.0	16.0

Panel A, continued

Tract-level demographics (Census 1940 Bogue files)

Median home value	5,307	2,794	2,211	3,816	5,071	6,099	8,727
Median rent, contract	37.99	12.27	21.07	31.67	38.36	45.87	52.71
Median rent, gross	43.54	12.58	29.13	35.87	44.31	50.66	58.29
Fraction of population without school education	4.5%	7.1%	0.2%	0.4%	1.4%	4.4%	13.6%
Fraction of population with college education	15.7%	12.2%	2.9%	4.4%	11.9%	24.6%	33.7%
Median education years	9.9	2.1	7.6	8.2	9.2	12.2	12.5
Fraction of population with paid employment	75.5%	7.7%	65.5%	71.6%	77.6%	81.0%	83.8%

Managed funds' characteristic

Monthly return	1.00%	5.10%	-4.82%	-1.70%	1.26%	3.92%	6.70%
Monthly return volatility	4.80%	1.85%	2.65%	3.54%	4.58%	5.75%	6.99%
Monthly alpha	-0.04%	2.04%	-2.16%	-1.01%	-0.04%	0.90%	2.06%
End-of-quarter TNA, mil USD	654.91	1,641.20	10.80	34.80	134.43	545.27	1,693.23
End-of-quarter family TNA, mil USD	10,100.62	31,740.97	25.64	162.20	1,522.67	6,381.48	23,374.62
End-of-quarter number of holdings	87.4	78.9	30.0	39.0	62.0	101.0	177.0

Panel B. Sample composition statistics

Category	Manager	Category	Father	Mother	Category	Fund
<i>Education (manager's biographical data)</i>		<i>Education (household census data)</i>		<i>Morningstar fund style</i>		
Has graduate degree	66.33%	Attended elementary	95.08%	97.16%	Large Blend	17.59%
Has PhD	3.85%	Attended high school	75.96%	78.98%	Large Growth	31.95%
Has MBA	53.30%	Attended college	43.17%	40.91%	Large Value	16.62%
Econ.-related field	92.25%	<i>Employment (household census data)</i>		Mid Blend	3.89%	
Science field	9.52%	Private worker (PW)	69.23%	86.36%	Mid Growth	12.48%
Psychology field	1.59%	Government worker (GW)	8.33%	4.55%	Mid Value	3.10%
Private university	68.37%	Own account (OA)	16.03%	9.09%	Small Blend	4.23%
Ivy League university	15.82%	Employer (E)	6.41%	0.00%	Small Growth	8.86%
		Unpaid worker (NP)	0.00%	0.00%	Small Value	4.07%
		Finance-related employment	19.29%			
		Managerial employment	13.20%			

Table 2. Relationships among the main variables

Panels A and B of this table show the correlation coefficients among the main variables of interest. Panel A focuses on the demographic characteristics of households and Census tracts and Panel B focuses on education-related variables. The procedures for the classification of fund managers' scholarly specialization and their parents' employment type are described in Appendix 3. Panel C shows mean and median values for some variables of interest for each quintile of the managers' parents' household wealth distribution as proxied by the father's income and home value/rent. Exact variable construction methodologies are detailed in Appendix 4.

Panel A. Household and tract characteristics

	Father's income	Home value	Rent	Num. siblings	Num. servants	Home value, tract	Contract rent, tract	Gross rent, tract	Father's educ.	Parents' educ.	Finance emp.	Manag. emp.
Father's income	1.000											
Home value	0.472	1.000										
Rent	0.686		1.000									
Number of siblings	-0.110	-0.113	-0.050	1.000								
Number of servants	0.297	0.610	0.488	0.024	1.000							
Home value, tract median	0.163	-0.097	0.005	-0.214	-0.122	1.000						
Contract rent, tract median	0.239	0.183	0.144	-0.146	-0.029	0.589	1.000					
Gross rent, tract median	0.152	0.111	0.071	-0.139	-0.036	0.539	0.974	1.000				
Father's years of education	0.370	0.102	0.384	-0.060	0.213	0.253	0.155	0.109	1.000			
Parents' years of education	0.373	0.174	0.372	-0.080	0.211	0.249	0.236	0.195	0.947	1.000		
Finance-related employment	0.352	0.314	0.278	0.007	0.235	-0.063	0.046	0.033	0.177	0.191	1.000	
Managerial employment	0.347	0.225	0.237	-0.030	0.090	0.233	0.147	0.068	0.087	0.129	0.274	1.000

Panel B. Household characteristics and managers' education

	Father's income	Home value	Rent	Father's educ.	Parents' educ.	Finance emp.	Manag. emp.	Grad.	PhD	MBA	Private	Ivy League	Tuition	Adm. rate	ACT, median	SAT, rank	Econ. field	Science field	Psych. field
Father's income	1.000																		
Home value	0.472	1.000																	
Rent	0.686		1.000																
Father's years of education	0.370	0.102	0.384	1.000															
Parents' years of education	0.373	0.174	0.372	0.947	1.000														
Finance-related employment	0.352	0.314	0.278	0.177	0.191	1.000													
Managerial employment	0.347	0.225	0.237	0.087	0.129	0.274	1.000												
Has grad. degree	-0.196	-0.329	-0.046	0.110	0.081	-0.111	-0.107	1.000											
Has PhD	-0.097	-0.150	-0.047	-0.155	-0.142	-0.001	-0.071	0.103	1.000										
Has MBA	-0.155	-0.209	-0.065	0.007	-0.031	-0.044	-0.144	0.691	-0.049	1.000									
Private univ.	0.364	0.158	0.316	0.190	0.226	0.171	0.005	-0.035	-0.086	0.010	1.000								
Ivy League univ.	0.359	0.209	0.469	0.222	0.213	0.153	0.097	-0.049	-0.081	0.028	0.334	1.000							
Tuition	0.466	0.243	0.420	0.319	0.343	0.227	0.055	-0.046	-0.095	-0.034	0.859	0.507	1.000						
Admission rate	-0.368	-0.270	-0.369	-0.263	-0.254	-0.169	-0.035	0.045	0.140	0.012	-0.433	-0.516	-0.633	1.000					
ACT, median	0.472	0.308	0.381	0.222	0.255	0.156	0.080	-0.011	-0.145	0.019	0.491	0.506	0.682	-0.800	1.000				
SAT, rank	0.381	0.321	0.364	0.301	0.343	0.207	0.087	-0.052	-0.122	-0.022	0.407	0.457	0.631	-0.734	0.944	1.000			
Econ.-related field	-0.101	-0.108	-0.215	-0.046	-0.048	0.046	-0.003	0.289	0.052	0.535	-0.139	-0.134	-0.162	0.224	-0.218	-0.112	1.000		
Science field	-0.097	-0.155	-0.011	-0.173	-0.195	-0.019	0.031	0.064	0.500	-0.008	-0.172	-0.146	-0.213	0.115	-0.158	-0.132	-0.036	1.000	
Psychology field	0.026	-0.033	-0.087	-0.024	-0.038	0.054	0.089	0.052	-0.020	-0.023	-0.001	0.046	0.005	-0.043	0.036	0.031	-0.102	-0.038	1.000

Panel C. Family wealth quintiles

	Q1		Q2		Q3		Q4		Q5	
	mean	median	mean	median	mean	median	mean	median	mean	median
Father's income	615	600	1,335	1,340	1,884	1,900	2,870	3,000	4,551	5,000
Home value	4,009	2,790	4,609	5,000	8,109	7,250	8,882	8,750	18,262	15,000
Rent	23.87	15.00	28.43	30.00	37.57	39.00	47.58	47.00	87.95	65.00
Annualized alpha	-0.02%	-0.17%	-0.35%	-0.52%	-0.55%	-0.59%	-0.31%	-0.17%	-0.95%	-0.92%
Parents' years of education	11.0	11.5	11.3	12.0	12.6	13.0	13.1	13.3	13.4	14.0
Has grad. degree, indicator	0.68	1.00	0.75	1.00	0.76	1.00	0.73	1.00	0.50	0.50
Has PhD, indicator	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Has MBA, indicator	0.59	1.00	0.62	1.00	0.56	1.00	0.70	1.00	0.40	0.00
Private university, indicator	0.43	0.00	0.58	1.00	0.66	1.00	0.76	1.00	0.85	1.00
Ivy League university, indicator	0.07	0.00	0.10	0.00	0.15	0.00	0.24	0.00	0.37	0.00
Tuition	2,106	975	2,748	3,115	3,045	3,400	3,793	4,500	4,143	4,825
Admission rate	69.0%	78.3%	62.2%	70.1%	56.9%	69.8%	48.8%	39.8%	44.9%	39.7%
ACT, median	25.8	25.0	26.6	26.5	27.2	27.3	28.5	29.0	29.1	29.8
SAT, rank	79.4	77.0	78.8	81.0	81.3	83.0	89.4	92.0	90.9	95.0

Table 3. Family wealth and performance of fund managers

Panel A of this table shows the regressions of the funds' four-factor monthly alphas (*Alpha*, expressed in pp) on the measures of the managers' parents' household wealth during the 1940 Census. *FatherIncome* and *HomeValue* are expressed in \$000. *HomeValue* and *Rent* are defined on the non-overlapping sub-samples. Panel B shows the regressions of *Alpha* on the percentile rank of wealth (*WealthRank*) – defined as the percentile rank of *FatherIncome* in the sample, if its value is not missing, and the percentile rank of *HomeValue* or *Rent* in the sample, otherwise – and the dummy variables indicating *WealthRank* quintiles. The percentile ranks are scaled by 0.01 and thus range from 0 to 1. The control variables capture the manager's characteristics, his parents' education depth and employment type, as well as key mutual fund and fund family characteristics. All the control variables are taken as of the end of the month before the observation month. Exact variable definitions are given in Appendix 4. The inclusion of Morningstar style fixed effects and time fixed effects is indicated at the bottom of the table. T-statistics (reported in parentheses) are based on standard errors clustered at the fund level. * (**, ***) indicates the significance of the coefficient at the 10% (5%, 1%) level.

Panel A. Different measures of wealth

Independent variables	Dependent variable			Dependent variable			Dependent variable		
	<i>Alpha</i>	<i>Alpha</i>	<i>Alpha</i>	<i>Alpha</i>	<i>Alpha</i>	<i>Alpha</i>	<i>Alpha</i>	<i>Alpha</i>	<i>Alpha</i>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<i>Wealth: (is proxied for by) FatherIncome</i>			<i>Wealth: (is proxied for by) HomeValue</i>			<i>Wealth: (is proxied for by) Rent</i>		
<i>Wealth</i>	-0.0256* (-1.97)	-0.0311** (-2.20)	-0.0384** (-2.27)	-0.0044* (-1.77)	-0.0060** (-2.34)	-0.0069** (-2.08)	-0.0015* (-1.88)	-0.0018** (-2.16)	-0.0018* (-1.83)
<i>FundSize</i>	-0.0676*** (-4.55)	-0.0670*** (-4.23)	-0.0748*** (-4.44)	-0.0548** (-2.57)	-0.0579** (-2.60)	-0.0616** (-2.57)	-0.0755*** (-4.39)	-0.0774*** (-4.30)	-0.0962*** (-4.94)
<i>FundAge</i>	0.0036* (1.71)	0.0035 (1.48)	0.0052** (2.03)	0.0029 (1.11)	0.0048* (1.66)	0.0040 (1.40)	0.0030 (1.14)	0.0037 (1.40)	0.0061** (2.02)
<i>ManagerAge</i>	-0.0004 (-0.10)	-0.0001 (-0.02)	-0.0001 (-0.02)	-0.0011 (-0.38)	-0.0025 (-0.79)	-0.0039 (-0.97)	-0.0039 (-0.86)	-0.0003 (-0.06)	0.0001 (0.02)
<i>FirmSize</i>	0.0539*** (3.13)	0.0508*** (2.73)	0.0542*** (2.80)	0.0509* (1.91)	0.0420 (1.47)	0.0395 (1.31)	0.0594*** (3.07)	0.0572*** (2.80)	0.0733*** (3.43)
<i>LogFirmNFunds</i>	-0.0667** (-2.48)	-0.0668** (-2.37)	-0.0678** (-2.41)	-0.0358 (-0.81)	-0.0165 (-0.33)	-0.0126 (-0.25)	-0.0743** (-2.40)	-0.0767** (-2.36)	-0.0905*** (-2.76)
<i>Volatility</i>	-0.0508*** (-3.87)	-0.0495*** (-3.71)	-0.0458*** (-3.28)	-0.0463 (-1.55)	-0.0295 (-1.14)	-0.0334 (-1.26)	-0.0697*** (-5.38)	-0.0688*** (-5.11)	-0.0664*** (-4.75)
<i>Skewness</i>	0.0011*** (2.83)	0.0011*** (2.75)	0.0012*** (2.88)	0.0015*** (2.90)	0.0011** (2.22)	0.0012** (2.34)	0.0010** (2.34)	0.0010** (2.30)	0.0012*** (2.68)
<i>HasGraduate</i>		0.0705 (1.44)	0.0755 (1.49)		-0.0656 (-0.96)	-0.0635 (-0.87)		0.0887 (1.58)	0.1303** (2.19)
<i>HasMBA</i>		-0.0854* (-1.91)	-0.1037** (-2.22)		0.0198 (0.31)	-0.0270 (-0.40)		-0.0235 (-0.53)	-0.0569 (-1.26)
<i>AdmissionRate</i>		-0.0544 (-0.83)	-0.0848 (-1.27)		0.0801 (1.13)	0.0364 (0.37)		0.0506 (0.53)	-0.0022 (-0.02)
<i>ParYearsEdu</i>			-0.0015 (-0.22)			-0.0047 (-0.51)			-0.0096 (-1.28)
<i>FinanceRelated</i>			0.0945** (2.12)			0.1134 (1.57)			0.0715 (1.49)
<i>Managerial</i>			-0.0501 (-0.92)			-0.0672 (-1.07)			-0.0877 (-1.35)
Time F.E.	YES	YES	YES	YES	YES	YES	YES	YES	YES
Fund style F.E.	YES	YES	YES	YES	YES	YES	YES	YES	YES
Num. obs.	23,823	21,447	20,722	11,403	10,039	9,616	15,867	14,622	13,782
Adj. R-sq	0.0137	0.0132	0.0130	0.0169	0.0169	0.0167	0.0128	0.0128	0.0129

Panel B. Wealth rank and quintiles

	Dependent variable			Indep. variables	Dependent variable		
	<i>Alpha</i>	<i>Alpha</i>	<i>Alpha</i>		<i>Alpha</i>	<i>Alpha</i>	<i>Alpha</i>
Indep. variables	(1)	(2)	(3)	(4)	(5)	(6)	
<i>WealthRank</i>	-0.1113** (-2.30)	-0.1125** (-2.13)	-0.1460** (-2.21)	<i>WealthRankQ2</i>	-0.0208 (-0.59)	0.0021 (0.06)	-0.0060 (-0.16)
				<i>WealthRankQ3</i>	-0.0505 (-1.37)	-0.0326 (-0.80)	-0.0496 (-1.19)
				<i>WealthRankQ4</i>	-0.0566 (-1.49)	-0.0485 (-1.16)	-0.0862* (-1.85)
				<i>WealthRankQ5</i>	-0.1316*** (-3.11)	-0.1284*** (-2.76)	-0.1800*** (-3.14)
<i>FundSize</i>	-0.0724*** (-5.29)	-0.0722*** (-4.93)	-0.0814*** (-5.18)	<i>FundSize</i>	-0.0740*** (-5.47)	-0.0742*** (-5.11)	-0.0835*** (-5.27)
<i>FundAge</i>	0.0032* (1.87)	0.0036* (1.92)	0.0046** (2.32)	<i>FundAge</i>	0.0034** (1.99)	0.0039** (2.06)	0.0048** (2.42)
<i>ManagerAge</i>	-0.0020 (-0.75)	-0.0005 (-0.17)	-0.0008 (-0.23)	<i>ManagerAge</i>	-0.0015 (-0.56)	-0.0001 (-0.03)	-0.0002 (-0.07)
<i>FirmSize</i>	0.0653*** (4.46)	0.0644*** (4.06)	0.0702*** (4.28)	<i>FirmSize</i>	0.0662*** (4.48)	0.0657*** (4.16)	0.0713*** (4.31)
<i>LogFirmNFunds</i>	-0.0760*** (-3.33)	-0.0814*** (-3.39)	-0.0873*** (-3.54)	<i>LogFirmNFunds</i>	-0.0763*** (-3.30)	-0.0828*** (-3.43)	-0.0898*** (-3.60)
<i>Volatility</i>	-0.0510*** (-4.05)	-0.0446*** (-3.92)	-0.0420*** (-3.49)	<i>Volatility</i>	-0.0504*** (-3.94)	-0.0447*** (-3.93)	-0.0417*** (-3.48)
<i>Skewness</i>	0.0011*** (3.40)	0.0010*** (2.99)	0.0011*** (3.13)	<i>Skewness</i>	0.0011*** (3.44)	0.0010*** (3.04)	0.0011*** (3.18)
<i>HasGraduate</i>		0.0650* (1.67)	0.0781** (1.98)	<i>HasGraduate</i>		0.0555 (1.39)	0.0632 (1.58)
<i>HasMBA</i>		-0.0601* (-1.72)	-0.0889** (-2.39)	<i>HasMBA</i>		-0.0589* (-1.65)	-0.0811** (-2.18)
<i>AdmissionRate</i>		0.0111 (0.21)	-0.0286 (-0.53)	<i>AdmissionRate</i>		0.0115 (0.22)	-0.0278 (-0.51)
<i>ParYearsEdu</i>			-0.0043 (-0.78)	<i>ParYearsEdu</i>			-0.0031 (-0.58)
<i>FinanceRelated</i>			0.0894** (2.31)	<i>FinanceRelated</i>			0.1107*** (2.65)
<i>Managerial</i>			-0.0479 (-1.27)	<i>Managerial</i>			-0.0337 (-0.93)
Time F.E.	YES	YES	YES	Time F.E.	YES	YES	YES
Fund style F.E.	YES	YES	YES	Fund style F.E.	YES	YES	YES
Num. obs.	31,448	28,146	26,707	Num. obs.	31,448	28,146	26,707
Adj. R-sq	0.0146	0.0146	0.0143	Adj. R-sq	0.0147	0.0146	0.0143

Table 4. Family wealth and performance of fund managers, alternative measures

This table shows the regressions of alternative measures of fund performance on the managers' parents' household wealth rank during the 1940 Census (defined as in Table 3). *GrossAlpha* is computed as the fund's before-fees return minus the return predicted by the four-factor model, *BenchmarkAdjReturn* is the fund's return net of the prospectus benchmark index return, *AbnReturnOverBenchmark* is the fund's gross return minus the return predicted by the benchmark-based factor model, and *ValueExtracted* is the dollar measure of value extracted from capital markets (in \$mil) computed as the product between the fund's benchmark-adjusted return and the fund's inflation-adjusted TNA (expressed in 2012 dollars) from the previous period. The control variables capture the manager's characteristics, his parents' education depth and employment type, as well as key mutual fund and fund family characteristics. All the control variables are taken as of the end of the month before the observation month. Exact variable definitions are given in Appendix 4. The inclusion of the fixed effects is indicated at the bottom of the table. T-statistics (reported in parentheses) are based on standard errors clustered at the fund level. * (**, ***) indicates the significance of the coefficient at the 10% (5%, 1%) level.

	Dependent variable		Dependent variable		Dependent variable		Dependent variable	
	<i>Gross Alpha</i>	<i>Gross Alpha</i>	<i>Bench.Adj Return</i>	<i>Bench.Adj Return</i>	<i>AbnReturn Over Benchmark</i>	<i>AbnReturn Over Benchmark</i>	<i>Value Extracted</i>	<i>Value Extracted</i>
Indep. variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>WealthRank</i>	-0.1052** (-2.00)	-0.1338** (-2.06)	-0.1193* (-1.74)	-0.2205*** (-2.88)	-0.1186* (-1.84)	-0.1840*** (-2.60)	-5.0593** (-1.97)	-6.6870** (-2.46)
<i>FundSize</i>	-0.0751*** (-5.13)	-0.0849*** (-5.44)	-0.0559*** (-3.41)	-0.0661*** (-3.75)	-0.0602*** (-4.17)	-0.0705*** (-4.61)	-0.4500 (-0.95)	-0.5210 (-1.05)
<i>FundAge</i>	0.0030 (1.62)	0.0040** (2.11)	0.0010 (0.41)	0.0029 (1.22)	0.0022 (0.97)	0.0037* (1.68)	0.2650*** (3.31)	0.3025*** (3.54)
<i>ManagerAge</i>	-0.0003 (-0.09)	-0.0007 (-0.22)	0.0007 (0.20)	0.0018 (0.49)	0.0038 (1.20)	0.0043 (1.32)	0.1874 (1.24)	0.1905 (1.17)
<i>FirmSize</i>	0.0565*** (3.57)	0.0627*** (3.83)	0.0279 (1.40)	0.0302 (1.43)	0.0285 (1.60)	0.0332* (1.78)	1.0510 (1.36)	1.0706 (1.32)
<i>LogFirmNFunds</i>	-0.0715*** (-2.96)	-0.0766*** (-3.10)	-0.0392 (-1.08)	-0.0381 (-0.99)	-0.0381 (-1.25)	-0.0372 (-1.16)	-1.1701 (-0.85)	-1.0826 (-0.74)
<i>Volatility</i>	-0.0395*** (-3.52)	-0.0368*** (-3.11)	-0.0240 (-1.36)	-0.0252 (-1.43)	-0.0786*** (-6.13)	-0.0774*** (-5.84)	-1.1927** (-2.56)	-1.1976** (-2.46)
<i>Skewness</i>	0.0009*** (2.66)	0.0010*** (2.81)	0.0006 (1.33)	0.0008 (1.61)	0.0015*** (3.58)	0.0017*** (4.01)	0.0038 (0.21)	0.0038 (0.21)
<i>HasGraduate</i>	0.0586 (1.49)	0.0738* (1.85)	0.0258 (0.52)	0.0301 (0.60)	0.0139 (0.28)	0.0217 (0.43)	2.6393* (1.72)	2.6338* (1.68)
<i>HasMBA</i>	-0.0516 (-1.45)	-0.0829** (-2.20)	0.0261 (0.65)	-0.0091 (-0.20)	0.0505 (1.17)	0.0198 (0.44)	-0.0146 (-0.01)	-0.1969 (-0.18)
<i>AdmissionRate</i>	0.0105 (0.20)	-0.0355 (-0.66)	-0.1377** (-2.16)	-0.1753*** (-2.60)	-0.1269** (-2.03)	-0.1712** (-2.58)	-6.0226*** (-2.76)	-6.8613*** (-3.12)
<i>ParYearsEdu</i>		-0.0061 (-1.13)		0.0010 (0.16)		-0.0035 (-0.65)		-0.0785 (-0.50)
<i>FinanceRelated</i>		0.0854** (2.25)		0.1685*** (3.51)		0.1245*** (2.69)		2.4676* (1.86)
<i>Managerial</i>		-0.0469 (-1.25)		-0.0751 (-1.50)		-0.0508 (-1.06)		0.5168 (0.49)
Time F.E.	YES	YES	YES	YES	YES	YES	YES	YES
Fund style F.E.	YES	YES	YES	YES	YES	YES	YES	YES
Num. obs.	28,133	26,694	27,433	25,998	27,058	25,652	27,433	25,998
Adj. R-sq	0.0147	0.0144	0.0121	0.0121	0.0146	0.0146	0.0041	0.0041

Table 5. Goldfeld-Quandt test for heteroscedasticity due to selection on family wealth

This table shows the Goldfeld-Quandt test for the directional heteroscedasticity induced by *WealthRank* (defined as in Table 3). The sample of managers is split into high and low sub-samples of *WealthRank* for which the (residual) variance of *Alpha* is compared; for example, in column (2) the middle tercile is dropped from the analysis. The third row reports the F-statistics for the ratio of variances and the associated p-value in squared brackets.

Regressors	Statistics	Specification		
		Top half v Bottom half	Top one-third v Bottom one-third	Top one-fourth v Bottom one-fourth
		(1)	(2)	(3)
Constant only	Residual variance, top <i>WealthRank</i> subsample	4.357	4.796	4.888
	Residual variance, bottom <i>WealthRank</i> subsample	4.211	4.254	3.808
	F-statistic [p-value]	1.035** [0.010]	1.127*** [0.000]	1.284*** [0.000]
<i>WealthRank</i> and controls	Residual variance, top <i>WealthRank</i> subsample	4.325	4.721	4.917
	Residual variance, bottom <i>WealthRank</i> subsample	4.365	4.386	4.011
	F-statistic [p-value]	0.991 [0.703]	1.076*** [0.000]	1.226*** [0.000]

Table 6. Family wealth and managers' promotion-performance sensitivity

This table shows the linear probability regressions of the manager's promotion dummies on his past performance, his parents' household wealth rank during the 1940 Census (defined as in Table 3), and the interaction between the two. The promotion dummies indicate events when the number of funds the manager was in charge of increased from the previous month (*IncreaseFunds*) or the total assets the manager controlled increased by more than twofold from the previous month (*IncreaseAssetsX2*). Past performance is defined as the average monthly alpha (expressed in pp) of funds the manager managed over the past three (left pane) or five (right pane) years. The control variables include the manager's and the firm's characteristics and are taken as of the end of the month before the observation month. Exact variable definitions are given in Appendix 4. The inclusion of the fixed effects is indicated at the bottom of the table. T-statistics (reported in parentheses) are based on standard errors clustered at the fund level. * (**, ***) indicates the significance of the coefficient at the 10% (5%, 1%) level.

	Dependent variable					Dependent variable			
	<i>Increase Funds</i>	<i>Increase Funds</i>	<i>Increase AssetsX2</i>	<i>Increase AssetsX2</i>		<i>Increase Funds</i>	<i>Increase Funds</i>	<i>Increase AssetsX2</i>	<i>Increase AssetsX2</i>
Indep. variables	(1)	(2)	(3)	(4)	Indep. variables	(5)	(6)	(7)	(8)
<i>WealthRank</i>	-0.0002 (-0.04)	0.0048 (1.08)	0.0013 (0.79)	0.0025 (1.08)	<i>WealthRank</i>	0.0004 (0.10)	0.0053 (1.18)	0.0016 (0.93)	0.0026 (1.09)
<i>Past3YearGAlpha</i>	0.0036 (1.33)	0.0031 (1.14)	0.0072* (1.94)	0.0036** (2.38)	<i>Past5YearGAlpha</i>	0.0061* (1.89)	0.0059* (1.77)	0.0084* (1.81)	0.0036** (2.18)
<i>WealthRank</i> *	-0.0050 (-1.12)	-0.0039 (-0.82)	-0.0120** (-2.15)	-0.0057** (-2.31)	<i>WealthRank</i> *	-0.0104** (-2.13)	-0.0096* (-1.84)	-0.0137** (-1.99)	-0.0054** (-2.09)
<i>Past3YearGAlpha</i>	-0.0007*** (-3.76)	-0.0007*** (-3.20)	0.0003* (1.76)	0.0004** (2.32)	<i>Past5YearGAlpha</i>	-0.0007*** (-3.72)	-0.0007*** (-3.14)	0.0003* (1.77)	0.0004** (2.31)
<i>ManagerAge</i>	0.0011 (1.57)	0.0011 (1.54)	-0.0010** (-2.34)	-0.0009* (-1.92)	<i>ManagerAge</i>	0.0011 (1.60)	0.0011 (1.56)	-0.0010** (-2.32)	-0.0009* (-1.92)
<i>FirmSize</i>	0.0011 (0.78)	0.0012 (0.88)	0.0037*** (3.35)	0.0035*** (3.09)	<i>FirmSize</i>	0.0011 (0.77)	0.0012 (0.88)	0.0037*** (3.34)	0.0035*** (3.09)
<i>LogFirmNFunds</i>	-0.0023 (-0.77)	-0.0017 (-0.58)	0.0038 (1.53)	0.0044* (1.70)	<i>LogFirmNFunds</i>	-0.0022 (-0.76)	-0.0017 (-0.57)	0.0038 (1.53)	0.0044* (1.71)
<i>HasGraduate</i>	0.0027 (1.12)	0.0014 (0.54)	-0.0013 (-0.63)	-0.0028 (-1.22)	<i>HasGraduate</i>	0.0028 (1.14)	0.0014 (0.56)	-0.0013 (-0.62)	-0.0028 (-1.22)
<i>HasMBA</i>	0.0038 (1.02)	0.0046 (1.16)	0.0041** (2.24)	0.0035* (1.69)	<i>HasMBA</i>	0.0037 (1.01)	0.0045 (1.14)	0.0040** (2.20)	0.0035* (1.68)
<i>AdmissionRate</i>					<i>AdmissionRate</i>				
<i>ParYearsEdu</i>		-0.0003 (-0.95)		-0.0001 (-0.57)	<i>ParYearsEdu</i>		-0.0003 (-0.93)		-0.0001 (-0.57)
<i>FinanceRelated</i>		-0.0015 (-0.56)		-0.0008 (-0.43)	<i>FinanceRelated</i>		-0.0014 (-0.53)		-0.0008 (-0.42)
<i>Managerial</i>		-0.0071*** (-3.16)		-0.0048*** (-2.86)	<i>Managerial</i>		-0.0071*** (-3.16)		-0.0048*** (-2.86)
Time F.E.	YES	YES	YES	YES	Time F.E.	YES	YES	YES	YES
Fund style F.E.	YES	YES	YES	YES	Fund style F.E.	YES	YES	YES	YES
Num. obs.	30,632	28,981	28,372	26,890	Num. obs.	30,632	28,981	28,372	26,890
Adj. R-sq	0.0064	0.0067	0.0069	0.0081	Adj. R-sq	0.0064	0.0068	0.0070	0.0080

Table 7. Family wealth and measures of fund management activity

This table shows the tests relating measures of fund management activity to the managers' parents' household wealth rank during the 1940 Census (defined as in Table 3). The activity measures include the annualized portfolio turnover (*Turnover*, expressed in pp), the Herfindahl portfolio concentration measure (*PortfolioConcentration*, expressed in pp), the average duration that the shares are held in the fund's portfolio (*HoldingHorizon*, expressed in months, based on the FIFO assumption of purchases and sales), and the correlation between the changes in positions of the fund and the changes in positions of the (hypothetical) average fund in the style (*Herding*, expressed in pp). The control variables reflect the manager's characteristics, his parents' education depth and employment type, as well as key mutual fund and fund family characteristics. All the control variables are taken as of the end of the previous quarter. Exact variable definitions are given in Appendix 4. The inclusion of the fixed effects is indicated at the bottom of the table. T-statistics (reported in parentheses) are based on standard errors clustered at the fund level. * (**, ***) indicates the significance of the coefficient at the 10% (5%, 1%) level.

	Dependent variable		Dependent variable		Dependent variable		Dependent variable	
	<i>Turnover</i>	<i>Turnover</i>	<i>Portfolio Conc.</i>	<i>Portfolio Conc.</i>	<i>Holding Horizon</i>	<i>Holding Horizon</i>	<i>Herding</i>	<i>Herding</i>
Indep. variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>WealthRank</i>	-11.4182** (-2.52)	-10.8176* (-1.80)	-0.5709 (-1.01)	-0.8466 (-1.34)	4.0190 (1.25)	4.8954 (1.34)	2.9057 (0.86)	3.7787 (1.00)
<i>FundSize</i>	-3.7784*** (-3.99)	-3.9565*** (-4.33)	-0.2180 (-1.51)	-0.1258 (-0.83)	1.3212* (1.85)	1.4576** (1.97)	4.6037*** (6.53)	4.1597*** (6.10)
<i>FundAge</i>	-0.3224** (-1.97)	-0.2489 (-1.42)	0.0417 (1.29)	0.0442 (1.42)	0.5735*** (4.08)	0.5857*** (4.01)	0.0486 (0.35)	0.0186 (0.14)
<i>ManagerAge</i>	-0.3272 (-1.23)	-0.2685 (-1.01)	0.0755 (1.34)	0.0934* (1.71)	0.0093 (0.05)	-0.0178 (-0.08)	-0.4359** (-2.16)	-0.4405** (-1.97)
<i>FirmSize</i>	0.1275 (0.11)	-0.1578 (-0.14)	0.0943 (0.47)	0.0949 (0.50)	0.0399 (0.05)	0.2872 (0.34)	-0.9558 (-1.16)	-0.1820 (-0.23)
<i>LogFirmNFunds</i>	1.8461 (1.11)	3.1415* (1.94)	-0.5479 (-1.17)	-0.5322 (-1.26)	-2.4396* (-1.76)	-2.9009** (-2.11)	2.8716** (2.32)	1.7152 (1.43)
<i>HasGraduate</i>	2.6981*** (3.99)	2.5923*** (3.68)	0.0323 (0.38)	0.0643 (0.79)	-1.6356*** (-2.93)	-1.4749** (-2.51)	-0.1677 (-0.44)	0.1652 (0.48)
<i>Volatility</i>	0.0299* (1.72)	0.0313* (1.74)	0.0032 (1.35)	0.0026 (1.30)	-0.0121 (-0.86)	-0.0146 (-0.99)	-0.0081 (-0.61)	-0.0069 (-0.50)
<i>Skewness</i>	-6.8020* (-1.74)	-6.5428 (-1.65)	-0.3877 (-1.06)	-0.4061 (-1.06)	4.3791 (1.51)	4.5216 (1.55)	0.4821 (0.17)	0.6991 (0.25)
<i>HasMBA</i>	6.0315 (1.59)	5.7514 (1.53)	-0.0311 (-0.09)	0.2642 (0.60)	-1.7515 (-0.60)	-1.0941 (-0.35)	-3.2487 (-1.22)	-4.0418 (-1.58)
<i>AdmissionRate</i>	3.3168 (0.66)	1.3093 (0.23)	-0.7738 (-1.34)	-1.3592* (-1.97)	-7.5796* (-1.83)	-7.7177* (-1.74)	-3.3100 (-0.86)	-6.5558 (-1.62)
<i>ParYearsEdu</i>		0.3018 (0.77)		0.0508 (1.19)		-0.3730 (-1.31)		-0.7596*** (-3.05)
<i>FinanceRelated</i>		-4.5795 (-1.37)		-0.6604 (-1.60)		0.2163 (0.07)		3.4182 (1.32)
<i>Managerial</i>		1.6052 (0.50)		1.1182* (1.66)		0.5333 (0.21)		-2.0113 (-0.88)
Time F.E.	YES	YES	YES	YES	YES	YES	YES	YES
Fund style F.E.	YES	YES	YES	YES	YES	YES	YES	YES
Num. obs.	2,887	2,647	2,933	2,692	3,899	3,619	3,870	3,593
Adj. R-sq	0.2356	0.2382	0.1494	0.1926	0.3206	0.3313	0.3576	0.3747

Table 8. Family wealth and fund flows

This table shows the regressions of fund flows on the managers' parents' household wealth rank during 1940 Census (defined as in Table 3) and the average monthly alpha of the fund over the previous 12 months. *Flow* is expressed in pp and is computed as the dollar flow (i.e., the difference between the end-of-quarter fund TNA and the previous-quarter fund TNA multiplied by one plus the gross return of the fund over the quarter) divided by the previous-quarter fund TNA. The control variables reflect the manager's characteristics, his parents' education depth and employment type, as well as key mutual fund and fund family characteristics. All the control variables are taken as of the end of the previous quarter. Exact variable definitions are given in Appendix 4. The inclusion of the fixed effects is indicated at the bottom of the table. T-statistics (reported in parentheses) are based on standard errors clustered at the fund level. * (**, ***) indicates the significance of the coefficient at the 10% (5%, 1%) level.

	Dependent variable		Dependent variable	
	<i>Flow</i>	<i>Flow</i>	<i>Flow</i>	<i>Flow</i>
Indep. variables	(1)	(2)	(3)	(4)
<i>WealthRank</i>	-1.8991 (-1.17)	-2.2797 (-1.18)	-1.9534 (-1.34)	-2.6275 (-1.47)
<i>Past12MonthAlpha</i>			3.0543*** (5.78)	3.1466*** (5.67)
<i>WealthRank</i> *				
<i>Past12MonthAlpha</i>				
<i>FundSize</i>	-1.7425*** (-3.71)	-1.7951*** (-3.62)	-1.5188*** (-3.54)	-1.4836*** (-3.37)
<i>FundAge</i>	-0.2093*** (-4.16)	-0.2365*** (-4.72)	-0.1862*** (-4.00)	-0.2152*** (-4.62)
<i>ManagerAge</i>	0.0268 (0.35)	0.0186 (0.23)	0.0316 (0.44)	0.0353 (0.47)
<i>FirmSize</i>	2.4400*** (4.77)	2.4641*** (4.51)	2.0146*** (4.15)	1.9505*** (3.77)
<i>LogFirmNFunds</i>	-3.5839*** (-5.63)	-3.7995*** (-5.45)	-2.7968*** (-4.44)	-2.9365*** (-4.39)
<i>Volatility</i>	0.0858 (0.32)	0.1796 (0.63)	0.0968 (0.35)	0.1480 (0.52)
<i>Skewness</i>	0.0172* (1.78)	0.0181* (1.81)	0.0172* (1.85)	0.0185* (1.95)
<i>HasGraduate</i>	-1.0369 (-0.76)	-1.1290 (-0.83)	-1.1388 (-0.91)	-1.3885 (-1.11)
<i>HasMBA</i>	0.0719 (0.06)	-0.1061 (-0.09)	0.4990 (0.41)	0.5150 (0.43)
<i>AdmissionRate</i>	-1.1199 (-0.69)	-0.8136 (-0.43)	-0.5225 (-0.34)	0.5097 (0.29)
<i>ParYearsEdu</i>		0.0539 (0.39)		0.2053 (1.60)
<i>FinanceRelated</i>		1.0120 (0.94)		0.9366 (0.91)
<i>Managerial</i>		-0.7373 (-0.64)		-0.5035 (-0.46)
Time F.E.	YES	YES	YES	YES
Fund style F.E.	YES	YES	YES	YES
Num. obs.	5,430	5,106	5,176	4,866
Adj. R-sq	0.0612	0.0635	0.1447	0.1509