

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

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## **Abstract**

We study the relation between 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 experience in this leadership role. 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 et al. (2005)). Because individuals from less privileged backgrounds have much higher barriers to entry into prestigious positions, only the most skilled types can exceed these high 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 driven by human capital, barriers to entry are particularly high and selection of resources is generally subjective. 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 hold over a half of households' financial wealth, 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.<sup>1</sup> These records provide detailed information on the income, home value, education, and occupation of a manager's parents during his/her 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 local community. E.g., the average (median) annual income of managers' fathers at the time of Census was at the 90<sup>th</sup> (87<sup>th</sup>) percentile of the income distribution in the general U.S. male population.<sup>2</sup> On average, managers' fathers reported 12 years of education (26% more than the median male education in the census tract in which the household resided) while the value of homes owned (the amount of monthly rent paid) by managers' households was 106% (48.0%) higher than the median value for the census tract. Consistent with the idea that family economic status is an important factor for an individual's subsequent career progression, we observe that managers from wealthier backgrounds were more likely to attend private and more exclusive universities and pay higher tuition.

Our main finding is that mutual fund managers from wealthier backgrounds deliver consistently weaker performance than managers descending from less wealthy families. For example, managers from families in the top quintile of parents' income distribution underperform managers in the bottom quintile by 1.54% per year (significant at 1%) in terms of the four-factor alpha. Similar results hold when we use the ranking by household rent or home value as a proxy for the manager's at-birth economic status.

Even though fund alpha is a standard measure of performance which allows us to quantify relative value created in excess of salient benchmarks of market, size, and value portfolios, it is not necessarily a reliable reflection of managerial skill. Using a proxy for the dollar value extracted from capital markets similar to that in Berk and Van Binsbergen (2015), we confirm the negative relationship

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<sup>1</sup> See Appendix 1 for the form layout and an example of a record.

<sup>2</sup> See Figure 1 for the graphical comparison of our sample and the general population distributions.

between family wealth and managerial performance: an interquartile-range increase in the manager's parents' income translates to a monthly loss of \$2.81 million (expressed in 2012 dollars).

Our findings survive a comprehensive set of controls which proxy for the quality and type of the manager's own education, his/her demographics, parents' education and professional expertise, and fund and management firm characteristics. In addition, plausible unobservable omitted variables, such as connections and access to information, would favor a positive relationship between family status and performance and are unlikely to explain our results.

We also find strong evidence that the performance dispersion is robustly higher in the sub-sample of managers from wealthier backgrounds: the F-ratio of the residual variances in the top vs. the bottom 40% (the top vs. the bottom one-third) of the managers' parents' income distribution is 1.125 (1.285), significant at 1%. This result confirms our working hypothesis that selection by talent eliminates the less skilled candidates in the non-privileged group, but is not as tight for the more privileged candidates, who are likely to pass regardless of their skill level. 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.<sup>3</sup>

In further support of this view, we investigate fund managers' career progressions and study how a manager's likelihood of promotion varies with his/her family background and past performance. We define a promotion as an event when a manager obtains an additional fund or is likely 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 the parents' wealth. However, managers from poorer families can close this gap by delivering better performance: according to our estimates, a manager from the 25<sup>th</sup> percentile of parents' income has to outperform a manager from the 75<sup>th</sup> percentile by about 0.74% per year to stand an equal chance of promotion. This evidence supports

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<sup>3</sup> Bowles et al. (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.

our hypothesis that managers born poor can only pass the selection hurdle if they reveal their strong type, thus ensuring the selection of the most 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 portfolio turnover, holdings' concentration, active share, and holding horizon. The results for the last two measures are inconclusive, but portfolio concentration and especially turnover are somewhat higher for the less wealthy managers. For example, an interquartile-range reduction in the parents' income increases the fund's quarterly turnover by 4.28% (to compare, the average turnover in the sample is 36.8%), consistent with the argument that more frequent trading can be associated with 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. The capital flows are only weakly related to managers' parents' incomes and this effect is similar in specifications with and without the fund's past performance. We therefore conclude 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 outside 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 discusses summary statistics. Section III establishes the relationship between managers' family wealth and performance measures. Section IV investigates portfolio activity. Section V proceeds with the ancillary tests on performance dispersion, promotion probabilities, 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 and downloaded from Morningstar Direct at the end of 2012. We include defunct as well as active investment products (fund share classes), ensuring that any fund ever appearing in the Morningstar database is present in our initial sample. Next, we restrict our attention to equity-focused actively managed funds by dropping index funds, funds whose U.S. Broad Asset Class is not "U.S. Stock", funds for which Morningstar equity style classification (Equity Style Box) is not available, and funds that have sector restrictions or specialty focus (Global Category includes word "Sector" or Prospectus Objective includes word "Specialty"). Finally, we exclude funds whose total net assets under management (TNA) never exceeded \$10 million and funds that were always managed by more than one manager (i.e. team-managed funds).

For each fund that passes the filters we obtain its historical management data from Morningstar, which details the name of the manager and his/her starting and ending date in a fund with up to one month accuracy. We eliminate managers who have fewer than 24 non-missing monthly return observations (this filter automatically disqualifies managers who first appear in the sample in 2011 or later). For each of the remaining managers we initiate the data collection process described below.

First, we obtain brief biographical descriptions of the managers' careers from Morningstar Principia and Factset. These biographies outline managers' employment histories and sometimes provide details on their educational backgrounds, such as attended universities, degrees earned, and years of graduation. To enrich these biographical data, we search for the managers' public profiles on LinkedIn and CFA Directory and fill the missing education data where possible.

Second, we attempt to locate the manager in Lexis Public Records - the most comprehensive source of personal information available without legal restrictions. Lexis database has been used in a number of notable financial studies on mutual fund managers (e.g., Pool, Stoffman, and Yonker (2012)

identify the state where the manager grew up and show that fund managers overweight stocks from their home states, while Pool, Stoffman, Yonker, and Zhang (2015) relate the estimated value of the manager's house to his/her portfolio risk level), as well as corporate executives (e.g., Cronqvist, Makhija, and Yonker (2012) establish the link between corporate leverage and personal leverage of CEOs, while Yermack (2014) combines the data on CEO property ownership with flight histories to show the effect of the CEO's absence from headquarters on corporate activity). When searching Lexis, we only focus on individuals for whom an unambiguous record exists. This generally implies that the Lexis record has to contain the exact same first and last name as the manager in Morningstar, have the same middle initial, and give the same state for the person's Social Security Number as the state where the manager grew up.<sup>4</sup> We also condition on the person's age and exclude records where the birth year in Lexis and the university undergraduate degree date are more than 30 years apart. Lexis is an important data source for our study for two reasons: i) it provides a list of addresses where the manager lived or at least received official correspondence, and ii) in the majority of cases, it gives the names of the manager's parents, their home address, and the history of real estate sales and purchases. This information allows us to locate the manager's parents in the 1940 Census records with high degree of accuracy.

Next, we focus on the Census 1940 household records and search either for the manager himself/herself, if he/she was born before 1940, or his/her parents. The 1940 Census records were released by the U.S. National Archives in April 2012 after the expiry of the mandated 72-year period.<sup>5</sup> To the best of our knowledge, this is the first study in finance to use data from individual Census records. Our two primary resources are [www.archives.com](http://www.archives.com) and [www.ancestry.com](http://www.ancestry.com). Appendix 1 shows the Census form presented to households and an example of a filled record. At this stage, we are only interested in parents that either had already given birth to the manager by 1940 or would do so within the next 10

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<sup>4</sup> According to SSA, since 1944 more than half of the SSNs were issued to people under the age of 20.

<sup>5</sup> According to the U.S. Public Law, the U.S. government will not release personally identifiable information about an individual to any other individual or agency until 72 years after it was collected for the decennial census. This "72-Year Rule" (92 Stat. 915; Public Law 95-416; October 5, 1978) restricts access to decennial census records to all but the individual named on the record or their legal heir. After 72 years, the records are released to the public by the National Archives and Records Administration. More details are available at <https://www.census.gov/history>.



years. The underlying motivation for this filter is that we aim to capture the family's social situation during the years of the manager's childhood, and allowing for more than a 10-year difference between the time the data is recorded and the manager's birth would add noise to the measurement. In addition, it is technically difficult to find the right ancestry for younger managers because their parents might not have been married as of 1940 and the household might not have been formed. We again require a strict match between the parents' names in Lexis and Census (however, we incorporate the mother's maiden name in the search) and the locations of the household.

This procedure yields 208 unique managers who are considerably older than an average manager in the original Morningstar sample and for whom a long history of observations is available. Generally, at different stages of the data collection process we emphasize data accuracy over the sample size. One reason is that poor measurement can lead to incorrect conclusions, while a smaller sample, if anything, would bias us against finding significant results but can still reveal the general pattern of economic effects. The second reason is that this project studies backgrounds and careers of specific individuals (their names and records are available from the authors) and we take special care not to contaminate our findings with inaccurate personal data.

The following fields from the Census files 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),<sup>6</sup> 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 addition to the individual Census records, we also collect census tract-level data where possible. Each individual record reports an enumeration district that for large municipalities can be matched to a census tract - the smallest aggregated demographic unit in the U.S. whose population is

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<sup>6</sup> Home values are recorded in increments of \$500.

relatively homogenous along the dimension of income and wealth.<sup>7</sup> We obtain the tract-level data for the 1940 Census from the Elizabeth Mullen Bogue File, which featured in several social and history studies (e.g., Sugrue (1995), Elliott and Frickel (2013)).<sup>8</sup> Some tract-level variables include: total population in the tract (both males and females), 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.

We complete our sample construction by collecting data on the managers' educational institutions, degrees, and specialization. While Morningstar and Factset biographies or public profiles typically mention the manager's university, other educational characteristics are often not publicly available. Therefore, in order to obtain or verify information on the manager's degree type and field of study, we contact the universities' registrar offices and, if necessary, the National Student Clearinghouse, a degree-verification service provider. Furthermore, we collect institution-level data that proxies for the quality of the educational institution as well as the competitiveness, affordability, and status of the program. This information is obtained from the College Handbook, published by the College Entrance Examination Board. There are three versions of this handbook which cover entry classes of 1979, 2004, and 2012. Our variables are mostly based on the 1979 handbook (the closest to the managers' college years) except for the standardized scores, which are available as of 2004.<sup>9</sup> Some of the university characteristics of interest include the university SAT rank among all U.S. institutions, the university median ACT score, the university size as measured by the undergraduate enrolment, the average tuition for an undergraduate program, the undergraduate admission rate, and the university's affiliation with the Ivy League.

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<sup>7</sup> The matching was conducted via the Unified Census ED Finder engine available at [www.stevemorse.org/census/unified.html](http://www.stevemorse.org/census/unified.html).

<sup>8</sup> This data can be found, among other sources, at [www.icpsr.umich.edu/icpsrweb/DSDR/studies/2930](http://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.

<sup>9</sup> Our results are virtually identical if we use the 2004 handbook throughout - there is a high correlation between the 1979 and the 2004 variables.

## II.B Summary statistics

We report summary and sample composition statistics for our funds and managers in Table 1. The average (median) manager in our sample is born in 1937 (1939) - three years (one year) before we measure the household characteristics. Even for managers born before (10<sup>th</sup> percentile is 1930) and after (90<sup>th</sup> percentile is 1944) 1940, the Census records are close enough in time to accurately reflect the manager's family's social situation during his/her 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 (11.5) years, although some managers have long careers approaching 30 years (90<sup>th</sup> percentile is 26.3 years). The peak dollar value of assets controlled by managers in our sample has an average value of \$4.2 billion and a median value of only \$625 million, highlighting the fact that a number of managers are in charge of particularly big funds. Both figures are economically large though 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 84.8 (90.0). However, the average (median) admission rate is only 54.8% (55.8%), while the variable itself has a fairly even and wide distribution (from 10<sup>th</sup> percentile of 22.6% to 90<sup>th</sup> percentile of 86.1%), suggesting some variation in the education exclusivity.

The estimated average (median) value of the manager's parents' home in 1940 is \$10,570 (\$7,750) but its variation is substantial (from 10<sup>th</sup> percentile of \$1,950 to 90<sup>th</sup> percentile of \$21,500). Monthly rent shows a similar pattern: an average (median) rent is \$45.3 (\$38.0) but the 10<sup>th</sup> and 90<sup>th</sup> percentiles are wide apart (\$13.0 and \$70.0, respectively). An inspection of the parents' incomes reveals that over 75% of mothers are either unemployed 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 \$2,273.6 (\$2,000.0). In Figure 1 we show how the distribution of the managers' fathers' incomes compares to 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.<sup>10</sup>

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 \$7,750 vs. median \$5,026) 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 (\$1.05 billion vs. \$127 million). A similar pattern is observed at the fund family level and is also confirmed by the statistics on the number of equity positions in a fund (mean of 81.3 vs. median of 59.0). An average (median) monthly fund return is positive at 0.98% (1.26%); however one must consider that the stock market grew at an unprecedented rate during our sample period between 1960 and 2012. An examination of fund alphas - fund returns in excess of the returns predicted by the four-factor model (Section III describes the computation methodology in greater detail) - reveals that an average and median monthly alphas in our sample are actually slightly negative at -0.05%.

Panel B of Table 1 reports some sample composition statistics. 66.3% of the managers earned some graduate degree at some stage in their life; in particular 53.3% earned an MBA degree, while 3.9% completed a PhD. 92.3% of the managers have either an undergraduate or a graduate degree in a field which we classify as finance-related (see Appendix 2A for the classification methodology) and 9.5% hold a degree in a technical discipline, such as physics, statistics, or mathematics. Among the other sample composition statistics, we should mention that the vast majority of the managers' parents' were employed

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<sup>10</sup> 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.

in the private sector in 1940 and 19.3% had a finance-related job, such as an accountant or an insurance advisor (see Appendix 2B for the classification methodology). As expected, most of the funds in our sample (close to 66%) belong to the Large Cap styles with the Large Growth being the dominant category (32.0%).

In Table 2 we examine relationships among our main variables in correlation tables and by quintiles of the managers' parents' 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; *ParentsIncome* is equal to the average of the father's and the mother's incomes if the mother's income is not missing, and is equal to the father's income otherwise; *FatherYearsEdu* is the aggregate years of education of the father by the time of the census; *ParYearsEdu* is equal to the average of the father's and the mother's education years if the latter is not missing, and is equal to the father's education years otherwise;<sup>11</sup> *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 2B explains the classification procedure); *Rent* is the monthly rent in dollars; and *HomeValue* is the self-reported value of the parents' home, if owned, in thousands of dollars.

The rent is positively related to both the father's income and the average parents' income (correlation of 0.736 and 0.563, respectively). However, there is no strong correlation pattern between income and home value, suggesting that home value might be a noisier measure of the family's current financial well-being. Importantly, home value is self-reported by the household and might reflect unrealistic expectations or be anchored in the historical purchase price rather than the true appraisal value of the property. We cannot correlate home value with rent directly since these variables are available for

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<sup>11</sup> In some of the Census entries, the mother's characteristics are missing whereas the father's are usually present. In those cases where we cannot verify that the mother had zero income or no education, we treat these data as missing and populate the parent-level variable with the father's data.

complementary sub-samples, namely, for owned and rented properties. Both the father's and the average parents' education are positively related to income and rent, with the correlation coefficients ranging from 0.376 to 0.427. Household 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 0.337. Larger families, as proxied by the number of siblings, tend to earn slightly smaller incomes. Tract-level median rent and home value are positively related to the measures of household income, e.g., median contract rent has a correlation of 0.214 with the parents' income. 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 a finance-related field, technical field, and a psychology field (see Appendix 2A for details).

After inspecting the results in Panel B, we first note a robust positive relationship between the parents' wealth and the quality or exclusivity of the manager's university. E.g., parents' income has a correlation of 0.339 with tuition, 0.300 with the university's private status, 0.333 with the median university ACT score, and -0.276 with the admission rate (correlations among the university variables have the expected signs and do not warrant special attention). Second, 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/her parents' education, e.g., there is a 0.218 correlation of the parents' education years with the Ivy League dummy and a 0.333 correlation

of the parents' education with the manager's university SAT rank. Also, the manager was somewhat more likely to pursue a finance-related education if at least one of his/her parents was occupied in a finance-related 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' income distribution. The top row shows how annualized fund four-factor alpha varies by the parents' income quintile. This preliminary analysis suggests that there is a considerable gap in performance between the first three and the last two quintiles, in which most of the negative alphas are concentrated. However, this relationship is not monotonic and is likely masked by many confounding effects, which we address in our multivariate analysis in Section III. For example, we can see in Panel C that the parents' education depth is robustly related to their income (ranging from 10 years in the lowest income quintile to 14 years in the highest income quintile), while the manager's own education quality is also positively related to his/her parents' income (e.g., the manager's university admission rate decreases from the median of 73.7% to the median of 39.7% as we move from the lowest to the highest parents' income quintile). 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 opposite pattern.

### **III. Household 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)),<sup>12</sup> using monthly

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<sup>12</sup> The data is from the Kenneth French's website: [http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data\\_library.html](http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html). We thanks the authors for making this data available.

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.<sup>13</sup>

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 still 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 security of the manager's family during his/her childhood years. For our initial tests we consider three different variables: *FatherIncome*, *ParentsIncome*, and *Rent/HomeValue Rank*. The first two variables most accurately reflect the family's earnings as of 1940 and are available for the full sample. *Rent* and *HomeValue* are defined on non-overlapping sub-samples thus reducing the number of observations available for analysis. For that reason, we combine these two variables in a relative measure *Rent/HomeValue Rank* calculated as the

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<sup>13</sup> 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 accuracy in the estimation without imposing the condition that the factor loadings have to remain constant over a long period of time.



percentile rank of *Rent* or *HomeValue* in the entire sample. We collectively call the three right-hand side variables *HHWealth* (short for "household wealth") and run the following regression specifications:

$$Alpha_{mjt} = \beta HHWealth_m + \Gamma_1 \times MControls_{mt-1} + \Gamma_2 \times FControls_{jt-1} + \alpha_Y + \delta_s + \varepsilon_{mjt}, \quad (1)$$

where  $j$  indexes funds,  $t$  ( $Y$ ) indexes months (years),  $m$  indexes managers, and  $s$  denotes Morningstar fund style. *HHWealth* 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* (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 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.

We report the results in Panel A of Table 3. Both *FatherIncome* and *ParentsIncome* are strongly negatively related to *Alpha*, with the coefficients from all the specifications significant at least at 5%. The same negative pattern holds for *Rent/HomeValue Rank*. The results gain in strength as more control variables are added, suggesting that failure to control for factors likely to affect performance generally understates the significance of the negative relationship between performance and wealth.

To evaluate economic magnitudes, consider two managers whose *ParentsIncome* differs by 1.150 (\$1,150), which is the interquartile range for *ParentsIncome* in the panel sample. The monthly alpha for

the manager with the higher *ParentsIncome* is lower by 6.15 bp (0.74% annualized).<sup>14</sup> Analogously, an increase in *Rent/HomeValue Rank* of 50 points is associated with a decrease in monthly alpha of 7.00 bp (0.84% annualized). To compare, the median monthly alpha in the sample is only -5.3 bp (-0.64% 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 our future tests we concentrate on *ParentsIncome* as the main variable of interest.

In Panel B of Table 3, we consider the relative measures of parents' income. In the left pane, the main independent variable of interest is *ParentsIncomeRank*, computed as the percentile rank of *ParentsIncome* in the cross-section of managers. In the right pane, we focus on the quintile dummies for *ParentsIncome*; e.g., *ParentsIncomeQ2* is equal to 1 for a manager if his/her *ParentsIncome* falls in the second quintile of the cross-sectional distribution. The results from Panel B confirm and strengthen our initial conclusions. First, higher *ParentsIncomeRank* robustly predicts lower *Alpha*: an increase in parents' income of 50 percentiles reduces the manager's monthly (annual) *Alpha* by 0.10% (1.20%). Second, this effect is monotonic in the full specification from quintile 2 to quintile 5: 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 fourth or fifth quintile of *ParentsIncome* and those from the first quintile is significant in the majority of specifications; e.g., managers from the richest families underperform those from the poorest families by 12.87 bp monthly (1.54% annually).

The strength of the results in this section becomes even more apparent if we acknowledge the fact 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 the manager's family's expertise, potentially important omitted variables always exist in this type of studies. However, a

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<sup>14</sup> All the effects in this section are computed from the coefficients in the full specification, e.g.,  $1.150 \times -0.0535 = -6.15$  bp.

reasonable endogeneity argument would point to a positive relationship between the parents' wealth and the manager's performance. For example, 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/her endowed wealth. In Section V we explore the 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 adding the expense ratio ( $grossret = (1+netreturn)*(1+expensratio)-1$ ) and then re-estimate the alpha and rerun our main tests, our 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 (*AbnRetOverBenchmark*) 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 return, the economic effects are slightly stronger than for the alpha, while for the abnormal return, they are slightly weaker. Interestingly, the admission rate and the quality of the parents' education are individually significant for the benchmark-based measures of performance. For example, an increase in *ParYearsEdu* of 5 years is associated with an increase in the fund's annualized benchmark-

adjusted return of 1% ( $=5*0.0168*12$ ) while a decrease in the manager's university admission rate of 50% improves the annualized benchmark-adjusted return by 1.22% ( $=-0.5*-0.2041*12$ ).

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' parents' income. This relationship is negative and statistically significant at 10%. To interpret the economic effect, consider, as before, an increase in *ParentsIncome* of 1.150. This increment is associated with a monthly loss of \$2.81 million ( $=1.150*-2.4418$ ), or about 51% 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. Fund management activities**

In this section we investigate whether managers from wealthier backgrounds pursue less active fund management strategies. In a way, we want to test a "quiet life" hypothesis that posits that wealthy individuals have little incentives to apply effort and simply follow the path of least resistance.

Of course, there are different measures of "activity" in fund management. Most of them are based on an idea that active managers deviate more from the market or index structures and tend to trade more frequently. Therefore, we consider the following variables to proxy for activity, each variable reflecting a particular aspect of a fund manager's strategy (see Appendix 3 for the details on the variables' construction, all fractional variables are expressed in percentage points).<sup>15</sup>

*MarketDeviation* is computed as the standard error of the regression of the fund's daily returns in the quarter on the daily returns on the CRSP value-weighted index and the Morningstar style dummies. This measure aims to capture how much of the variation in fund returns cannot be explained by market returns and the fund's mandated style. Funds' daily returns are available in CRSP but only for a subset of funds, hence our number of observations for this variables is lower than for the other measures of activity.

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<sup>15</sup> 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 ratio of the sum of absolute values of dollar changes in equity positions of the fund over the quarter to the dollar value of the fund's equity portfolio at the end of the previous quarter (similar to Gaspar, Massa, and Matos (2005)). The turnover measure captures the fraction of the portfolio that is "new" relative to the previous quarter.

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

*ActiveShare* is defined as the share of portfolio holdings of the fund at the end of the quarter that differ from the fund's benchmark index holdings (Cremers and Petajisto (2009), Petajisto (2013)) and is obtained from Antto Petajisto's personal website.<sup>16</sup>

*HoldingHorizon* measures how many months, on average, the shares that comprise the fund's portfolio at the end of the quarter are held in the 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.

Next, we examine how each of these activity variables is related to the parents' income by running the following regression specification:

$$Activity_{mjT} = \beta ParentsIncome_m + \Gamma_1 \times MControls_{mT-1} + \Gamma_2 \times FControls_{T-1} + \alpha_Y + \delta_s + \varepsilon_{mjT}, \quad (2)$$

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  $T$ .<sup>17</sup> Table 5 presents the results of the estimation.

Our evidence is mixed. In particular, higher *ParentsIncome* is associated with greater deviation from the passive strategy but this effect is weak. In contrast, less wealthy managers have higher turnover (significant at 10% or better): a reduction in *ParentsIncome* of 1.150 increases the fund's quarterly turnover by 4.28% ( $= -1.150 \times -3.7226$ ), or 13% of its interquartile range. This result is consistent with the idea that turnover can be conducive to value as long as the manager has skill (Pastor, Stambaugh, and

<sup>16</sup> <http://www.petajisto.net/data.html>. We are thankful to the authors for making their data available.

<sup>17</sup> In this regression, volatility and skewness are omitted from the controls, since they have direct mechanical relationship with most of the activity measures.

Taylor (2015)). Similarly, portfolio concentration is insignificantly higher for less wealthy managers, suggesting that these managers take larger idiosyncratic bets. The effects of active share and holding horizon are not consistent across the specifications and are not remotely significant.

## **V. Additional implications of selection**

In this section we examine the implications of the selection mechanism that extend beyond the relationship between parents' income and the level of the manager's performance.

### **V.A Parents' income and dispersion of performance**

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. This pattern should hold after we control for all the confounding variables from regression (1) and thus produce the directional heteroscedasticity effect: the residual variance should increase in *ParentsIncome*.

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 *ParentsIncome*. 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 *ParentsIncome* from the top half (top two-fifths, top one-third) of the distribution to

the high bin and managers with *ParentsIncome* from the bottom half (bottom two-fifths, bottom one-third) of the distribution to the low bin. In specification 2 (3), managers from the middle quintile (tercile) of the distribution are omitted from the test.

We present the results in Table 6 where we report the residual variance for both bins (calculated as the residual sum of squares divided by the degrees of freedom) and the F-statistic along with the associated p-value. First, we note that, similar to our earlier tests, the addition of controls increases the gap between the bottom and the top *ParentsIncome* group. Second, as we move closer to the ends of the distribution and drop the observations in the middle, the difference in the residual variance grows: e.g., the multivariate F-ratio in specification 1 is only 1.082 while that in specification 3 is 1.285 (both are significant at 1%).

Overall, the results in this sub-section affirm strong presence of the directional heteroscedasticity in our sample. This effect is consistent with a 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.

## **V.B Parents' income and promotion-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/she proves his/her high-quality type, i.e. shows strong performance. Effectively, we are 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/her 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/her 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. Next, we relate these promotion dummies to the manager's parents' income, his/her 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:

$$Promotion_{mjt} = \beta_1 PastGAlpha_{mt} + \beta_2 ParentsIncome_m + \beta_3 PastGAlpha_{mt} * ParentsIncome_m + \Gamma_1 \times MControls_{mt-1} + \Gamma_2 \times FControls_{jt-1} + \alpha_Y + \delta_F + \varepsilon_{mjt} . \quad (3)$$

Table 7 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*). The evidence indicates 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.

We can evaluate the marginal economic effects by answering the following question: how much better does the less wealthy manager's (25<sup>th</sup> percentile of *ParentsIncome* = 1.95) performance have to be so that he would stand the same chance of promotion as the more wealthy (75<sup>th</sup> percentile of *ParentsIncome* = 0.80). If we consider the coefficients for the first promotion proxy in the five-year specification, the answer to this question is 6.2 bp per month (or 0.74% annualized).<sup>18</sup>

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.C Flow effects**

If a manager's family wealth is an observable signal of his/her quality, how is this signal used by individual investors, if at all? In our final test we focus on fund monthly flow, computed as the dollar flow (the difference between the end-of-month fund TNA and the previous month's fund TNA multiplied by one plus the gross return of the fund over the month) divided by the last month's fund TNA. We regress fund flows on *ParentsIncome* 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. *ParentsIncome* is not significant in any specification but has a consistent negative sign. In contrast, the effect of past performance - the more salient statistic - is positive and

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<sup>18</sup>  $x=0.062$  solves the following equation:  $0.0002*(1.95-0.80) = -0.0032*(1.95-0.80)*(-x)$ .

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. 1940 Federal Census form

## Panel 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)	Name of each person whose usual place of residence on April 1, 1940, was in this household  <b>BE SURE TO INCLUDE:</b> 1. Persons temporarily absent from household. 2. Children under 1 year of age. Write "Infant" if child has not been given a first name. 3. Name of alternate person furnishing information.	Relationship of this person to the head of the household, as wife, daughter, father, mother-in-law, grandson, lodger, lodger's wife, servant, hired hand, etc.	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.  Distinguish: Canada-French from Canada-English and Irish Free State from Northern Ireland.	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

Line Number	Was this person AT WORK for pay or profit in private or nonemergency Gov't work during week of March 24, 1940 (Yes or No)	If not, was he at work on, or assigned to, public EMERGENCY WORK (WPA, NYA, 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				Number of weeks worked in 1939 (Equivalent full-time weeks)	INCOME IN 1939 (12 months ending Dec. 31, 1939.)		Number of Farm Schedule
							OCCUPATION	INDUSTRY	Class of Worker	CODE (leave blank)		Amount of money, wages or salary received (including commissions)	Did this person receive income of \$50 or more from sources other than money wages or salary (Y or N)	
21							Trade, profession, or particular kind of work, as - frame spinner salesman laborer rivet heater music teacher	Industry or business, as - cotton mill retail grocery farm shipyard public school						
22														
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34														

## Panel B. Example of a filled household record (manager J. W. C. born in 1932, low resolution shown)

Line No.	Street	House No.	Visited	Home Value	Home Farm	Name	Relation	Code A	Sex	Race	Age	Marital	Attende	Grade	Code B	Birthplace	Code C	Citizens	City	County	State	Farm	Code D	At Privat	At Public	Seeking	Has a Job	Other Work	Code E	Hours Worked	Weeks Out of	Occupation	Industry	Worker	Code F	Weeks Y	Income	Income	Farm SC	Code G			
4		470	10000	70		head	H	M	W	39	M	no	8	70		New York	56		Albany	Albany	N.Y.		no	no	no	no	no	no	40		President	Paint Co. Inc.			32	3000	10		4				
5						wife	W	F	W	38	M	no	8	70		Missouri	64		Albany	Albany	N.Y.		no	no	no	no	no	no	no														
6						daughter	D	F	W	13	S	no	8	8		Texas	67		Albany	Albany	N.Y.		no	no	no	no	no	no															
7						daughter	D	F	W	8	S	no	3	3		Ohio	54		Albany	Albany	N.Y.		no	no	no	no	no	no															
8						son	S	M	W	7	S	no	2	2		Ohio	51		Albany	Albany	N.Y.		no	no	no	no	no																

Income: 3000

## **Appendix 2. Classification of education and employment**

### **Panel A. Manager's scholarly specialization**

We classify a manager as having a finance-related education if the manager either holds an MBA degree or holds any degree in one of the following fields of study:<sup>19</sup>

*Accountancy, Accounting, Applied Economics, Business, Business Administration, Business Economics, Business Finance, Business Management, Business Studies, Commerce, Corporate/Tax Law, Economics, Finance, Financial Controllership, General Business, Industrial Economics, Investment Analysis, Investment Finance, Investments, Management, Mathematics Economics, Quantitative Business Analysis, Real Estate, Taxation, Taxes/Estates/Probate*

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

*Aerospace Engineering, Applied Mathematics, Astronomy, Chemical Engineering, Civil Engineering, Commerce and Engineering, Computer Science, Econometrics, Electrical Engineering, Engineering, Industrial Engineering, Information Systems, Mathematics, Mechanical Engineering, Metallurgical Engineering, Physics, Physics of Fluids, Statistics*

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".

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<sup>19</sup> This list is not exhaustive of all possible finance-related fields but is a subset of all the educational disciplines in our sample of managers.

## Panel B. Parents' employment type

We classify a manager as having a parent with a finance-related employment and set the dummy variable *FinanceRelated* to 1 if for at least one of the parents the occupation and company fields from the personal Census records form one of the following pairs (occupation-company (where available)):<sup>20</sup>

*Accountant - Irvington Co, Accountant- Knitting, Accountant - Rail Road, Accountant - Telephone Co., Banker - Bank, Banker - Own business, Broker - Brokerage house, Broker - Real estate, Broker - Stock Brokerage, Broker - Stock exchange, Business executive - Home products, Cashier accountant - Restaurant, Cashier - Insurance Co, Executive Vice President - Insurance, Executive - Brokerage, Executive - Manufacturing, Executive - Real Estate & Motion Pictures, Executive - Wholesale of automobiles, Financial analyst - S.E.C., Fund manager, Investment counsel - Investments, Investment manager - Fidelity investments, Investment specialist - Investments, Money manager - Investment fund, Owner of an investment company - Fidelity Investments, President - Aluminum manufacturing, President - Paint Co, Proprietor - Bag factory, Proprietor - Plastics company, Salesmen - Insurance, Stockbroker - Bonding company, Teller - Bank, Trader - Stock exchange, Treasurer - Cotton business, Treasurer - Furniture, Underwriter - GusCo*

In all other cases where the data on the parents' employment is available, we set *FinanceRelated* to 0.

We classify a manager as having a parent with a managerial employment and set the dummy variable *Managerial* to 1 if for at least one of the parents the occupation and company fields from the personal Census records form one of the following pairs (occupation-company (where available)):

*Banker - Own business, Director of manufactory, Estate manager, Executive - Brokerage, Executive- Manufacturing, Executive - Real Estate & Motion Pictures, Executive - Wholesale of automobiles, Executive Vice President - Insurance, Fund manager, Government official - City government, Investment manager - Fidelity investments, Manager - Chicor Plant, Manager - Ladies' Dress Shop, Money manager - Investment fund, Owner - Chain of clothing stores, Owner - Clothing retail, Owner - Cotton estates, Owner - Hardware store, Owner manager - Linen supply, Owner of an investment company - Fidelity Investments, Owner operator - Pool hall, President - Aluminum manufacturing, President - Paint Co, Property manager - Property management, Proprietor - Bag factory, Proprietor - Plastics company*

In all other cases where the data on the parents' employment is available, we set *Managerial* to 0.

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<sup>20</sup> Owners and executives of medium-to-large size businesses are classified as having a finance-related employment.



### Appendix 3. 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.

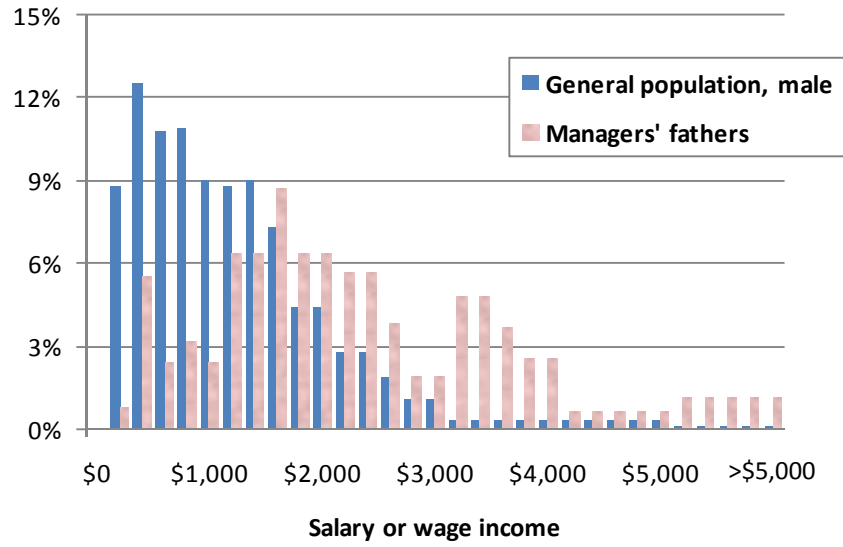
Variable name	Description
<b>Household wealth</b>	
$FatherIncome_m$	The annual income of the father of manager $m$ as per the Census record. This variable is expressed in \$000 (thousands of dollars).
$ParentsIncome_m$	The average of the incomes of manager $m$ 's father and mother, if both are available in the Census record (the mother's income is recorded as 0 if she is unemployed), or only the father's income, if the mother's income is not available. This variable 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.
$HomeValue_m$	The self-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.
$Rent/HomeValueRank_m$	The percentile rank (from 1 to 100) of $Rent_m$ or $HomeValue_m$ (defined on non-overlapping sub-samples) in the entire sample of managers.
$ParentsIncomeRank_m$	The percentile rank (from 1 to 100) of $ParentsIncome_m$ in the entire sample of managers.
$ParentsIncomeQx_m$	An indicator variable equal to 1 if $ParentsIncome_m$ falls in the $x^{th}$ quintile of the $ParentsIncome$ distribution over the entire sample of managers .
<b>Parents' education and employment</b>	
$ParYearsEdu_m$	The average of total years of education of manager $m$ 's father and mother, if both are available in the Census record, or only the father's total years of education, if the mother's education record is not available.
$FinanceRelated_m$	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 2.
$Managerial_m$	An indicator variable equal to 1 if either of the manager $m$ 's parents was employed in a managerial occupation, as classified in Appendix 2.
<b>Manager's demographics and education</b>	
$ManagerAge_{m(T)}$	The difference between the year which contains 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. <sup>21</sup>

<sup>21</sup> Indicator variables characterizing education are set to missing if we cannot reliably establish whether a manager holds a particular degree.

$HasMBA_m$	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.
<b>Fund and fund family controls</b>	
$FundSize_{jt(T)}$	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 $[t-35, t]$ .
$Style_j$	Fund $j$ 's Morningstar style (Large Blend, Large Growth, Large Value, Mid Blend, Mid Growth, Mid Value, Small Blend, Small Growth, or Small Value).
<b>Promotion indicators</b>	
$IncreaseFunds_{mjt}$	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 $t-1$ .
<b>Fund performance, management activity, and flows</b>	
$Alpha_{jt}$ ( $GrossAlpha_{jt}$ )	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.

$AbnRetOverBenchmark_{jt}$	Fund $j$ 's gross return in month $t$ 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 $(t-1, t-36)$ . If the estimation period contains fewer than 30 non-missing observations, $AbnRetOverBenchmark_{jt}$ is set to missing. This variable is expressed in pp.
$ValueExtracted_{jt}$	Dollar value extracted from capital markets computed as the product between fund $j$ 's benchmark-adjusted return in month $t$ and the fund's TNA at the end of month $t-1$ . 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).
$Past3YearGAlpha_{mt}$	The average gross monthly alpha taken across all the fund-month observations for manager $m$ in the period $(t-36, t-1)$ .
$Past5YearGAlpha_{mt}$	The average gross monthly alpha taken across all the fund-month observations for manager $m$ in the period $(t-60, t-1)$ .
$Past12MonthAlpha_{jt}$	The average monthly alpha of fund $j$ in the period $(t-12, t-1)$ .
$MarketDeviation_{jT}$	The standard error of the regression of fund $j$ 's daily returns in pp in quarter $T$ on the corresponding daily returns on the CRSP value-weighted index and the Morningstar style dummies.
$Turnover_{jT}$	<p>The ratio of the sum of the absolute dollar changes in fund <math>j</math>'s stock positions from quarter <math>T-1</math> to quarter <math>T</math> to the fund's equity portfolio size in dollars in quarter <math>T-1</math>. Formally,</p> $\frac{\sum_{i \in j_T}  NS_{jiT} * P_{iT} - NS_{jiT-1} * P_{iT-1} }{\sum_{i \in j_{T-1}} (NS_{jiT-1} * P_{iT-1})}$ <p>where <math>NS_{jiT}</math> is the number of shares of stock <math>i</math> held by fund <math>j</math> at the end of quarter <math>T</math> and <math>P_{iT}</math> is the price of stock <math>i</math> at the end of quarter <math>T</math>.</p>
$PortfolioConcentration_{jT}$	The Herfindahl's measure of concentration of fund $j$ 's portfolio holdings at the end of quarter $T$ .
$ActiveShare_{jT}$	A measure of fund $j$ 's deviation from the portfolio weights in the benchmark index at the end of quarter $T$ . See Cremers and Petajisto (2009) and Petajisto (2013) for the construction methodology. This variable is expressed in pp.
$ HoldingHorizon_{jT}$	First, for each stock $i$ in fund $j$ 's portfolio at the end of quarter $T$ , 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.
$Flow_{jt}$	<p>The percentage flow for fund <math>j</math> in month <math>t</math> computed as</p> $\frac{TNA_{jt} - (1 + r_{jt})TNA_{jt-1}}{TNA_{jt-1}}$ <p>where <math>TNA_{jt}</math> is the dollar total net assets of fund <math>j</math> at the end of month <math>t</math> and <math>r_{jt}</math> is fund <math>j</math>'s gross return over month <math>t</math>. This variable is expressed in pp.</p>

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



## Table 1. Data statistics

This table shows summary statistics (Panel A) and sample composition statistics (Panel B) for our main sample which contains 208 managers. Basic information on managers' careers and education is obtained from Morningstar/FactSet and Lexis Personal Records and is complemented with university records. Managers' parents' household data is from the 1940 Census records. Tract-level demographic data are based on 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 2.

### 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	1937.2	8.0	1930.0	1935.0	1939.0	1942.0	1944.0
Career length, years	13.4	9.3	3.92	6.25	11.46	19.13	26.25
Maximum (across years of career) assets managed, mil USD	4,240.65	24,915.57	42.75	128.20	625.08	1,749.82	6,421.21
<i>Manager's educational institution (as of 1979, unless stated otherwise)</i>							
University stand. score rank (SAT, 2004)	84.8	14.1	64.0	77.0	90.0	97.0	98.0
University stand. score (median ACT, 2004)	27.58	3.01	23.50	25.00	28.00	30.50	31.00
University size (undergraduate enrollment)	9,837	9,479	1,587	3,061	6,480	12,709	25,019
University tuition	3,229	1,925	702	950	3,605	4,950	5,550
Admission rate	54.8%	26.0%	22.6%	27.3%	55.8%	80.0%	86.1%
<i>Manager's household (household census data, 1940)</i>							
Home value	10,570	9,665	1,950	4,700	7,750	15,000	21,500
Monthly rent	45.32	38.45	13.00	25.00	38.00	50.00	70.00
Number of siblings	1.00	1.47	0.0	0.0	0.0	2.0	2.0
Number of servants	0.10	0.42	0.0	0.0	0.0	0.0	0.0
Father							
Year of birth	1905.5	10.9	1890.0	1901.0	1908.0	1913.0	1918.0
Income	2273.6	1397.9	600.0	1200.0	2000.0	3200.0	5000.0
Years of education	11.8	4.3	7.0	9.0	12.0	16.0	16.0
Mother							
Year of birth	1908.9	9.5	1896.0	1905.0	1911.0	1915.0	1919.0
Income	138.9	344.0	0	0	0	0	820
Years of education	11.7	3.6	8.0	10.0	12.0	14.0	16.0

## Panel A, continued

### *Tract-level demographics (Census 1940 Bogue files)*

Median home value	5,210	2,753	2,123	3,816	5,026	6,072	9,070
Median rent, contract	38.10	12.29	17.73	30.51	39.12	46.57	52.71
Median rent, gross	43.81	12.26	27.53	35.76	45.55	51.07	58.29
Fraction of population without school education	4.7%	7.9%	0.2%	0.5%	1.2%	3.9%	14.5%
Fraction of population with college education	15.7%	12.8%	2.7%	3.8%	11.3%	24.6%	35.1%
Median education years	9.8	2.1	7.5	8.2	8.9	12.1	12.6
Fraction of population with paid employment	75.4%	8.1%	62.9%	71.9%	77.6%	80.8%	83.8%

### *Managed funds' characteristic*

Monthly return	0.98%	5.10%	-4.89%	-1.72%	1.26%	3.91%	6.69%
Monthly return volatility	4.80%	1.83%	2.62%	3.52%	4.60%	5.76%	6.99%
Monthly alpha	-0.05%	2.02%	-2.18%	-1.01%	-0.05%	0.89%	2.03%
End-of-quarter TNA, mil USD	1,054.26	4,693.80	10.77	34.25	126.55	562.95	2,020.11
End-of-quarter family TNA, mil USD	13,235.05	41,801.29	24.57	139.94	1,235.43	6,881.88	30,812.62
End-of-quarter number of holdings	81.3	68.8	29.0	38.0	59.0	100.0	158.0

## 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%
Finance-related field	92.25%	<i>Employment (household census data)</i>		Mid Blend	3.89%	
Technical 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 2. Panel C shows mean and median values for some variables of interest for each quintile of the managers' parents' income distribution. Exact variable construction methodologies are detailed in Appendix 3.

**Panel A. Household and tract characteristics**

	Father's income	Parents' 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	0.813	0.337	0.736	-0.206	0.117	0.194	0.282	0.156	0.427	0.427	0.337	0.337
Parents' income	0.813	1.000	0.112	0.563	-0.184	0.152	0.226	0.214	0.150	0.376	0.389	0.144	0.156
Home value	0.337	0.112	1.000		-0.027	0.544	-0.341	0.041	-0.042	-0.025	-0.017	0.291	0.118
Rent	0.736	0.563		1.000	-0.050	0.695	-0.014	0.201	0.108	0.380	0.380	0.384	0.287
Number of siblings	-0.206	-0.184	-0.027	-0.050	1.000	0.032	-0.221	-0.208	-0.209	-0.103	-0.110	-0.045	-0.065
Number of servants	0.117	0.152	0.544	0.695	0.032	1.000	-0.167	-0.018	-0.049	0.153	0.146	0.242	0.042
Home value, tract median	0.194	0.226	-0.341	-0.014	-0.221	-0.167	1.000	0.629	0.591	0.235	0.232	-0.123	0.189
Contract rent, tract median	0.282	0.214	0.041	0.201	-0.208	-0.018	0.629	1.000	0.975	0.206	0.277	0.073	0.103
Gross rent, tract median	0.156	0.150	-0.042	0.108	-0.209	-0.049	0.591	0.975	1.000	0.147	0.225	0.052	0.009
Father's years of education	0.427	0.376	-0.025	0.380	-0.103	0.153	0.235	0.206	0.147	1.000	0.952	0.169	0.064
Parents' years of education	0.427	0.389	-0.017	0.380	-0.110	0.146	0.232	0.277	0.225	0.952	1.000	0.186	0.117
Finance-related employment	0.337	0.144	0.291	0.384	-0.045	0.242	-0.123	0.073	0.052	0.169	0.186	1.000	0.380
Managerial employment	0.337	0.156	0.118	0.287	-0.065	0.042	0.189	0.103	0.009	0.064	0.117	0.380	1.000

**Panel B. Household characteristics and managers' education**

	Father's income	Parents' income	Home value	Rent	Father's educ.	Parents' educ.	Finance emp.	Manag. emp.	Graduate	PhD	MBA	Private	Ivy League	Tuition	Adm. rate	ACT, median	SAT, rank	Finance field	Techn. field	Psych. field
Father's income	1.000	0.813	0.337	0.736	0.427	0.427	0.337	0.337	-0.116	-0.097	-0.093	0.305	0.322	0.401	-0.310	0.378	0.348	0.070	-0.132	0.081
Parents' income	0.813	1.000	0.112	0.563	0.376	0.389	0.144	0.156	-0.127	-0.016	-0.094	0.300	0.236	0.339	-0.276	0.333	0.273	0.056	-0.001	0.083
Home value	0.337	0.112	1.000		-0.025	-0.017	0.291	0.118	-0.240	-0.200	-0.227	0.216	0.183	0.319	-0.392	0.411	0.381	-0.173	-0.102	
Rent	0.736	0.563		1.000	0.380	0.380	0.384	0.287	-0.136	-0.032	-0.117	0.322	0.531	0.412	-0.331	0.428	0.387	0.075	-0.009	-0.013
Father's years of education	0.427	0.376	-0.025	0.380	1.000	0.952	0.169	0.064	0.046	-0.188	-0.017	0.188	0.226	0.311	-0.244	0.281	0.295	0.001	-0.225	-0.002
Parents' years of education	0.427	0.389	-0.017	0.380	0.952	1.000	0.186	0.117	0.023	-0.188	-0.041	0.214	0.218	0.318	-0.230	0.322	0.333	0.004	-0.245	0.003
Finance-related employment	0.337	0.144	0.291	0.384	0.169	0.186	1.000	0.380	-0.125	-0.018	-0.111	0.143	0.179	0.202	-0.168	0.204	0.199	0.050	-0.060	-0.061
Managerial employment	0.337	0.156	0.118	0.287	0.064	0.117	0.380	1.000	-0.136	-0.083	-0.216	-0.056	0.072	-0.018	0.008	0.068	0.060	-0.038	0.037	-0.036
Has graduate degree	-0.116	-0.127	-0.240	-0.136	0.046	0.023	-0.125	-0.136	1.000	0.128	0.685	-0.020	-0.105	-0.040	0.051	0.014	-0.051	0.144	0.049	0.050
Has PhD	-0.097	-0.016	-0.200	-0.032	-0.188	-0.188	-0.018	-0.083	0.128	1.000	-0.099	-0.047	-0.085	-0.076	0.195	-0.100	-0.057	-0.113	0.487	0.299
Has MBA	-0.093	-0.094	-0.227	-0.117	-0.017	-0.041	-0.111	-0.216	0.685	-0.099	1.000	-0.002	0.002	-0.060	-0.010	0.005	-0.074	0.487	-0.082	-0.083
Private university	0.305	0.300	0.216	0.322	0.188	0.214	0.143	-0.056	-0.020	-0.047	-0.002	1.000	0.295	0.832	-0.408	0.472	0.381	-0.120	-0.088	0.082
Ivy League university	0.322	0.236	0.183	0.531	0.226	0.218	0.179	0.072	-0.105	-0.085	0.002	0.295	1.000	0.465	-0.447	0.465	0.413	0.039	-0.137	0.124
Tuition	0.401	0.339	0.319	0.412	0.311	0.318	0.202	-0.018	-0.040	-0.076	-0.060	0.832	0.465	1.000	-0.614	0.683	0.632	-0.105	-0.144	0.112
Admission rate	-0.310	-0.276	-0.392	-0.331	-0.244	-0.230	-0.168	0.008	0.051	0.195	-0.010	-0.408	-0.447	-0.614	1.000	-0.795	-0.716	0.103	0.018	-0.021
ACT, median	0.378	0.333	0.411	0.428	0.281	0.322	0.204	0.068	0.014	-0.100	0.005	0.472	0.465	0.683	-0.795	1.000	0.952	-0.167	-0.024	0.125
SAT, rank	0.348	0.273	0.381	0.387	0.295	0.333	0.199	0.060	-0.051	-0.057	-0.074	0.381	0.413	0.632	-0.716	0.952	1.000	-0.039	-0.112	0.105
Finance-related field	0.070	0.056	-0.173	0.075	0.001	0.004	0.050	-0.038	0.144	-0.113	0.487	-0.120	0.039	-0.105	0.103	-0.167	-0.039	1.000	-0.105	-0.198
Technical field	-0.132	-0.001	-0.102	-0.009	-0.225	-0.245	-0.060	0.037	0.049	0.487	-0.082	-0.088	-0.137	-0.144	0.018	-0.024	-0.112	-0.105	1.000	-0.041
Psychology field	0.081	0.083		-0.013	-0.002	0.003	-0.061	-0.036	0.050	0.299	-0.083	0.082	0.124	0.112	-0.021	0.125	0.105	-0.198	-0.041	1.000



**Panel C. Parents' income quintiles**

	Q1		Q2		Q3		Q4		Q5	
	mean	median	mean	median	mean	median	mean	median	mean	median
Parents' income	414.1	500.0	899.0	900.0	1,290.0	1,250.3	1,931.7	1,950.0	3,219.4	3,000.0
Annualized alpha	-0.37%	-0.12%	0.02%	-0.13%	-0.36%	-0.75%	-1.10%	-1.07%	-0.66%	-0.53%
Parents' years of education	10.25	10.50	10.93	12.00	11.75	12.25	13.23	14.00	14.07	14.00
Has grad. degree, indicator	0.60	1.00	0.78	1.00	0.70	1.00	0.81	1.00	0.46	0.00
Has PhD, indicator	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.00	0.00	0.00
Has MBA, indicator	0.52	1.00	0.64	1.00	0.45	0.00	0.67	1.00	0.32	0.00
Private university, indicator	0.36	0.00	0.83	1.00	0.61	1.00	0.71	1.00	0.88	1.00
Ivy League university, indicator	0.08	0.00	0.09	0.00	0.04	0.00	0.29	0.00	0.33	0.00
Tuition	2,231	1,000	2,971	2,880	2,960	2,850	3,633	4,375	4,167	4,825
Admission rate	65.78%	73.65%	65.01%	76.18%	58.54%	71.80%	46.10%	36.25%	48.36%	39.70%
ACT, median	26.29	25.50	26.08	25.50	27.25	28.00	28.56	28.75	28.83	29.00
SAT, rank	79.8	79.0	78.5	80.0	82.8	87.0	87.7	92.0	90.3	95.0

**Table 3. Parents' household wealth and performance of fund managers**

Panel A of this table shows the results from the regressions of the funds' four-factor monthly alphas (*Alpha*, expressed in pp) on the measures of the managers' parents' household wealth as of the time of the Census and a set of controls. *FatherIncome* (annual) and *ParentsIncome* (annual) are measured in \$000 while *Rent/HomeValue Rank* is the percentile rank of either *Rent* or *HomeValue* (defined on non-overlapping sub-samples) in the sample. Panel B shows the results from the regressions of *Alpha* on the percentile rank of *ParentsIncome* and the dummy variables indicating *ParentsIncome* quintiles. The control variables capture the manager's characteristics, his/her parents' education depth and employment type, as well as key mutual fund and fund family characteristics. All the control variables are measured as of the end of the month before the observation month. Exact variable definitions are given in Appendix 3. 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 wealth measures**

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>
	<i>HHWealth: (is proxied for by) FatherIncome</i>			<i>HHWealth: (is proxied for by) ParentsIncome</i>			<i>HHWealth: (is proxied for by) Rent/HomeValue Rank</i>		
<i>HHWealth</i>	-0.0325** (-2.41)	-0.0426*** (-2.99)	-0.0555*** (-3.10)	-0.0312** (-2.10)	-0.0468*** (-2.84)	-0.0535** (-2.50)	-0.0010* (-1.87)	-0.0013** (-2.40)	-0.0014*** (-2.71)
<i>FundSize</i>	-0.0680*** (-3.82)	-0.0739*** (-3.73)	-0.0747*** (-3.63)	-0.0649*** (-3.69)	-0.0703*** (-3.63)	-0.0713*** (-3.52)	-0.0618*** (-3.78)	-0.0648*** (-3.71)	-0.0652*** (-3.49)
<i>FundAge</i>	0.0054** (2.23)	0.0053* (1.92)	0.0054* (1.89)	0.0051** (2.10)	0.0052* (1.86)	0.0052* (1.80)	0.0036* (1.90)	0.0045** (2.25)	0.0043** (2.14)
<i>ManagerAge</i>	0.0027 (0.75)	0.0034 (0.85)	0.0056 (1.36)	0.0002 (0.05)	-0.0002 (-0.04)	0.0017 (0.43)	-0.0014 (-0.57)	-0.0001 (-0.05)	-0.0013 (-0.42)
<i>FirmSize</i>	0.0477** (2.54)	0.0546** (2.55)	0.0512** (2.25)	0.0454** (2.42)	0.0525** (2.47)	0.0504** (2.22)	0.0584*** (3.76)	0.0598*** (3.45)	0.0606*** (3.31)
<i>LogFirmNFunds</i>	-0.0472* (-1.84)	-0.0657** (-2.35)	-0.0644** (-2.19)	-0.0427* (-1.67)	-0.0621** (-2.25)	-0.0619** (-2.11)	-0.0614*** (-2.75)	-0.0719*** (-2.96)	-0.0737*** (-2.91)
<i>Volatility</i>	-0.0407*** (-2.69)	-0.0418*** (-2.62)	-0.0353** (-2.12)	-0.0398** (-2.58)	-0.0404** (-2.50)	-0.0342** (-2.03)	-0.0443*** (-3.35)	-0.0343*** (-2.72)	-0.0291** (-2.21)
<i>Skewness</i>	0.0010** (2.44)	0.0009** (2.07)	0.0008* (1.91)	0.0010** (2.47)	0.0009** (2.08)	0.0008* (1.89)	0.0013*** (3.62)	0.0011*** (3.09)	0.0012*** (3.09)
<i>HasGraduate</i>		0.0353 (0.80)	0.0357 (0.78)		0.0280 (0.62)	0.0277 (0.59)		0.0345 (0.93)	0.0344 (0.92)
<i>HasMBA</i>		-0.0529 (-1.35)	-0.0452 (-1.13)		-0.0515 (-1.31)	-0.0503 (-1.22)		-0.0408 (-1.24)	-0.0463 (-1.39)
<i>AdmissionRate</i>		-0.0460 (-0.67)	-0.0399 (-0.54)		-0.0302 (-0.45)	-0.0152 (-0.22)		-0.0197 (-0.36)	-0.0417 (-0.76)
<i>ParYearsEdu</i>			0.0110 (1.17)			0.0082 (0.92)			-0.0045 (-0.87)
<i>FinanceRelated</i>			0.0214 (0.58)			0.0048 (0.13)			0.0631* (1.72)
<i>Managerial</i>			-0.0031 (-0.05)			-0.0405 (-0.68)			-0.0178 (-0.47)
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.	17,217	15,343	14,827	17,217	15,343	14,827	21,537	19,358	18,619
Adj R-sq	0.0146	0.0150	0.0145	0.0145	0.0149	0.0144	0.0160	0.0163	0.0161

**Panel B. Parents' income, relative**

	Dependent variable				Dependent variable		
	<i>Alpha</i>	<i>Alpha</i>	<i>Alpha</i>		<i>Alpha</i>	<i>Alpha</i>	<i>Alpha</i>
<i>Indep. variables</i>				<i>Indep. variables</i>			
<i>ParentsIncomeRank</i>	-0.0012** (-2.23)	-0.0017*** (-3.06)	-0.0020*** (-2.88)	<i>ParentsIncomeQ2</i>	0.0353 (0.79)	0.0057 (0.11)	0.0136 (0.24)
				<i>ParentsIncomeQ3</i>	-0.0667 (-1.38)	-0.0642 (-1.27)	-0.0767 (-1.48)
				<i>ParentsIncomeQ4</i>	-0.0794* (-1.72)	-0.1156** (-2.28)	-0.1266** (-2.24)
				<i>ParentsIncomeQ5</i>	-0.0562 (-1.12)	-0.1086** (-2.04)	-0.1287* (-1.91)
<i>FundSize</i>	-0.0654*** (-3.72)	-0.0712*** (-3.66)	-0.0721*** (-3.56)	<i>FundSize</i>	-0.0674*** (-3.75)	-0.0731*** (-3.65)	-0.0748*** (-3.56)
<i>FundAge</i>	0.0052** (2.11)	0.0052* (1.86)	0.0053* (1.82)	<i>FundAge</i>	0.0053** (2.17)	0.0051* (1.82)	0.0054* (1.83)
<i>ManagerAge</i>	0.0006 (0.16)	0.0009 (0.23)	0.0027 (0.68)	<i>ManagerAge</i>	0.0000 (0.00)	0.0003 (0.08)	0.0013 (0.31)
<i>FirmSize</i>	0.0459** (2.46)	0.0537** (2.55)	0.0512** (2.30)	<i>FirmSize</i>	0.0437** (2.40)	0.0549*** (2.66)	0.0522** (2.41)
<i>LogFirmNFunds</i>	-0.0438* (-1.73)	-0.0639** (-2.36)	-0.0622** (-2.18)	<i>LogFirmNFunds</i>	-0.0424* (-1.74)	-0.0656** (-2.44)	-0.0635** (-2.24)
<i>Volatility</i>	-0.0404*** (-2.64)	-0.0407** (-2.52)	-0.0348** (-2.07)	<i>Volatility</i>	-0.0431*** (-2.78)	-0.0423** (-2.58)	-0.0366** (-2.13)
<i>Skewness</i>	0.0010** (2.46)	0.0009** (2.08)	0.0008* (1.90)	<i>Skewness</i>	0.0010** (2.42)	0.0009** (2.09)	0.0008* (1.90)
<i>HasGraduate</i>		0.0461 (1.02)	0.0466 (0.99)	<i>HasGraduate</i>		0.0454 (0.98)	0.0424 (0.86)
<i>HasMBA</i>		-0.0608 (-1.52)	-0.0586 (-1.40)	<i>HasMBA</i>		-0.0674 (-1.61)	-0.0634 (-1.46)
<i>AdmissionRate</i>		-0.0318 (-0.48)	-0.0117 (-0.17)	<i>AdmissionRate</i>		-0.0154 (-0.22)	0.0082 (0.11)
<i>ParYearsEdu</i>			0.0089 (1.01)	<i>ParYearsEdu</i>			0.0082 (0.96)
<i>FinanceRelated</i>			0.0068 (0.19)	<i>FinanceRelated</i>			0.0193 (0.49)
<i>Managerial</i>			-0.0307 (-0.51)	<i>Managerial</i>			-0.0285 (-0.46)
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.	17,217	15,343	14,827	Num. obs.	17,217	15,343	14,827
Adj R-sq	0.0145	0.0150	0.0144	Adj R-sq	0.0145	0.0148	0.0143

**Table 4. Parents' income and performance of fund managers, alternative measures**

This table shows the results from the regressions of alternative measures of fund performance on the managers' parents' income (in \$000) and a set of controls. *GrossAlpha* is computed as the fund's abnormal gross return over the return predicted by the four-factor model, *BenchmarkAdjReturn* is the fund's return net of the prospectus benchmark index return, *AbnRetOverBenchmark* is the fund's abnormal return over 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) at the end of the previous month. The control variables capture the manager's characteristics, his/her parents' education depth and employment type, as well as key mutual fund and fund family characteristics. All the control variables are measured as of the end of the month before the observation month. Exact variable definitions are given in Appendix 3. 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.

	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>AbnRet Over Benchmark</i>	<i>AbnRet Over Benchmark</i>	<i>Value Extracted</i>	<i>Value Extracted</i>
Indep. variables								
<i>ParentsIncome</i>	-0.0474*** (-2.78)	-0.0516** (-2.36)	-0.0457** (-2.04)	-0.0681*** (-2.68)	-0.0342 (-1.62)	-0.0489** (-2.10)	-2.2587* (-1.93)	-2.4418* (-1.84)
<i>FundSize</i>	-0.0732*** (-3.83)	-0.0747*** (-3.74)	-0.0588*** (-2.87)	-0.0532** (-2.50)	-0.0723*** (-3.68)	-0.0693*** (-3.42)	0.6130 (0.43)	0.8306 (0.55)
<i>FundAge</i>	0.0047* (1.74)	0.0047* (1.67)	0.0012 (0.35)	0.0009 (0.28)	0.0037 (1.18)	0.0032 (1.06)	0.2914* (1.85)	0.2900* (1.92)
<i>ManagerAge</i>	-0.0010 (-0.26)	0.0009 (0.25)	0.0026 (0.55)	0.0076 (1.62)	0.0058 (1.54)	0.0098** (2.10)	-0.0373 (-0.14)	0.1158 (0.44)
<i>FirmSize</i>	0.0470** (2.22)	0.0460** (2.04)	0.0282 (1.25)	0.0179 (0.73)	0.0316 (1.42)	0.0250 (1.04)	4.1557** (2.06)	3.9527** (1.98)
<i>LogFirmNFunds</i>	-0.0568** (-2.06)	-0.0576* (-1.97)	-0.0228 (-0.57)	-0.0093 (-0.21)	-0.0205 (-0.60)	-0.0091 (-0.24)	-7.1800* (-1.78)	-6.9141* (-1.71)
<i>Volatility</i>	-0.0372** (-2.32)	-0.0312* (-1.87)	-0.0093 (-0.33)	-0.0022 (-0.08)	-0.0776*** (-3.55)	-0.0698*** (-3.26)	-2.7428** (-2.20)	-3.0061** (-2.17)
<i>Skewness</i>	0.0008* (1.84)	0.0007 (1.64)	0.0012** (2.09)	0.0012** (2.03)	0.0016*** (2.80)	0.0016*** (2.93)	-0.0426 (-1.56)	-0.0490* (-1.70)
<i>HasGraduate</i>	0.0243 (0.53)	0.0247 (0.52)	0.0223 (0.39)	0.0186 (0.33)	0.0204 (0.38)	0.0205 (0.37)	2.3486 (0.88)	2.8366 (1.14)
<i>HasMBA</i>	-0.0584 (-1.48)	-0.0592 (-1.41)	-0.0095 (-0.20)	-0.0146 (-0.31)	-0.0124 (-0.26)	-0.0135 (-0.29)	0.1644 (0.06)	0.4680 (0.16)
<i>AdmissionRate</i>	-0.0476 (-0.72)	-0.0326 (-0.47)	-0.2416*** (-3.01)	-0.2041** (-2.51)	-0.2097*** (-2.90)	-0.1754** (-2.39)	-20.3734** (-2.15)	-19.0568** (-2.13)
<i>ParYearsEdu</i>		0.0064 (0.72)		0.0168** (2.14)		0.0135* (1.76)		0.2596 (0.53)
<i>FinanceRelated</i>		-0.0031 (-0.08)		-0.0039 (-0.07)		-0.0061 (-0.12)		-6.8908 (-1.46)
<i>Managerial</i>		-0.0448 (-0.76)		-0.0639 (-0.70)		-0.0488 (-0.56)		6.5063 (1.46)
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.	15,338	14,822	14,940	14,433	14,756	14,264	14,940	14,433
Adj R-sq	0.0155	0.0149	0.0142	0.0141	0.0149	0.0148	0.0052	0.0052

**Table 5. Parents' income and measures of fund management activity**

This table shows the results from the tests that relate measures of fund management activity to the managers' parents' incomes. The activity measures capture the variation in the fund's daily returns which cannot be explained by the CRSP value-weighted index and style dummies (*MarketDeviation*), the fraction of the portfolio that is new relative to the previous quarter (*Turnover*, measured in pp), the Herfindahl portfolio concentration measure (*PortfolioConcentration*), the fraction of the portfolio that deviates from the benchmark weights (*ActiveShare*, measured in pp), and the average duration in months that the shares are held in the fund's portfolio ( *HoldingHorizon*, based on the FIFO approach to purchases and sales). The control variables reflect the manager's characteristics, his/her parents' education depth and employment type, as well as key mutual fund and fund family characteristics. All the control variables are measured as of the end of the previous quarter. Exact variable definitions are given in Appendix 3. 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.

	Dependent variable		Dependent variable		Dependent variable		Dependent variable		Dependent variable	
	<i>Market Deviation</i>	<i>Market Deviation</i>	<i>Turnover</i>	<i>Turnover</i>	<i>Portfolio Conc.</i>	<i>Portfolio Conc.</i>	<i>Active Share</i>	<i>Active Share</i>	<i>Holding Horizon</i>	<i>Holding Horizon</i>
<b>Indep. variables</b>										
<i>ParentsIncome</i>	0.0290* (1.79)	0.0224 (1.12)	-4.8029** (-2.52)	-3.7226* (-1.66)	-0.2088 (-1.39)	-0.2178 (-1.18)	1.3869 (1.28)	-0.3467 (-0.24)	0.1101 (0.13)	-0.3405 (-0.29)
<i>FundSize</i>	-0.0097 (-0.76)	-0.0037 (-0.25)	-4.5122* (-1.93)	-4.6434 (-1.62)	-0.1673* (-1.82)	-0.0011 (-0.01)	-1.9709** (-2.43)	-1.8760** (-2.50)	2.4974*** (3.69)	2.9005*** (3.88)
<i>FundAge</i>	0.0007 (0.38)	0.0009 (0.43)	-0.6253* (-1.86)	-0.6608* (-1.76)	0.0087 (0.43)	-0.0120 (-0.68)	0.0337 (0.25)	0.0808 (0.63)	0.5493*** (3.73)	0.5457*** (3.39)
<i>ManagerAge</i>	-0.0019 (-0.54)	0.0005 (0.12)	-1.4992*** (-3.23)	-1.1274* (-1.80)	0.0660*** (2.63)	0.0952*** (3.22)	0.1006 (0.57)	0.1978 (1.03)	0.3011 (1.45)	0.2912 (1.05)
<i>FirmSize</i>	-0.0131 (-1.00)	-0.0263* (-1.67)	-0.2662 (-0.12)	-0.3569 (-0.13)	-0.0388 (-0.40)	-0.1679* (-1.94)	-0.9343 (-1.21)	-1.4280* (-1.68)	-0.9272 (-1.28)	-1.4344* (-1.83)
<i>LogFirmNFunds</i>	0.0103 (0.44)	0.0271 (1.10)	1.5488 (0.59)	1.1382 (0.38)	-0.0282 (-0.17)	-0.0335 (-0.23)	0.5938 (0.45)	1.1481 (0.82)	-0.9557 (-0.78)	-0.4908 (-0.37)
<i>ParYearsEdu</i>	-0.0833* (-1.90)	-0.0657 (-1.55)	-27.7440*** (-4.05)	-24.8844*** (-3.55)	-0.7475** (-2.00)	-0.7577** (-2.58)	-5.2679* (-1.67)	-4.9976* (-1.69)	8.1570** (2.25)	7.4497** (2.34)
<i>HasGraduate</i>	0.0744 (1.32)	0.0843 (1.56)	18.7895*** (2.75)	15.4285** (2.22)	0.1934 (0.48)	0.0633 (0.18)	4.3748 (1.23)	4.9767 (1.43)	-3.4810 (-0.92)	-2.4868 (-0.73)
<i>HasMBA</i>	-0.1898** (-2.62)	-0.2441*** (-3.36)	-15.1713 (-1.55)	-15.3217 (-1.42)	-0.0531 (-0.11)	-0.1364 (-0.30)	-10.6297*** (-2.89)	-9.2846*** (-2.70)	-5.0423 (-1.18)	-4.3061 (-0.98)
<i>AdmissionRate</i>		0.0049 (0.73)		0.1402 (0.13)		0.1495*** (2.78)		0.8920* (1.95)		0.5668* (1.83)
<i>FinanceRelated</i>		-0.0913** (-2.09)		-9.2383 (-1.64)		-0.0542 (-0.21)		0.7348 (0.34)		2.7779 (0.66)
<i>Managerial</i>		0.1047** (2.62)		-3.5466 (-0.59)		-0.4660 (-1.47)		1.6989 (0.63)		-0.5459 (-0.19)
Time F.E.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Fund style F.E.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Num. obs.	1,907	1,766	2,058	1,910	2,058	1,910	1,923	1,868	2,838	2,663
Adj R-sq	0.4585	0.4807	0.1103	0.1132	0.2161	0.2865	0.5197	0.5254	0.4657	0.4729

**Table 6. Goldfeld-Quandt test for heteroscedasticity due to selection on parents' income**

This table shows the output of the Goldfeld-Quandt test for the directional heteroscedasticity induced by *ParentsIncome*. The sample of managers is split into high and low sub-samples of *ParentsIncome* for which the residual variance of *Alpha* is compared. Different splits are considered. In the middle (last) specification the middle quintile (tercile) is dropped from the analysis.

Independent variables	Statistics	Specification		
		Top half v Bottom half	Top two-fifths v Bottom two-fifths	Top one-third v Bottom one-third
Constant only	Variance, top <i>ParentsIncome</i> sub-sample	4.27%	4.34%	4.56%
	Variance, bottom <i>ParentsIncome</i> sub-sample	3.98%	4.20%	4.18%
	F-statistic [p-value]	1.074 [0.000]	1.033 [0.076]	1.093 [0.000]
<i>ParentsIncome</i> and controls	Residual variance, top <i>ParentsIncome</i> sub-sample	4.21%	4.61%	4.99%
	Residual variance, bottom <i>ParentsIncome</i> sub-sample	3.89%	4.10%	3.88%
	F-statistic [p-value]	1.082 [0.000]	1.125 [0.000]	1.285 [0.000]

**Table 7. Parents' income and managers' promotion-performance sensitivity**

This table presents the results from the linear probability regressions of the manager's promotion dummies on his/her past performance, his/her parents' income at the time of the Census, 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 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 measured as of the end of the month before the observation month. Exact variable definitions are given in Appendix 3. 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>	
<b>Indep. variables</b>					<b>Indep. variables</b>					
<i>ParentsIncome</i>	0.0002 (0.25)	0.0001 (0.11)	0.0008 (1.21)	0.0003 (0.69)	<i>ParentsIncome</i>	0.0003 (0.36)	0.0002 (0.22)	0.0009 (1.39)	0.0004 (0.83)	
<i>Past3YearGAlpha</i>	0.0005 (0.20)	0.0000 (0.00)	0.0036* (1.76)	0.0011 (0.98)	<i>Past5YearGAlpha</i>	0.0030 (1.16)	0.0026 (1.17)	0.0049** (2.06)	0.0014 (1.26)	
<i>ParentsIncome</i> *	-0.0029** (-2.13)	-0.0024** (-2.01)	-0.0026* (-1.77)	-0.0006 (-1.00)	<i>ParentsIncome</i> *	-0.0038** (-2.40)	-0.0032** (-2.31)	-0.0037** (-2.01)	-0.0010 (-1.45)	
<i>Past3YearGAlpha</i>	0.0008 (0.86)	0.0007 (0.78)	-0.0001 (-0.23)	0.0001 (0.31)	<i>FundSize</i>	0.0008 (0.90)	0.0007 (0.80)	-0.0001 (-0.19)	0.0001 (0.34)	
<i>FundSize</i>	-0.0001 (-1.01)	-0.0002 (-1.10)	0.0000 (0.03)	0.0000 (-0.63)	<i>FundAge</i>	-0.0001 (-1.00)	-0.0002 (-1.07)	0.0000 (-0.04)	0.0000 (-0.67)	
<i>FundAge</i>	-0.0003 (-1.63)	0.0000 (-0.04)	-0.0002** (-2.07)	-0.0002 (-1.58)	<i>ManagerAge</i>	-0.0003 (-1.61)	0.0000 (-0.03)	-0.0002** (-2.06)	-0.0002 (-1.58)	
<i>ManagerAge</i>	0.0008 (0.75)	0.0009 (0.86)	-0.0005 (-0.93)	-0.0006 (-1.12)	<i>FirmSize</i>	0.0008 (0.70)	0.0009 (0.80)	-0.0005 (-0.87)	-0.0005 (-1.09)	
<i>FirmSize</i>	0.0011 (0.66)	0.0008 (0.50)	0.0017* (1.85)	0.0015* (1.66)	<i>LogFirmNFunds</i>	0.0013 (0.72)	0.0010 (0.58)	0.0017* (1.80)	0.0015 (1.63)	
<i>LogFirmNFunds</i>	-0.0004 (-0.46)	-0.0006 (-0.75)	0.0001 (0.28)	0.0000 (-0.05)	<i>Volatility</i>	-0.0003 (-0.44)	-0.0006 (-0.72)	0.0002 (0.35)	0.0000 (-0.01)	
<i>Volatility</i>	0.0000 (0.80)	0.0000 (0.33)	0.0000 (-1.16)	0.0000 (-1.07)	<i>Skewness</i>	0.0000 (0.80)	0.0000 (0.33)	0.0000 (-1.14)	0.0000 (-1.06)	
<i>Skewness</i>	0.0044 (1.24)	0.0056 (1.51)	-0.0020 (-1.59)	-0.0018 (-1.42)	<i>HasGraduate</i>	0.0045 (1.25)	0.0056 (1.52)	-0.0019 (-1.55)	-0.0018 (-1.42)	
<i>HasGraduate</i>	-0.0035 (-1.04)	-0.0048 (-1.33)	0.0036*** (2.69)	0.0024* (1.86)	<i>HasMBA</i>	-0.0034 (-1.02)	-0.0046 (-1.29)	0.0035*** (2.73)	0.0024* (1.87)	
<i>HasMBA</i>	0.0007 (0.19)	0.0004 (0.10)	0.0011 (0.53)	-0.0002 (-0.10)	<i>AdmissionRate</i>	0.0006 (0.16)	0.0004 (0.11)	0.0008 (0.41)	-0.0002 (-0.13)	
<i>AdmissionRate</i>		0.0001 (0.15)		-0.0002 (-1.22)	<i>ParYearsEdu</i>		0.0001 (0.20)		-0.0002 (-1.22)	
<i>ParYearsEdu</i>		-0.0061** (-2.55)		0.0011 (0.62)	<i>FinanceRelated</i>		-0.0061** (-2.54)		0.0011 (0.64)	
<i>FinanceRelated</i>		0.0011 (0.30)		-0.0013 (-1.30)	<i>Managerial</i>		0.0010 (0.27)		-0.0014 (-1.37)	
<i>Managerial</i>	Time F.E.	YES	YES	YES	YES	Time F.E.	YES	YES	YES	YES
Time F.E.	Fund style F.E.	YES	YES	YES	YES	Fund style F.E.	YES	YES	YES	YES
Fund style F.E.	Num. obs.	11,496	11,321	10,434	10,292	Num. obs.	11,502	11,327	10,440	10,298
Num. obs.	Adj R-sq	0.0087	0.0087	0.0028	0.0026	Adj R-sq	0.0085	0.0086	0.0031	0.0026
Adj R-sq										

**Table 8. Parents' income and fund flows**

This table shows the results from the regressions of fund flows on the managers' parents' incomes and a set of control variables. *Flow* is expressed in pp and is computed as the dollar flow (the difference between the end-of-month fund TNA and the previous month's fund TNA multiplied by one plus the gross return of the fund over the month) divided by the last month's fund TNA. Exact variable definitions are given in Appendix 3. 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.

	Dependent variable		Dependent variable	
	<i>Flow</i>	<i>Flow</i>	<i>Flow</i>	<i>Flow</i>
Indep. variables				
<i>ParentsIncome</i>	-0.2794 (-1.01)	-0.5284 (-1.31)	-0.3150 (-1.32)	-0.4651 (-1.41)
<i>Past12MonthAlpha</i>			2.3839*** (3.30)	2.3877*** (3.28)
<i>FundSize</i>	-0.5104* (-1.76)	-0.5403* (-1.95)	-0.5458* (-1.95)	-0.5974** (-2.23)
<i>FundAge</i>	-0.0338 (-1.61)	-0.0313 (-1.41)	-0.0144 (-0.81)	-0.0126 (-0.70)
<i>ManagerAge</i>	-0.0329 (-0.97)	0.0603 (1.12)	-0.0360 (-1.22)	0.0475 (1.13)
<i>FirmSize</i>	0.8132** (2.29)	0.7787** (2.32)	0.7506** (2.37)	0.7526** (2.51)
<i>LogFirmNFunds</i>	-1.3883*** (-3.03)	-1.3584*** (-2.96)	-1.2874*** (-3.34)	-1.2739*** (-3.31)
<i>Volatility</i>	-0.2322** (-2.31)	-0.1957* (-1.92)	-0.1021 (-1.08)	-0.0789 (-0.84)
<i>Skewness</i>	0.0038 (0.95)	0.0033 (0.84)	0.0042 (1.23)	0.0038 (1.12)
<i>HasGraduate</i>	0.6789 (0.77)	0.7391 (0.85)	0.1314 (0.22)	0.2432 (0.46)
<i>HasMBA</i>	-0.0789 (-0.10)	-0.2251 (-0.28)	0.5731 (1.13)	0.3987 (0.84)
<i>AdmissionRate</i>	0.9043 (0.81)	1.2797 (1.09)	0.4454 (0.49)	0.7651 (0.81)
<i>ParYearsEdu</i>		0.1956* (1.98)		0.1203 (1.37)
<i>FinanceRelated</i>		-1.1779* (-1.80)		-1.1981** (-2.33)
<i>Managerial</i>		-0.1085 (-0.15)		-0.1115 (-0.19)
Time F.E.	YES	YES	YES	YES
Fund style F.E.	YES	YES	YES	YES
Num. obs.	5,525	5,493	5,435	5,406
Adj R-sq	0.0397	0.0431	0.0957	0.0991