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

Oleg Chuprinin

University of New South Wales
o.chuprinin@unsw.edu.au

Denis Sosyura

University of Michigan
dsosyura@umich.edu

Abstract

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

* For helpful comments, we thank Ian Appel, Brian Baugh, Alex Butler, John Crosby, Rawley Heimer, Joachim Inkmann, Yigitcan Karabulut, Lisa Kramer, Melissa Prado, Clemens Sialm, Johannes Stroebel, Boris Vallee, Jules van Binsbergen, Kelsey Wei, Scott Yonker, Eric Zitzewitz and Leon Zolotoy, and conference participants at the 2015 Nova-BPI Asset Management Conference, 2015 Miami Behavioral Finance Conference, 2015 Australasian Finance and Banking Conference, 2016 NBER Conference on New Developments in Long-Term Asset Management, 2016 Western Finance Association (WFA) Annual Meeting, 2016 NYU Stern and New York Fed Conference on Financial Intermediation, 2016 Society for Financial Studies (SFS) Finance Cavalcade, 2016 Arizona State University Sonoran Winter Conference, 2016 UNC-Jackson Hole Winter Finance Conference, 2016 University of Washington Summer Finance Conference, 2016 IDC Herzliya Conference in Financial Economics, 2016 Rotterdam Conference on Professional Asset Management, 2016 Fixed Income and Financial Institutions (FiFi) Conference, 2016 Mid-Atlantic Research Conference in Finance (MARC) and 2016 Melbourne Conference on Financial Institutions, Regulation and Corporate Governance, and seminar participants at Arizona State University, Boston College, Emory University, Maastricht University, Securities and Exchange Commission (SEC), Stockholm School of Economics, Tilburg University, University of Illinois Urbana-Champaign, University of Melbourne, University of Nebraska, University of Toronto, and University of Wisconsin at Milwaukee. Send correspondence to Denis Sosyura, Ross School of Business, 701 Tappan St., Ann Arbor, MI 48109; telephone: (734) 647-3308. E-mail: dsosyura@umich.edu.

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 and hardworking managers as their agents. Inferring managerial type ex ante is challenging. For example, the majority of CEOs at S&P1500 firms have no prior CEO experience. Yet, given the costs of replacing managers, this task is of first-order importance for economic outcomes in all public firms.

We provide evidence that public information about a manager's family descent serves as a powerful signal of managerial ability in professions with high barriers to entry. We exploit the fact that individuals are endowed with different opportunities at birth and, as a result, face different entry barriers into managerial roles. For example, some of those born rich can become managers without being skilled, with the help of their inherited status, wealth, or professional networks, as in the extreme case of the heirs of family-owned firms. In contrast, those born poor face higher barriers to entry into management, and only the relatively high types exceed them and advance in a selective profession.

Delegated asset management provides a convenient setting to test this selection mechanism. First, because this is a service industry requiring professional qualifications, barriers to entry are steep. Second, in contrast to industrial firms where decisions are made by dozens of managers and implemented by thousands of employees, fund managers 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 is typically unobservable. Finally, mutual funds account for over a half of financial wealth of the average household, and the performance of money managers affects the majority of U.S. investors, indicating a question of broad public interest.

This paper studies the relation between mutual fund managers' family descent and their professional performance. To identify managers' family characteristics, we hand-collect data on the households where the managers grew up by examining individual census records compiled by the National Archives. These records provide detailed information on the income, home value, and education of a manager's parents during his childhood, as well as other demographic characteristics.

We provide the first descriptive evidence on the family descent of investment managers and document a sizable variation in their social backgrounds. In general, fund managers come from well-to-do

families compared to the national or state benchmarks. The median income of managers' fathers is at the 87th percentile of the national distribution. The median value of a home where a fund manager grew up is 154% greater than the respective state median. At the same time, there is a wide variation in the managers' endowed family wealth. While the top quintile of managers sorted on parents' wealth come from ultra-rich families with the average income in the 99th national percentile, the bottom quintile come from families with incomes below the national average (42nd percentile). Furthermore, fund managers tend to come from well-educated families, and the wealth of the manager's parents predicts the type of education the manager receives. The median manager's father has six more years of education than the median adult male in the general population. Managers from wealthier families attend more expensive universities, and the tuition for the manager's college is monotonically increasing in family wealth. In contrast, managers from poor families are more likely to pursue graduate education and earn terminal degrees, the pattern consistent with differential barriers to entry.

Our main finding is that fund managers from wealthy families deliver significantly weaker performance than managers from less wealthy families. For example, managers from families in the top quintile of wealth underperform managers in the bottom quintile by up to 1.22% per year (significant at 1%) on the basis of the four-factor alpha. Similar results hold for alternative measures of performance, such as benchmark-adjusted fund returns and the dollar value extracted from capital markets, a measure developed in Berk and Van Binsbergen (2015) to accommodate diminishing returns to scale in investment.

Our analysis accounts for a comprehensive set of controls which proxy for the quality and type of the manager's education and demographics, his parents' education, and fund and management firm characteristics. While it is not feasible to control for all potentially relevant effects, most omitted variables, such as professional connections or access to information, should favor the outperformance of the rich. Therefore, such variables are unlikely to explain our results. Consistent with this view, we find that the performance gap between managers from wealthy and poor families gets bigger as additional controls are added to the regression. Likewise, the results are unlikely to be driven by differences in risk attitudes, since our analysis focuses on risk-adjusted performance. In addition, we control for fund return volatility and skewness in all the regressions. Although our main analysis is restricted to older managers due to census data constraints, we verify the robustness of the wealth-performance relation for younger

generations of managers using the university tuition as a noisy proxy for wealth. The negative relation persists in the general sample, albeit with a smaller magnitude and weaker statistical significance.

Next, we investigate whether the wealth signal is stronger in the presence of additional barriers to entry into asset management, as predicted by the selection mechanism. We exploit both cross-sectional and time-series variation in selection stringency. In particular, we investigate the effect of the manager's immigrant status and labor market conditions at the time of his career start. For managers descending from immigrant families, where both parents are born outside the U.S., the sensitivity of performance to wealth is stronger than in the general sample. For managers who begin their career in the mutual fund industry in years of high unemployment, the sensitivity of performance to wealth is also higher: it increases by 39% for every percentage point increase in the unemployment rate in the year of entry.

We study the mechanisms behind the documented performance gap and explore two non-mutually exclusive channels that may contribute to the performance differential: (i) effort and (ii) ability. The first channel posits that managers from poor backgrounds exert more effort because they obtain higher marginal utility from incentive pay under the assumption of a declining marginal utility of wealth. The second channel posits that managers from poor backgrounds have a higher innate ability, since only high-ability managers are able to overcome stringent selection.

Both channels are likely operative in our setting. Consistent with the effort channel, we find that managers from less wealthy families are more active on the job: they trade more frequently, have shorter holding horizons, and are less prone to herding. For example, an interquartile-range reduction in family wealth increases the fund's annual turnover by 4.5% relative to the average unconditional turnover in the sample. Next, we exploit an exogenous increase in managerial wealth from inheritances, proxied by deaths of wealthy parents. As predicted by the effort channel, the deaths of rich parents are followed by a weak decline in a manager's portfolio activity. This result holds after skipping a one-year window around the death events to account for distractions and grievance. At the same time, we find that the performance gap does not diminish with the managers' career progressions (as managers born poor accumulate personal wealth), suggesting that response to incentives alone cannot explain the performance differential. Overall, while both the effort and ability channels likely contribute to the performance gap, their effect is observationally equivalent from the perspective of an investor interested in total fund returns.

Next, we decompose investment performance into market timing and security selection, using the methods developed in Kacperczyk, Van Nieuwerburgh, and Veldkamp (2014). We find that the relative underperformance of the managers from wealthy families is concentrated in security selection. An interquartile-range decrease in family wealth improves the stock-picking component of fund returns by 39% relative to its unconditional mean. We find no difference in the market timing component of returns.

Overall, our evidence is consistent with the idea that managers endowed with family wealth face less stringent performance thresholds in their career progression.[1] In an analysis of managers' careers, we find that while strong performance increases promotion chances for all managers, this relation is significantly weaker for managers from wealthy families. In other words, managers born rich are more likely to be promoted for reasons unrelated to performance. An interquartile-range increase in family wealth nearly mutes the unconditional promotion-to-performance sensitivity. In contrast, the advancement of managers from poor families is strongly dependent on their performance.

In our final analysis, we test whether mutual fund investors infer managerial ability from managers' familial backgrounds and find little evidence that they do. Fund capital flows are only weakly negatively related to the manager's family wealth, and this effect is entirely subsumed by the effect of fund performance. It appears that fund investors are unlikely to incorporate incremental 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 contribute to research on (i) managerial characteristics that predict professional performance and (ii) the effect of endowed wealth and social status on an individual's career progression.

We add to a small number of papers in asset management that identify the characteristics of fund managers that predict their performance. So far, this literature has focused on the role of managers' education. Chevalier and Ellison (1999) find that fund managers who attended colleges with higher average SAT scores deliver superior risk-adjusted returns, and Li, Zhang, and Zhao (2011) find similar evidence for hedge funds. Cohen, Frazzini and Malloy (2008) show that fund managers' educational

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

networks yield valuable information that improves performance in connected stocks. Chaudhuri, Ivković, Pollet, and Trzcinka (2016) find that investment funds managed by PhD graduates deliver superior risk-adjusted performance and charge lower fees. In contrast to prior work, we show how an individual's endowed wealth serves as a screening mechanism of managerial quality. Our paper is among the first in the investment literature to emphasize the signaling of managerial quality based on selection.

We also extend the literature on the effect of an individual's 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 preferences for value or 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 households.

More broadly, our paper is related to the literature at the intersection of labor markets and social economics. A number of studies find that an individual's income and labor market success are, to a large extent, determined by his parents' income, revealing surprisingly low levels of inter-generational mobility in the U.S. (Mazumder 2005; Dahl and DeLeire 2008; Chetty et al. 2014). In a nationally representative sample, Reeves and Howard (2013) find that individuals born into rich families end up in high-income professions even if these individuals are of mediocre quality, as measured by tests of cognitive ability and intrinsic motivation. The authors find that 43% of those born into families in the top income quintile remain in the top quintile jobs against the predictions of ability scores and conclude: "Those born into more affluent families may be protected from falling by a 'glass floor,' even if they are only modestly skilled." Our paper demonstrates that such labor market frictions can affect important financial outcomes and the wealth of U.S. investors.

1. Data and sample construction

We begin our sample construction with the universe of U.S.-domiciled mutual funds covered by Morningstar in 1975-2012.[2] We include both defunct and active investment products (fund share classes), ensuring that any fund ever appearing in the Morningstar database during our time period is present in the initial sample. To ensure an equitable comparison basis for investment managers, we restrict our sample to domestic actively managed funds specializing in U.S. equity, thus excluding international funds, index funds, and funds specializing in bonds, commodities, and alternative asset classes.[3] To establish a clean correspondence between a fund manager's decisions and performance outcomes, we exclude funds that are always managed by a team of managers during our sample period. We also exclude observations in which the manager is linked to more than five funds (i.e., "figurehead" managers).

For each fund that passes the initial filters, we obtain its historical management data from Morningstar, which details the name of the manager and his starting and ending dates (months) in a fund. Patel and Sarkissian (2016) describe the Morningstar dataset in detail and explain its advantages with respect to fund manager records. To provide a sufficient period for evaluating managerial performance, we limit our sample to managers with at least 24 monthly return observations. For the 1,762 managers who pass these initial criteria, we initiate the data collection process described below.

First, we obtain managers' education and employment histories from their biographies in Morningstar and FactSet and verify them against the employment records in the Nelson's Directory of Investment Managers. We complement our data on managers' education with records from university alumni publications and archived university yearbooks available from ancestry.com. In some cases, when information about a manager's degree is missing, we contact the registrars of the university attended or the National Student Clearinghouse, a degree-verification service provider. We supplement this information with data on the quality of the educational institution (average SAT score of the entering class), its competitiveness (undergraduate acceptance rate), affordability (annual tuition), and elite status

[2] Even though some funds have return series dating back to 1960, the data on net assets are generally not available before 1975.
[3] This filter excludes index funds, funds whose U.S. Broad Asset Class is not "U.S. Stock", funds for which Morningstar equity style classification is not available, and funds that have sector restrictions or specialty focus (Global Category includes the word "Sector" or Prospectus Objective includes the word "Specialty").

(Ivy League indicator). This information is obtained from the College Handbook of the College Entrance Examination Board, and most variables are based on the 2004 edition due to superior data availability.[4]

Second, we match fund managers to the Lexis Nexis Public Records database (LNPR). This database aggregates information on nearly 500 million U.S. individuals (both alive and deceased) from sources such as birth and death records, property tax assessment records, voting records, and utility connection records. Prior research in finance has relied on this database to obtain personal data on fund managers (Pool, Stoffman, and Yonker 2012; Pool, Stoffman, Yonker, and Zhang 2016), corporate executives (Cronqvist, Makhija, and Yonker 2012; Yermack 2014), and financial journalists (Ahern and Sosyura 2015). All personal records in the database are linked to the individual's social security number (observable with the exception of the last four digits) and are assigned a unique ID. Using a manager's full name, age, and employment history, we establish reliable matches to LNPR for 1,670 (94.8%) of managers from the initial sample. Appendix 1.A details our matching and verification procedure. The 5.2% of unmatched managers are those who live abroad and do not have a social security number (funds delegated to a foreign subadvisor) and those who have the most common combinations of first and last names (e.g., Robert Jones or John Miller) and no other information to establish an unambiguous match.

Next, we proceed to the main stage in our data collection—extracting personal census records for the households where fund managers grew up. Our sample construction is guided by regulatory constraints imposed on disclosures of individual census records. The U.S. public law prohibits the release of individual decennial census records with personally identifiable information for 72 years after these records are collected (92 Stat. 915, Public Law 95-416; Oct. 5, 1978). Because of the 72-year moratorium, the latest decennial census with personally identifiable information available at the time of writing is the 1940 federal census (and any earlier censuses), which constitutes our main data source. Appendix 2 shows the census form presented to households and provides an example of a completed form.

To ensure that the census record provides an accurate reflection of a manager's endowed social status at birth, we restrict our sample to managers born in or before 1945. Thus, we allow for a maximum

[4] In the subsample of universities covered in both the 1979 and 2004 editions, the cross-sectional correlation between the corresponding variables consistently exceeds 85%, suggesting that measurements based on 2004 values remain valid in the cross-section of institutions. For example, the correlation between the median SAT score (undergraduate in-state tuition) of 1979 and 2004 is 86.5% (95.8%).

delay of five years between the measurement of family wealth and the manager's birth. This filter restricts the sample to 434 managers. After investigating the managers' backgrounds, we find that 18 of these managers were raised outside the U.S. and, as a result, their families were not covered in the U.S. census. After eliminating these cases, we end up with 416 managers with potential census records.

We follow a three-step algorithm to identify a manager's household in the census by sequentially checking three types of state records—birth, marriage, and death—for the manager and his relatives. To ensure a reliable match to the census, we require establishing a manager's parents and, in some cases, siblings. This criterion nearly eliminates the possibility of a spurious match, because the census record identified in this process contains the unique combination of the manager's parents and siblings who are further verified based on their year of birth. Appendix 1 describes how we identify the manager's parents and siblings and provides examples of birth, marriage, death, and obituary records used in the data collection. In our final step, we use the combination of the manager's parents and siblings to identify the family's record in the 1940 census (for a small subset of older managers, we also obtain the 1930 census records). We obtain the image file of the family's census record (shown in Appendix 2) from the digital archive maintained by the U.S. National Archives and Records Administration.

To compare fund managers' parents with other U.S. households, we use the Integrated Public Use Microdata Series (IPUMS)—the anonymized set of household census records. We use the IPUMS data to construct some auxiliary variables, such as education attainment percentiles and state-level statistics. We also obtain tract-level census data from the Elizabeth Bogue File, a dataset used extensively in social economics (e.g., Sugrue 1995; Elliott and Frickel 2013).[5] Tract-level records are available only for a subset of metropolitan areas and cover about one-third of our sample. For this reason, we use tract-level data for comparison and validation purposes but do not rely on them in our main analysis.

We are able to identify census records for 387 (93.0%) of the 416 managers that satisfy prior sample filters. The unmatched observations mainly result from transcription errors in the indexing of hand-written family names in the digital archive, which prevent us from being able to locate the record in the archive. We are able to recover some of the misindexed records by identifying the manager's

[5] 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.

residential address during the census in the archives of white page directories (which are typed and free of hand-writing issues) and then manually going through the manager's enumeration district in the census to extract the desired address. However, a full recovery of these observations is prohibitively costly. For a small number of observations, we are unable to locate the 1940 census record because the managers' parents were on an overseas trip (identified via vessel departure records) or on military duty abroad (identified via military enlistment records). Appendix 1.B summarizes the sequence of steps in the data collection process. Appendix 1.C provides examples of relevant records, and Appendix 1.D displays the sample construction cascade and indicates the number of managers retained at each stage.

Throughout the data collection process, we rely almost exclusively on the information in state and federal records. This approach serves two purposes. First, we verify the information about a manager's parents contained in the census (e.g., age, education level, professional occupation, immigrant status, etc.) in other state and federal records, such as military enlistment records and death records. Appendix 1.C shows examples of state death records for managers' parents and the information they provide. This verification process serves to double-check the census information and to ensure that it remains relevant beyond the census (e.g., if additional education is obtained, it is recorded).

Second, the reliance on state and federal records ensures an unbiased sample construction, where data availability and measurement error should not be correlated with managers' performance. We verify this pattern in Appendix 1.E which compares a wide array of characteristics between managers with available and missing census records. The two groups of managers are statistically indistinguishable across the main characteristics, including gross and net alphas, career length, educational attainment, and university tuition (one of the wealth proxies). The only difference we are able to detect (significant at 10%) is that managers with available census records are, on average, 2.3 years older than their counterparts with missing records. This difference arises because for some managers born after 1940, the parents' household had not formed by 1940, and the individual parents' records could not be located.

Our sample is economically important. It includes 619 unique funds and, in the median sample year (1994), accounts for 33.4% of all assets of solo-managed domestic equity funds. Our sample compares favorably with other studies on older fund managers, such as Grinblatt, Titman, and Wermers (1995) [274 funds] and Chevalier and Ellison (1997) [398 funds]. The size of our sample is also

comparable to that in some recent studies on fund managers, such as Hong and Kostovetsky (2012) [488 funds] and Pool, Stoffman, Yonker, and Zhang (2016) [778 funds].

We alert the reader that, because of the statutory constraints on data availability, our sample is restricted to older managers, and the results in the paper provide a more accurate description of the mutual fund industry before the new millennium. Given this focus, our paper provides evidence on the genesis of the industry and the managers that had a substantial influence on its development, an area where prior research is scarce. As the industry evolves in the future, changes in selection mechanisms may affect the empirical relations we document. In Section 6, we extend our analysis to the recent generations of fund managers and reexamine the relation between family wealth and managerial performance using a noisy proxy for endowed wealth available for younger managers.

Panel A of Table 1 reports summary statistics for managers and funds in our sample. The average manager is born in 1938, shortly before we measure the endowed family wealth. The average (median) managerial career, measured by the period between the manager's first and last appearance in the sample, is 13.0 (11.3) years. Most managers have strong educational backgrounds. The average (median) manager attended an undergraduate college with an SAT percentile rank of 82.5 (88.0). The average (median) college admission rate is 46.8% (43.5%), but this variable has a wide distribution: from the 10^{th} percentile of 13.0% to the 90^{th} percentile of 83.0%, suggesting large variation in the education quality. About 60% of managers hold MBA degrees and 4% hold PhD degrees. Approximately two-thirds of managers hold undergraduate degrees from private universities and 18% graduated from the Ivy League institutions.

Mutual fund statistics in our sample show patterns consistent with prior work. The distribution of fund size is right-skewed, with the mean assets size ($1,778 million) significantly greater than the median ($193.9 million). The average (median) monthly fund return is 0.99% (1.23%), reflecting a period of rapid stock market growth in 1975-2012. After adjusting for exposure to common risk factors (Section 3 provides the details), the average (median) fund manager earns a small positive gross four-factor alpha of 0.040% (0.030%) per month. After accounting for fees, the average (median) manager earns a negative net four-factor alpha of -0.054% (-0.057%) per month. These figures parallel prior evidence that fund managers as a group slightly outperform their benchmarks on a gross basis, but deliver negative net performance due to high fees (e.g., Gruber 1996; Barras, Scaillet, and Wermers 2010).

2. Descriptive and univariate evidence

2.1. Which families do fund managers come from?

Before proceeding with formal analysis, we document the descriptive evidence on the family descent of fund managers. To provide a comparative perspective, we juxtapose, where possible, their family characteristics with those of other households in the same census tract, state, or nationwide.

Table 1, Panel B shows summary statistics for the census data. Two conclusions emerge from these statistics. First, fund managers' families are, on average, relatively well-off compared to the general population. Second, there is a considerable variation of wealth and social status even within the sample. Managers' fathers report a median annual income of $2,000, which puts them at the 87th percentile of the national income distribution of adult males in 1940. Figure 1.A compares the sample and the national distributions graphically (the latter is based on the Census Labor Force summary files). Father income shows a wide dispersion: the 10th (90th) percentile in the sample is $700 ($5,000), corresponding to the 40th (99th) percentile of the general population. Home value and rent have similar distribution patterns. The median home value (rent) in the sample is $7,000 ($40), which is 233% (135%) higher than the median home value (rent) in the country. The 10th percentiles of home value and rent are close to the national medians, while the 90th percentiles are 14.3 and 9.7 times higher, respectively, than the national medians. About 16% of managers' households employ resident servants, who are recorded in the census by the general title of servant or by their job function, such as butler, cook, valet, or governess.

Managers generally come from well-educated families. The median father (mother) has 14 (12) years of education, which places them in the 92nd (81st) percentile of the national distribution for adult males (females). Figure 1.B compares the number of years of education between the managers' fathers and the general male population. About 56% of managers' fathers attended college, the number significantly higher than the 9.8% fraction of males with college education in 1940.

Comparing our main statistics to their tract-level counterparts reveals that managers' households are marginally more affluent that those of their immediate neighbors: the average ratio of their home value (rent) to the respective tract median is 1.22 (1.23). Similarly, managers' fathers have slightly longer education records than the median male in the tract: the average ratio is 1.31.

Table 2, Panel A shows correlations among the main variables of interest. Different wealth proxies are strongly positively related to one another: father income has a correlation of 0.445 with home value and 0.627 with rent. We cannot correlate home value and rent directly since these variables are available for complementary subsamples: owned and rented properties. We observe a robust positive relation between the manager's family wealth and the quality or exclusivity of his education. For example, father income has a correlation of 0.362 with the university tuition and -0.354 with the university admission rate. The manager's education quality is positively related to his parents' education, while the parents' education, in turn, is positively related to the household wealth (correlation magnitudes range from 0.22 to 0.33). Finally, graduate education was more often pursued by managers from poorer backgrounds, as indicated by the negative correlations between the degree dummies and wealth proxies.

2.2. Measures of family wealth

In this subsection, we introduce our main measures of family wealth. We also discuss data features pertaining to the measurement of wealth that motivate our methodological choices.

Three patterns in the census data are important for measuring family wealth. First, the manager's father is typically the primary wage earner. The dominant majority of mothers work as homemakers, and this choice is more likely in wealthy families. Since over 75% of mothers do not report any income even if they indicate outside employment, we avoid incorporating mothers' incomes into the measure, since it would detract from its precision. Second, the income of managers' fathers is unreported in 35% of cases—this happens when the father is a proprietor, business partner, or entrepreneur. In such cases, we use the home value and rent as a proxy for wealth. Third, because personal income, home value, and rent have different magnitudes, we need to aggregate these measures on a relative basis.

We use two methods of aggregation. Our first measure is the wealth measured in multiples of the state median value. Specifically, we scale the father's income by the median male income in the state of residence and complement it with similarly scaled home value or rent when income is missing.[6] For example, this variable equals 2 if the father earns twice as much as the median male in the state or if the household's home is worth twice as much as the median home in the state. The second measure is the

[6] Because home value and rent are defined on non-overlapping subsamples, it does not matter in which order they enter the aggregate wealth measure.

percentile rank of father income, home value, or rent in the sample. We use the percentile rank of father income, where available, and complement it with the rank of home value or rent otherwise. The limitation of this aggregation is that it does not allow for a proper comparison between the subsamples on which the original variables are defined. For example, if home owners in our sample are systematically wealthier than renters, the rank aggregation will not capture this difference. Therefore, we use the wealth measured in multiples of the state median as our main variable and examine other proxies in robustness tests.

Table 2, Panel B shows the breakdown of the census variables and managers' characteristics across the quintiles of the main wealth measure. The data reveal a large variation in family wealth. In the bottom quintile, the average fund manager comes from a family whose wealth is 25% below the state median (relative wealth = 0.75). In contrast, in the top quintile, the average fund manager's family is nearly 7 times richer than the state median (relative wealth = 6.7). All three constituents of wealth increase monotonically across the quintiles. For example, the average father income grows from \$752.8 (42^{nd} percentile of the national male income distribution) in the bottom wealth quintile to \$4,641.4 (99^{th} percentile) in the top wealth quintile. Similarly, the average home value in the top quintile is 5.5 times higher than in the bottom quintile, and the average rent is 4.7 times higher. The average number of servants in the household increases sharply from 0.03 in the bottom quintile to 0.96 in the top quintile, further confirming the internal consistency of the wealth proxies.

2.3. Univariate evidence

Table 2, Panel B also provides univariate evidence on the relation between the endowed family wealth and measures of managerial performance without any controls or fixed effects. At this stage, we can only point out that managers from the top two quintiles deliver the worst performance and that this result holds for both net and gross alphas. For example, the gap in the mean net alpha between the top and the bottom quintile is 6.8 basis points (bps), or 0.82% annualized. However, the wealth-performance relation is not monotonic across the quintiles and is likely masked by various confounding effects, some of which are apparent from the last block of the table. Specifically, all measures of the managers' education quality are increasing in wealth. For example, the average SAT rank increases from 74.2 in quintile 1 to 89.1 in quintile 5, while the average admission rate decreases from 56.9% in quintile 1 to 36.9% in quintile 5.

Importantly, the college tuition, a noisy proxy for wealth available for managers outside our core sample, is also increasing in the main wealth measure. It is worth noting that these monotonic relations between wealth and education provide an external validation of the accuracy of our data, because the proxies for family wealth and managers' education records are obtained from different sources. A similar monotonic pattern is observed for the parents' education. While only 40% of families have a college-educated parent in the bottom wealth quintile, this fraction rises to 89% in the top quintile. Finally, PhD degrees are more often pursued by managers from the two bottom wealth quintiles, suggesting that some of these managers rely on education as a social lift. This pattern is consistent with prior work in economics that singles out education as a key driver of upward inter-generational mobility (Brand and Xie 2010; Carneiro, Heckman, and Vytlacil 2011). All these variables are plausibly related to the manager's performance and need to be included in the analysis. The main takeaway at this stage is that despite the fact that natural drivers of performance are increasing in wealth, the performance measure itself shows the reverse pattern.

3. Family wealth and managers' performance

3.1. Main results

This section formally investigates how fund managers' performance relates to their familial backgrounds. Our main dependent variable in this analysis is the four-factor fund alpha, calculated 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), using monthly fund return observations from the trailing 36 months (*t*-36 to *t*-1).[7] We compute the alpha as the difference between the actual fund return in month *t* and the return predicted by the model. This procedure yields rolling alphas at a monthly frequency which we express in percentage points in all our tests. To reduce noise due to occasional extreme estimates of the loadings, we require at least 30 non-missing observations in the estimation window and winsorize the resulting alphas at the top and bottom 1%.[8]

The alpha computed from net returns is a standard measure of fund performance and fits the objectives of our study: (i) it quantifies the percentage value created over the salient benchmark portfolios

[7] The data is from Kenneth French's website: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html.

[8] 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 for a reasonable statistical accuracy in the estimation without imposing the condition that the factor loadings have to remain constant over a long period of time.

(size and value are the major styles in Morningstar and Lipper), and (ii) it is based on the precise return series reported by the fund. However, it is not without issues. First, alpha can be dynamically altered. Although such alterations cannot be directly inferred from the return magnitudes, they tend to increase the volatility and skewness of returns. For this reason, we control for fund volatility and skewness in all our tests. Second, funds are restricted in their portfolio choice by their investment mandate. To accommodate these constraints, our regressions include fund style fixed effects. We also include year fixed effects. While the market trend is cleansed in the construction of alpha, the inclusion of time fixed effects allows for the possibility that alpha might be easier to earn in some market cycles more than others.

Our main independent variables measure the financial standing of the manager's family during his childhood. For our initial tests, we consider the two variables defined in Section 2.2: (i) wealth in multiples of the state median and (ii) the wealth rank. We collectively call these independent variables *Wealth* and estimate the following regression specification:

$$Alpha_{mjt} = \beta Wealth_m + \mathbf{\Gamma_1}\times\mathbf{FControls_{mjt-1}} + \mathbf{\Gamma_2}\times\mathbf{MControls_{mt-1}} + \alpha_{Yt} + \delta_s + \varepsilon_{mjt} \qquad (1)$$

where *j* indexes funds, *t* indexes months, *m* indexes managers, and *s* denotes Morningstar fund style.

FControls is a vector of fund and fund family controls which includes *FundSize* (the natural logarithm of the fund's total net assets (TNA) in millions of dollars), *FundAge* (time in years since the fund's first appearance in Morningstar), *ManagerTenure* (duration in years of the manager's tenure with the fund), *FirmSize* (the natural logarithm of the fund family TNA in millions of dollars), *FirmLogNumFunds* (the natural logarithm 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). **MControls** is a vector of manager-specific controls which includes *UniSATRank* (national percentile rank of the median SAT score for the manager's undergraduate college), *UniAdmissionRate* (undergraduate admission rate for the manager's college), *HasPhD* (an indicator variable equal to one if the manager holds a PhD degree), and *ParentsEdu* (the manager's parents' average education attainment score defined as follows: education attainment equals 3 if the person attended college, 2 if he attended high school but not college, 1 if he attended elementary school but not high school, and 0 if he has no formal education). All control variables are measured at the end of month

t-1, and their exact definitions appear in Appendix 3. In these and subsequent tests, the standard errors are clustered by fund manager to allow for serial correlation in performance resulting from unobservable managerial characteristics.

Table 3, Panel A reports the estimation results, beginning with specifications without managerial controls (columns 1 and 6) and gradually adding controls for managerial characteristics correlated with wealth. Both measures of wealth are reliably negatively related to alpha, and this relation becomes stronger and economically larger as we add controls for managerial characteristics, consistent with the idea that most correlates of wealth tend to work in the opposite direction by improving managerial performance. This pattern suggests that a possible omission of some of the correlates of wealth would likely understate the economic significance of our results.

The relation between family wealth and performance is economically important. According to the full specification in column 5, an interquartile range increase in family wealth (2.27 multiples of the state median) is associated with a reduction in alpha of 3.59 bps per month (0.0158*2.27) or about 0.43% per year, a result significant at 1% with a *t*-statistic of 4.12. Similar results obtain if family wealth is measured as a percentile rank in the sample in columns 6-10. According to the full specification in column 10, an increase in the wealth rank of 50 percentiles reduces the four-factor alpha by 4.66 bps per month or 0.56% per year, a relation significant at 1%. Given the long careers of fund managers in our sample, the resulting difference in the compounded risk-adjusted returns is substantial, underscoring the importance of the quality signalling mechanism we study.

The effects of the control variables are consistent with prior work. Managers with higher-quality education, measured by their college's admission rate or SAT score, perform better, consistent with the findings in Chevalier and Ellison (1999). According to column 2, an increase in the SAT rank of 10 percentile points (or 0.1) is associated with an increase in the manager's annual alpha of 0.15%. The attainment of a PhD degree is positively related to performance, as shown in Chaudhuri, Ivković, Pollet, and Trzcinka (2016), although this result is not significant in our sample, given the smaller sample size and the rarity of PhD degrees. Aside from the manager's own education, the education of his parents has a significant incremental effect, consistent with the importance of congenital drivers of an individual's investment performance (Barnea, Cronqvist, and Siegel 2010). According to the full specification in

column 5, a one-level increase in the educational attainment of the manager's parents (e.g., from high school to college) is associated with an increase in the fund alpha of 2.6 bps per month or about 0.31% per year. Finally, managerial experience is positively related to performance, as shown in Kempf, Manconi, and Spalt (2016), while fund size is negatively related, consistent with the diseconomies of scale in investment (Berk and Green 2004; Chen , Hong, Huang, and Kubik 2004).

Table 3, Panel B shows that our results are robust to the constituent components of wealth: father income and housing. The results remain significant at 1% across columns 1-6, even as the number of observations declines when some wealth measures are unavailable for all households. The economic effect of the raw income is comparable to our main results: an interquartile range increase in father income ($1,900) reduces alpha by 5.64 bps per month or 0.68% per year.[9] To provide more detail on the structure of the wealth-performance relation, columns 7-8 in Panel B introduce regressions featuring wealth quintile dummies. These regressions also provide a convenient way to summarize the economic magnitudes, since the performance of different wealth groups can be directly compared. The omitted category is the bottom wealth quintile, and quintile indicators are arranged in the increasing order of family wealth so that *WealthQ5* corresponds to managers from the wealthiest families.

The results reveal two patterns. First, the coefficients on quintile dummies decrease monotonically across the wealth quintiles. Second, the wealth-performance relation is driven by the underperformance of the wealthy, as indicated by the sizable gap in coefficients between the top two and the bottom three quintiles. In particular, the strongest relation, significant at 1%, is observed for managers coming from ultra-rich families in the top quintile. According to column 8, the top wealth group underperforms the bottom (omitted) group by 10.2 bps per month or about 1.22% per year.

The economic importance of these results is underscored by the fact that various unobservable effects should favor the outperformance of the rich. Although we strive to control for different characteristics of the manager and his family, potentially important omitted variables may exist in our setting. However, a reasonable endogeneity argument would point to a positive relation between the

[9] Tables 3 and 4 contain three coefficients of 0.0284 for different underlying variables. This pattern is just a coincidence. The exact coefficient on the raw father income in Table 3 is -0.028424 and that on the relative father income is -0.028403. The variables are different; e.g., the interquartile range of the raw income is 1.20-3.10 (in thousands of dollars) and that of the relative income is 1.27-3.14 (in multiples of the state median).

parents' wealth and the manager's performance. For example, individuals from wealthier families have better connections and access to resources, which should aid their professional tasks. And yet, these same privileges make it possible to embark on a managerial career with modest skills. Only if this biased selection channel is in full effect, would we observe a negative relation between a manager's performance and his endowed wealth. This reasoning is indirectly confirmed by the fact that our results become stronger as we add controls for the main correlates of wealth.

In summary, family wealth is negatively related to managerial performance, and this result is robust to various wealth proxies. The relation is driven by the underperformance of managers from the richest families, and it gets stronger after controlling for managerial characteristics correlated with wealth.

3.2. Alternative measures of fund performance

In this subsection, we consider several alternative measures of managerial performance: gross alphas, benchmark-adjusted returns, and the value extracted from capital markets.

We first examine the effect of replacing net alphas with gross alphas. In the baseline analysis, we constructed the four-factor alpha from net fund returns for two reasons. First, we are interested in the value effects from the perspective of a fund investor rather than the management firm. Second, the net return series is based on precise and objective data, regardless of the time period. In contrast, the gross return is approximated from fund fees, which are sparser and less precise for older funds.

Columns 1-2 of Table 3, Panel C show the results from our baseline analysis with the gross alpha as the dependent variable. In these specifications, we reestimate the four-factor alpha using returns grossed up by the fund's expense ratio (measured as closely as possible to the month for which the alpha is computed). We find that the magnitude and statistical significance of the relation between family wealth and managerial performance remain very similar to our main results. For example, in the full specification in column 2 in Panel C, the point estimate for gross alphas (-0.0154, *t*-stat = -4.31) is nearly identical to that for net alphas obtained in a similar specification in column 5 of Panel A (-0.0158, *t*-stat = -4.12). This pattern suggests that the relation between family wealth and managerial performance is driven by managers' portfolio decisions rather than by fund fees.

Next, we consider fund performance relative to its benchmark index. We define *Benchmark-Adjusted Return* as the difference between the fund's monthly gross return and the return on the fund's benchmark index, using the benchmark from the fund's prospectus recorded by Morningstar. We also consider the abnormal return net of the benchmark (*Abnormal Return Over Benchmark*), 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, reported in columns 3-6 of Panel C, confirm the strong negative link between family wealth and managerial performance. This relation persists across the four alternative specifications with stable economic magnitudes and comparable levels of statistical significance.

Finally, we investigate the dollar measure of the value extracted from capital markets introduced in Berk and Van Binsbergen (2015). Following the authors, we compute this measure as the product of the fund's beginning-of-the-month TNA (adjusted for inflation by the Consumer Price Index of the Federal Reserve Bank of St. Louis and expressed in millions of 2012 dollars) and its gross alpha. This variable is different from the return-based measures of performance as it explicitly takes into account fund size. 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 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. For these reasons, we continue to rely on the return-based measures of performance in our main analysis and report the results for the dollar value extracted as a robustness check. Columns 7-8 in Table 3, Panel C show that family wealth is reliably negatively related to the valued extracted from capital markets, and this relation is significant at 1% in the full specification.

In summary, the relation between family wealth and managerial performance is robust to a variety of performance measures. This result is not driven by the difference in fund fees and fund size and is robust to controlling for style investment mandates and a large set of observable fund characteristics. While some fund characteristics remain unobservable, they are unlikely to explain our results. We

exclude non-U.S. and specialty funds, making it difficult to predict a fund's performance ex ante. In addition, if anything, we would expect managers from wealthier families to seize the more lucrative investment opportunities, in contrast to their actual performance.

3.3. Mediating effects

In this subsection, we examine how the strength of the wealth-performance relation varies by additional characteristics that are expected to amplify or attenuate the precision of the wealth signal. To facilitate the interpretation of these interaction effects, we add specifications with a binary measure of wealth—*WealthHigh*—which equals one if the manager's family wealth is above the sample median and zero otherwise.

We first focus on the number of a manager's siblings collected from a combination of census records and obituaries for the managers' parents. Our focus on siblings is motivated by a literature in household economics (reviewed in Black, Devereux, and Salvanes 2005), which shows theoretically and empirically that for a given amount of family wealth, an increase in the number of children leads to a smaller amount of resources—temporal, familial, and monetary—allocated to each child. This pattern, labeled "resource dilution," has been shown to have a significant effect on individuals' education, incomes, and career outcomes. If family wealth reduces the entry barriers into high-income jobs, this effect should be stronger for families with one child and weaker in families with a large number of children where the endowed resources are split across multiple siblings.

Columns 1-2 in Table 4 confirm this prediction. The results show that the underperformance of managers from wealthy families is significantly greater for the most privileged individuals—those who have no siblings. When we focus on such one-child families, the economic magnitude of the wealth-performance relation increases compared to that in our baseline analysis. The point estimate on *Wealth* (-0.0284, *t*-stat = -4.10) indicates that an interquartile range increase in wealth (2.27) corresponds to a reduction in alpha of 6.45 bps per month or 77 bps per year. The positive and statistically significant interaction term *Wealth * NumberOfSiblings* in column 1 shows that an addition of an extra sibling to a family weakens the negative wealth-performance relation by about 25% (0.0070/0.0284). Overall, a large number of siblings dilutes the precision of family wealth as a signal of a manager's performance.

Columns 3-6 study the mediating effects of additional barriers to entry into asset management. If the relation between family wealth and managerial performance reflects a variation in selection stringency, the strength of the wealth signal should vary with additional barriers. To test these relations, we exploit both cross-sectional and time-series variation in barriers to entry, an analysis presented in columns 3-4 and 5-6, respectively.

Columns 3-4 focus on the cross-sectional variation in a manager's immigrant status as a proxy for an additional barrier to entry. Using data on the birth place of the manager's parents from the individual census records, we define the variable *Immigrant* as a binary indicator, which equals one if both of the manager's parents were born outside the U.S. and zero otherwise. This indicator is equal to one for 5% of the managers, and the three most common countries of immigrant origin are Russia, Germany, and Ireland. Consistent with the importance of the selection mechanism, the negative relation between family wealth and managerial performance is magnified in immigrant families, as shown by the negative coefficient on the interaction term *Wealth* * *Immigrant* in column 3, a result significant at 10% (*t*-stat = 1.91). We alert the reader that the statistical power in these tests is weaker due to the rarity of immigrants in the asset management industry in our sample.

In columns 5-6, we explore the dynamics of the managers' entries into the mutual fund industry and consider the time-series variation in selection stringency, as proxied by the scarcity of employment opportunities—the national unemployment rate in the year of entry. The data on unemployment come from the Bureau of Labor Statistics. Across columns 5-6, we find that the negative wealth-performance relation is magnified by high unemployment at entry. This effect, significant at 5% across the specifications, is economically meaningful. According to column 5, the negative sensitivity of managerial performance to family wealth increases by 38.6% (0.0061/0.0158) relative to its unconditional value for every percentage point increase in the unemployment rate. These results are consistent with the literature in labor economics that suggests that informal networks play an important role in job search when publicly available employment opportunities become scarce (Calvó-Armengol and Jackson 2004).

In columns 7-8, we consider the mediating effects of the manager's tenure. We discuss these results in the next section, which focuses on the economic mechanisms underlying the relation between the family wealth and managerial performance.

In summary, the strength of the wealth-performance relation varies with the precision of the wealth signal and selection stringency. Consistent with the selection mechanism, family wealth is a stronger predictor of managerial performance when entry barriers are high and when the proxy for wealth-related benefits is more precise.

4. Economic mechanisms: innate ability and effort

Extant mutual fund literature has accumulated evidence that managers have different levels of investment skill (e.g., Kacperczyk, Sialm, and Zheng 2008; Berk and Van Binsbergen 2015; Kacperczyk, Van Nieuwerburgh, and Veldkamp 2016). While skill is generally viewed as a driver of value-creating behavior, most of prior work does not make a distinction whether this behavior is driven by the manager's innate ability or level of effort. This section provides evidence in this direction by considering two non-mutually exclusive channels that may contribute to the performance gap between managers from wealthy and poor families. The first channel posits that managers from wealthy families have weaker incentives to apply effort due to the diminishing utility of additional earnings. The second channel suggests that managers from wealthy backgrounds have a lower innate ability as a result of the less stringent selection.

First, we focus on the observable effort proxies and investigate whether managers from wealthier backgrounds pursue less active portfolio strategies. In these tests, we do not assume that greater activity translates to higher value, but rather regard activity as a sign that a manager does not opt for a "quiet life" management style. We compute three proxies for managerial activity.[10] *Turnover* is defined as the annualized ratio of the sum of absolute values of dollar changes in equity positions of the fund over the quarter to the average dollar value of the fund's portfolio, as in Gaspar, Massa, and Matos (2005). This measure captures the fraction of the portfolio that is "new" relative to the previously reported snapshot of holdings. *Holding Horizon* measures how many months, on average, shares are held in the fund's portfolio. This variable is computed as in Lan, Moneta, and Wermers (2016), using the assumption that shares bought first are also sold first. *Herding* is equal to the correlation between changes in holdings of the fund over the quarter (measured by the percentage change in the number of shares held) and the

[10] 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 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.

corresponding changes in the holdings of a hypothetical average fund in the style, whose portfolio position in a given stock is calculated as the sum of the aggregate positions in the stock of all the funds in the style. By construction, the herding variable lies between -100 and 100, and higher values indicate funds whose trades are closer to the style's average in direction and magnitude.

We examine how these portfolio variables are related to the manager's family wealth by estimating the following regression specification:

$$Activity_{mjT} = \beta Wealth_m + \mathbf{\Gamma_1 \times FControls_{mjT-1}} + \mathbf{\Gamma_2 \times MControls_{mT-1}} + \alpha_{Yt} + \delta_s + \varepsilon_{mjT} \qquad (2)$$

where the right-hand side variables are defined as in equation (1) and the left-hand side variables are the measures of activity for fund *j* in quarter *T*. We run this regression in two specifications: with and without volatility and skewness as controls, because some dependent variables can be related to volatility and skewness by construction.

The results in columns 1-6 of Table 5, Panel A are directionally consistent across all the activity measures. Managers from less wealthy families tend to be more active: they trade more, have shorter holding horizons, and are less prone to herding. The results on turnover and holding horizon are statistically significant at least at 10%. An interquartile-range increase in wealth decreases annual turnover by 1.43 (based on column 2) or by 4.5% of its unconditional mean of 32.2, and increases the holding horizon by 1.96 months (based on column 4) or by 5% of its unconditional mean of 39.1.

Higher turnover and shorter horizon can be both value-enhancing and destroying, depending on the timing of the trades and the stocks traded. To shed light on the performance channels, we follow Kacperczyk, Van Nieuwerburgh, and Veldkamp (2014) and decompose fund returns into the stock selection and the market timing components. For example, *Market Timing* is defined as the sum across all the fund's holdings of the term $(w_{in\ fund} - w_{in\ benchmark})*\beta*r_M$, where $w_{in\ fund}$ is the weight of the stock in the fund portfolio at the end of the quarter, $w_{in\ benchmark}$ is the weight of the stock in the market (benchmark) portfolio, r_M is the market return in the quarter, and β is the stock beta computed from the one-factor model over the period of the past 36 months. Appendix 3 provides the details.

We run regression (2) with *Stock Picking* and *Market Timing* as dependent variables and report the results in columns 7-10 of Panel A, Table 5. We find that less wealthy managers are not significantly

better at market timing but have superior stock-picking skills. The coefficient on *Stock Picking* is significant at 1% and economically large. According to column 8, an interquartile-range increase in family wealth decreases the stock-picking return by 11.2 bps per quarter or 38.8% of its unconditional mean. Combined with the earlier results, this evidence is consistent with the view that active trading creates value as long as the manager has skill (Pastor, Stambaugh, and Taylor 2016).

As a further test of the effort channel, we exploit an exogenous increase in a manager's own wealth from an inheritance, an event proxied by the death of the last parent. Under the effort channel, a manager's incentives to apply effort should decrease after the inheritance, but only for wealthy managers. We define an indicator variable *ParentsDead*, which equals one if both of the manager's parents died before the observation year and zero otherwise. We set this variable to missing if either parent died in the observation year. This approach omits one year of observations around the death event to account for possible effects of emotional distress and personal distractions associated with the loss of a parent.

We rerun regression (2) with *ParentsDead* and its interaction with *Wealth* as independent variables and report the results in Table 5, Panel B. The interaction coefficient is of particular interest, since it captures the difference in the response of the activity variables to the inheritance events between the rich and the poor. The results are directionally consistent with the predictions of the effort channel: only managers from wealthy families become less active after the inheritance. The coefficients in columns 2 and 4 indicate that *Wealth* has to be as high as 6.54 (94^{th} percentile) for the turnover to decrease post-inheritance and as high as 3.47 (74^{th} percentile of the distribution) for the holding horizon to increase post-inheritance.[11] However, these effects are not statistically strong. The interaction coefficient is significant at 5% for the holding horizon but is not significant for turnover or herding.

Unlike effort, innate ability is not directly observable. Absent a direct proxy for ability, a natural question one can ask is to what extent the performance gap between managers from wealthy and poor families is driven by their differential incentives. To answer this question, we focus on the results in columns 7-8 of Table 4. To the extent that value creation is driven by higher incentives of the poor, the performance gap should decrease as managers from poor families accumulate their own wealth over the course of their careers. The interaction between *Wealth* and *ManagerTenure* is positive, but economically

[11] The threshold for the holding horizon measure is computed as follows: 6.9522/2.0058 = 3.47.

small and statistically insignificant. These results indicate that the performance differential between managers from rich and poor backgrounds remains economically stable across the course of their careers, suggesting that it is related to inherent, time-invariant aspects of managerial ability.

In summary, both the effort and ability channels are likely operative in our setting. From an investor's perspective, both channels are value-improving. Viewed broadly, our findings are consistent with the work in labor economics that singles out an individual's "smarts" and "drive" as the key determinants of professional performance (Heckman, Stixrud, and Urzua 2006).

5. Career progression and assets under management

This section studies the dynamics of managers' careers and assets under management. Section 5.1 investigates the effect of family wealth on managerial promotions and exits from the industry. Section 5.2 examines the role of family wealth in capital flows into the managers' mutual funds.

5.1. Promotions and exits

An ideal test of managerial selection would examine the entire pool of candidates for positions in the investment management industry—both those who are subsequently hired and those who are rejected—and evaluate how an individual's characteristics affect his likelihood of being hired. This test is typically infeasible for two reasons. First, the pool of rejected candidates is rarely observed. Second, even if the pool of rejected candidates could be identified, it would be difficult to evaluate their skill because their performance as a fund manager is unobservable. This unobservable counterfactual would make it difficult to test the role of family descent in managerial selection and ascertain whether it indeed affects the hiring decisions or whether it is simply correlated with a manager's ability, which affects the hiring decisions.

We circumvent these limitations by examining the career progressions of portfolio managers and studying the determinants of their promotions and exits from the industry. In this setting, we not only observe the pool of portfolio managers, but also obtain accurate measures of each manager's professional performance in addition to his family descent and personal characteristics. It is also reasonable to believe that a firm's selection criteria are consistent between hiring and promotion decisions.

In the analysis of managerial careers, we focus on the assets delegated to the manager and the amount of management fees to which he is entitled. The total amount of management fees serves as an

upper bound proxy for the pool of funds available for the manager's compensation, since the actual amount of compensation is unobservable to the econometrician. Following Chapman and Evans (2010), we identify discontinuities in these statistics that usually arise from the assignment of additional assets to the manager. We use these events as proxies for managerial promotions and define two indicator variables. *Promotion, AUM-Inferred* is a binary indicator that equals one if the total dollar amount of assets managed by the manager at the end of the month more than doubles since the previous month. *Promotion, Fee-Inferred* is a binary indicator that equals one if the combined management fee for the assets delegated to the manager more than doubles since the previous month.[12] The relatively high thresholds imposed in these definitions indicate conservatism in the construction of these measures and ensure that they capture significant events associated with tangible monetary benefits rather than lateral moves or firm-wide adjustments of job titles. These proxies identify important, relatively infrequent career events. The unconditional probability of being promoted in any given month is 0.63%–0.69%, according to the two measures, respectively.

To study the role of family wealth in managerial career trajectories, we examine the relation between promotions and managers' performance and introduce specifications where past performance is interacted with family wealth. We define past performance (*PastGAlpha*) as the average gross monthly alpha earned by the manager over the trailing 60 months, ending in month *t*-1. Unlike in our previous tests, we consider gross, rather than net, alpha as the variable of interest because managers' career paths are determined by the overall value created rather than the net returns earned by the investors. The full regression specification is a liner probability model with fixed effects, defined below:

$$Promotion_{mjt} = \beta_1 PastGAlpha_{mt} + \beta_2 Wealth_m + \beta_3 PastGAlpha_{mt} * Wealth_m + \mathbf{\Gamma_1 \times FControls_{mjt-1}} + \mathbf{\Gamma_2 \times MControls_{mt-1}} + \alpha_{Yt} + \delta_s + \varepsilon_{mjt} \quad (3)$$

Table 6 shows that past performance is a strong driver of promotions, as indicated by the positive and statistically significant coefficients on *PastGAlpha* across columns 1-6. According to column 1, an increase in *PastGAlpha* of 10 bps improves promotion chances by 0.044% or by 6% relative to the unconditional promotion probability. These results are consistent with the evidence in prior work that past

[12] The management fee is calculated as the sum (over all the funds managed by the manager) of the product of the fund TNA and the expense ratio divided by the number of managers running the fund.

performance is an important driver of career progression in the mutual fund industry (Khorana 1996; Hu, Hall, and Harvey 2000). The coefficients on the control variables indicate that the number of funds in the mutual fund family is positively related to the likelihood of promotion, consistent with a greater number of available promotion opportunities. The coefficients on the manager's tenure indicate that managers in the earlier stages of their careers are more likely to be promoted, suggesting that the career trajectory in management positions is steeper early on.

The interaction terms between a manager's performance and his family descent show that promotions of managers from wealthier families are less sensitive to past performance. This effect is significant at 5% in all specifications and is economically strong. According to the interaction coefficient in column 2, an interquartile-range increase in wealth mutes over 90% of the overall sensitivity (-0.0018*2.27/0.0044). Similar conclusions apply to the binary wealth variable and the fee-based measure of promotion. These results suggest that managers from poor families are promoted when they outperform, whereas those born rich are more likely to be promoted for reasons unrelated to performance.

Next, we study how managerial performance and family wealth are related to exits from the mutual fund industry. To identify likely involuntary exits from the investment management industry, we exclude lateral moves to other sectors in investment management—namely, hedge funds and insurance funds. To this purpose, we match our managers to the managers in the Morningstar universes of insurance funds and hedge funds, using managers' names and then confirming the matches by the managers' biographies. This process reveals that a significantly greater fraction of mutual fund managers move from mutual funds to the insurance sector (9.2%) than to hedge funds (1.2%). The fraction of mutual fund managers in our sample that switch to hedge funds is similar to the estimates in prior work, such as the fraction of 1.28% in Deuskar, Pollet, Wang, and Zheng (2011), indicating that the labor market flows in our sample are comparable to those in a larger universe of managers.

We also exclude industry exits for natural causes that we can reliably identify—namely, those related to terminal health issues or death. The date of a manager's death, which comes from the Social Security Administration Death Registry, is linked to the manager's social security number and appears in the Lexis Nexis Public Records Database. We view the exits in the year of the manager's death or one year prior as those related to natural causes and exclude them from the analysis of separations.

Columns 7-9 in Table 6 study the determinants of fund managers' exits from investment management. The dependent variable, *Exit From Asset Management*, is a binary indicator that equals one if the manager leaves the mutual fund universe in the observation month for reasons other than lateral employment moves and terminal health issues, as defined above. To the extent that some of the remaining exits in our sample contain noise as proxies for involuntary separations, it would bias our estimation against identifying significant relations.

Table 6 shows that industry exits are preceded by poor performance. This relation is reliably significant across all specifications in columns 7-9. Consistent with the argument that managers from wealthy families are less likely to lose employment for weak performance, the results indicate that wealth reduces the sensitivity of exits to past performance, as shown by the positive interaction coefficients in columns 8-9. However, this effect falls short of being statistically significant at conventional levels, considering a relatively small number of exits and an imperfect proxy for involuntary separations.[13]

In summary, strong investment performance is a key driver of managerial promotions, and weak performance precipitates exits from the industry. The promotion-performance relation is significantly steeper for managers from poor families, suggesting that their promotions are more closely related to skill. In contrast, the promotions of managers from wealthy families are less dependent on performance, suggesting that some managers can remain in the industry without delivering superior investment results.

5.2. Capital flows

If a manager's family wealth is an observable signal of his future performance, a natural question is whether this signal affects the capital allocation decisions of fund investors. This subsection studies fund flows—changes in fund assets resulting from the contributions and redemptions of capital by investors.

Table 7 examines the relation between a fund manager's family wealth and mutual fund flows. The dependent variable is the net capital flow into the manager's fund, computed as the percentage change in fund assets unexplained by fund returns (see Appendix 3). Since a manager's family wealth is related to his performance, we consider specifications with and without controls for performance, a key

[13] The fact that poorly performing managers from less wealthy families are more likely to exit does not introduce a sample composition bias to our analysis. This bias would only result if either the wealth measure were time-dependent or if alpha had a time trend, so that managers who are more likely to stay in the sample had a higher chance of performing well. Neither of these is the case. In addition, we include time fixed effects in all the regressions to further eliminate any composition issues.

driver of fund flows (Chevalier and Ellison 1997; Sirri and Tufano 1998; Ivković and Weisbenner 2009). Past performance is computed as the average net alpha of the fund over the trailing three years.

Without controls for past performance, *Wealth* is weakly negatively related to flow, as indicated by the marginally significant negative coefficient on *Wealth* in column 1. However, this effect is largely explained by the response of flows to past performance: the coefficient on past performance is highly significant in column 2, whereas the coefficient on family wealth is not significant. In column 3, we accommodate the convexity in the flow-performance relation by allowing the flow sensitivity to be different in the positive and the negative range of past performance. The higher slope in the positive range shows that flow is convex in past performance, but the effect of family wealth remains insignificant in this enhanced specification. Finally, in columns 4 and 5, we interact *Wealth* with past performance to study the effect of the manager's family wealth on the shape of the flow-performance relation. We do not detect a significant effect, as evidenced by the small and insignificant interaction terms in columns 4-5.

In summary, we do not find a reliable effect of managers' family wealth on capital flows, over and above the effect of fund performance. This suggests that investors do not incorporate the wealth signal into their asset allocation decisions, perhaps an unsurprising result given the effort required to extract this signal. While mutual fund managers serve thousands of small investors and are not directly responsible for raising new capital, wealthy managers may play an important role in attracting flows in other contexts. Examples include settings with a small number of high net worth investors, where the manager directly participates in the capital raising process, such as private equity, hedge funds, and private wealth management.

6. External validity

Our core analysis focuses on older fund managers and provides evidence on an important selection mechanism at the genesis of the mutual fund industry. A natural follow-up question is whether the relation between wealth and performance applies to younger managers and whether these results extend to settings outside of investment management. This section provides suggestive evidence in this direction.

To circumvent data limitations on the endowed wealth of younger managers, we rely on a crude wealth proxy—college tuition. This simple proxy is intended to facilitate replication of our results, but it

comes with limitations. While the median tuition increases monotonically across the wealth quintiles (Table 2, Panel B), its correlation with the income of the manager's father is a moderate 0.362. This proxy misses a part of variation in wealth because some capable students from poor families obtain scholarships to attend expensive colleges and because the actual tuition paid by the student is unobservable to us. We believe that the precise measurements from the census records cannot be easily substituted with alternative proxies.

Table 8 studies the relation between a manager's family wealth and his professional performance without imposing restrictions on the manager's age in the full sample. In columns 1-3, endowed wealth is proxied by college tuition (in thousands of dollars as of 2004), and in columns 4-6, it is proxied by the in-sample percentile rank of college tuition (ranging from 0 to 1). The latter measure refines the tuition proxy by accounting for the fact that mutual fund managers, as a group, attend more expensive colleges and by smoothing out the effect of outliers. Since tuition is correlated with education quality, we control for the college's average SAT score and admission rate to isolate the wealth component of tuition.

The results show that endowed wealth, as proxied by college tuition, is consistently negatively related to managerial performance in all specifications, and this relation is statistically significant in five of the six columns. As expected, the economic magnitude is about 60% weaker than the effect of the father's income in our main analysis. In the full specification in column 6, an interquartile range increase in tuition (50 percentiles) reduces the four-factor alpha by 2.9 bps a month or about 0.35% per year, a result significant at 1%. The difference in magnitudes could be attributed to a less precise measurement of wealth, or it might reflect a more egalitarian selection into asset management in recent years.

To study the latter conjecture, we split our sample into two subsamples by the manager's year of birth and reestimate the regression. Columns 7-8 (9-10) show the results for the managers born before (in or after) 1960. Across the four columns, the relation between performance and college tuition remains negative and significant in three of the four specifications. The economic magnitudes do not diminish in the younger sample, indicating that the effect remains relevant beyond our sample period. However, we caution the reader that this evidence is at best suggestive, given the lack of precision in the wealth proxy.

Yet, recent developments indicate that hiring practices related to individuals from wealthy families remain an important regulatory focus. For example, on August 18, 2015, the SEC issued a cease-and-desist order to Bank of New York Mellon Asset Management regarding the preferential recruiting of

wealthy candidates. The SEC has concluded that applicants from wealthy families faced lower selection stringency in the recruiting process: "An SEC investigation found that BNY Mellon did not evaluate or hire the family members through its existing, highly competitive internship programs that have stringent hiring standards and require a minimum grade point average and multiple interviews. The family members did not meet the rigorous criteria yet were hired with the knowledge and approval of senior BNY Mellon employees..." [14]

The SEC suggests one explanation for why these hiring practices could persist at financial firms. In particular, the individuals making the hiring and promotion decisions obtain additional benefits, whether intangible or pecuniary, which do not accrue to the end investor. Some of these benefits are familial, as when the fund manager is a relative of other portfolio managers or fund family founders.[15] Others may include access to social networks and political connections or a manifestation of homophily—an affinity for similar others (McPherson, Smith-Lovin, and Cook 2001). While it is difficult to draw a reliable link between a manager's family descent and these outcomes—a task beyond the scope of our paper—we believe that a likely explanation for the wealth-performance relation is the occasional divergence between the interests of the principal and its agents in delegated asset management. Such labor market frictions have been documented in other settings. For example, Fracassi and Tate (2012) find that powerful CEOs favor the appointment of directors based on personal preferences, a bias that damages the firm's performance. Using detailed personnel data and measures of individual productivity, Bandiera, Barankay, and Rasul (2009) find evidence of managerial favoritism in hiring lower-ability employees.

Our conclusions may extend beyond asset management. For example, recent empirical work finds that a manager's family descent may affect selection stringency in other empirical settings and generate a similar performance pattern. Bennedsen et al. (2007) and Mehrotra et al. (2013) show that individuals who become CEOs via their inherited family status (blood heirs) underperform those hired externally. In a general setting of U.S. households—unrestricted by occupation—Reeves and Howard (2013) find that

[14] Securities and Exchange Commission Press release No. 2015-170, dated August 18, 2015.
[15] For example, Carole S. Kinney succeeded her father, Charles Walters Steadman, as a manager at Ameritor. Similarly, Christine M. Baxter, a former manager of PBHG Emerging Growth Fund, is the daughter of the founder of the company, Harold J. Baxter.

over 40% of individuals born into wealthy families (top quintile) obtain high-income jobs despite having low scores of cognitive ability and internal drive—key determinants of one's professional performance.[16]

In summary, the relation between endowed family wealth and managerial performance is robust to out-of-sample wealth proxies and appears to persist in recent history. Evidence from other studies suggests that our conclusions may extend to other professions with high barriers to entry.

7. Conclusion

We study the relation between fund managers' family backgrounds and their professional performance and find that managers from wealthy families deliver lower risk-adjusted returns than managers from poor families. Our evidence suggests that managers endowed with higher wealth at birth face lower entry barriers into asset management, and some of the less skilled managers succeed in entering the profession. Consistent with the selection mechanism, the presence of additional entry barriers, either cross-sectional (immigrant status) or time series (high unemployment), enhances the negative wealth-performance relation. This explanation is further supported by the evidence on managers' promotions, which shows that less objective promotion criteria apply to managers from wealthier families. In contrast, promotions and dismissals of managers from poor families are more closely tied to their past performance.

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.

[16] For a survey of the literature establishing a strong link between cognitive skills and performance, see Schmidt (2002).

References

Ahern, K., Sosyura, D., 2015. Rumor has it: Sensationalism in financial media. *Review of Financial Studies* 28, 2050–2093.

Bandiera, O., Barankay, I., Rasul, I., 2009. Social connections and incentives in the workplace: Evidence from personnel data. *Econometrica* 77, 1047–1094.

Barnea, A., Cronqvist, H., Siegel, S., 2010. Nature or nurture: What determines investor behavior? *Journal of Financial Economics* 98, 583–604.

Barras, L., Scaillet, O., Wermers, R., 2010. False discoveries in mutual fund performance: Measuring luck in estimated alphas. *Journal of Finance* 65, 179–216.

Bennedsen, M., Meisner Nielsen, K., Pérez-González, F., Wolfenzon, D., 2007. Inside the family firm: The role of families in succession decisions and performance. *Quarterly Journal of Economics* 122, 647–691.

Black, S., Devereux, P., Salvanes, K., 2005. The more the merrier? The effect of family size and birth order on children's education. *Quarterly Journal of Economics* 120, 669–700.

Berk, J., Green, R., 2004. Mutual fund flows and performance in rational markets. *Journal of Political Economy* 112, 1269–1295.

Berk, J., Van Binsbergen, J., 2015. Measuring managerial skill in the mutual fund industry. *Journal of Financial Economics* 118, 1–20.

Bogue, D., 2000. Census Tract Data, 1940: Elizabeth Mullen Bogue File. ICPSR02930-v1. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor].

Bowles, S., Gintis, H., Osborne, M., 2005. Unequal chances: Family background and economic success, Princeton, NJ: Russell Sage and Princeton University Press.

Brand, J., Xie, Y., 2010. Who benefits most from college? Evidence for negative selection in heterogeneous economic returns to higher education. *American Sociological Review* 75, 273–302.

Calvó-Armengol, A., Jackson, M., 2004. The effects of social networks on employment and inequality. *American Economic Review* 94, 426–454.

Carhart, M., 1997. On persistence in mutual fund performance. *Journal of Finance* 52, 57–82.

Carneiro, P., Heckman, J., Vytlacil, E., 2011. Estimating marginal and average returns to education. *American Economic Review* 101, 2754–2781.

Chapman, D., Evans, R., 2010. The portfolio choices of young and old active mutual fund managers. *Working paper*.

Chaudhuri, R., Ivković, Z., Pollet, J., Trzcinka, C., 2016. What a difference a Ph.D. makes: More than three little letters. *Working paper*.

Chen, J., Hong, H., Huang, M., Kubik, J., 2004. Does fund size erode mutual fund performance? The role of liquidity and organization. *American Economic Review* 94, 1276–1302.

Chetty, R., Friedman, J., Hilger, N., Saez, E., Schanzenbach, D., Yagan, D., 2011. How does your kindergarten classroom affect your earnings? Evidence from Project STAR. *Quarterly Journal of Economics* 126, 1593–1660.

Chetty, R., Hendren, N., Kline, P., Saez, E., 2014. Where is the Land of Opportunity? The geography of intergenerational mobility in the United States. *Quarterly Journal of Economics* 129, 1553–1623.

Chevalier, J., Ellison, G., 1997. Risk taking by mutual funds as a response to incentives. *Journal of Political Economy* 105, 1167–1200.

Chevalier, J., Ellison, G., 1999. Are some mutual fund managers better than others? Cross-sectional patterns in behavior and performance. *Journal of Finance* 54, 875–899.

Cohen, L., Frazzini, A., Malloy, C., 2008. The small world of investing: Board connections and mutual fund returns. *Journal of Political Economy* 116, 951–979.

Cronqvist, H., Makhija, A., Yonker, S., 2012. Behavioral consistency in corporate finance: CEO personal and corporate leverage. *Journal of Financial Economics* 103, 20–40.

Cronqvist, H., Siegel, S., 2015. The origins of savings behavior. *Journal of Political Economy* 123, 123–169.

Cronqvist, H., Siegel, S., Yu, F., 2015. Value versus growth investing: Why do different investors have different styles? *Journal of Financial Economics* 117, 333–349.

Elliott, J., Frickel, S., 2013. The historical nature of cities: A study of urbanization and hazardous waste accumulation. *American Sociological Review* 78, 521–543.

Dahl, M., DeLeire, T., 2008. The association between children's earnings and fathers' lifetime earnings: Estimates using administrative data. Institute for Research on Poverty Discussion Paper No. 1342-08.

Deuskar, P., Pollet, J., Wang, Z., Zheng, L., 2011. The good or the bad? Which mutual fund managers join hedge funds? *Review of Financial Studies* 24, 3008–3024.

Fama, E., French, K., 1993. Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics* 33, 3–56.

Fracassi, C., Tate, G., 2012. External networking and internal firm governance. *Journal of Finance* 67, 153–194.

Gaspar, J., Massa, M., Matos, P., 2005. Shareholder investment horizons and the market for corporate control. *Journal of Financial Economics* 76, 135–165.

Grinblatt, M., Titman, S., Wermers, R., 1995. Momentum investment strategies, portfolio performance, and herding: A study of mutual fund behavior. *American Economic Review* 85, 1088–1105.

Gruber, M., 1996. Another puzzle: The growth in actively managed mutual funds. *Journal of Finance* 51, 783–810.

Heckman, J., Stixrud, J., Urzua, S., 2006. The effects of cognitive and noncognitive abilities on labor market outcomes and social behavior. *Journal of Labor Economics* 24, 411–482.

Hong, H., Kostovetsky, L., 2012. Red and blue investing: Values and finance. *Journal of Financial Economics* 103, 1–19.

Hu, F., Hall, A., Harvey, C., 2000. Promotion or demotion? An empirical investigation of the determinants of top mutual fund manager change. *Working paper*.

Ivković, Z., Weisbenner, S., 2009. Individual investor mutual fund flows. *Journal of Financial Economics* 92, 223–237.

Kacperczyk, M., Sialm, C., Zheng, L., 2008. Unobserved actions of mutual funds. *Review of Financial Studies* 21, 2379–2416.

Kacperczyk, M., Van Nieuwerburgh, S., Veldkamp, L., 2014. Time-varying fund manager skill. *Journal of Finance* 69, 1455–1484.

Kacperczyk, M., Van Nieuwerburgh, S., Veldkamp, L., 2016. A rational theory of mutual funds' attention allocation. *Econometrica* 84, 571–626.

Kempf, E., Manconi, A., Spalt, O., 2016. Learning by doing: The value of experience and the origins of skill for mutual fund managers. *Working paper*.

Khorana, A., 1996. Top management turnover: An empirical investigation of mutual fund managers. *Journal of Financial Economics* 40, 403–427.

Lan, C., Moneta, F., Wermers, R., 2016. Mutual fund investment horizon and performance. *Working paper*.

Li, H., Zhang, X., Zhao, R., 2011. Investing in talents: Manager characteristics and hedge fund performances. *Journal of Financial and Quantitative Analysis* 46, 59–82.

Mazumder, B., 2005. Fortunate sons: New estimates of intergenerational mobility in the United States using social security earnings data. *Review of Economics and Statistics* 87, 235–255.

McPherson, M., Smith-Lovin, L., Cook, J., 2001. Birds of a feather: Homophily in social networks. *Annual Review of Sociology* 27, 415–444.

Mehrotra, V., Morck, R., Shim, J., Wiwattanakantang, Y., 2013. Adoptive expectations: Rising sons in Japanese family firms. *Journal of Financial Economics* 108, 840–854.

Pastor, L., Stambaugh, R., Taylor, L., 2016. Do funds make more when they trade more? *Journal of Finance*, forthcoming.

Patel, S., Sarkissian, S., 2016. To group or not to group? Evidence from mutual fund databases. *Journal of Financial and Quantitative Analysis*, forthcoming.

Pool, V., Stoffman, N., Yonker, S., 2012. No place like home: Familiarity in mutual fund manager portfolio choice. *Review of Financial Studies* 25, 2563–2599.

Pool, V., Stoffman, N., Yonker, S., Zhang, H., 2016. Do shocks to personal wealth affect risk taking in delegated portfolios? *Working paper*.

Reeves, R., Howard, K., 2013. The glass floor: Education, downward mobility, and opportunity hoarding. Brookings Institution research report.

Schmidt, F., 2002. The role of general cognitive ability and job performance: Why there cannot be a debate. *Human Performance* 15, 187–210.

Sirri, E., Tufano, P., 1998. Costly search and mutual fund flows. *Journal of Finance* 53, 1589–1622.

Sugrue, T., 1995. Crabgrass-roots politics: Race, rights, and the reaction against liberalism in the urban North, 1940-1964. *Journal of American History* 82, 551–578.

Yermack, D., 2014. Tailspotting: Identifying and profiting from CEO vacation trips. *Journal of Financial Economics* 113, 252–269.

Appendix 1. Matching of Fund Managers and Identification of Their Ancestry

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

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

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

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

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

1.B Identifying the ancestry of fund managers

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

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

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

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

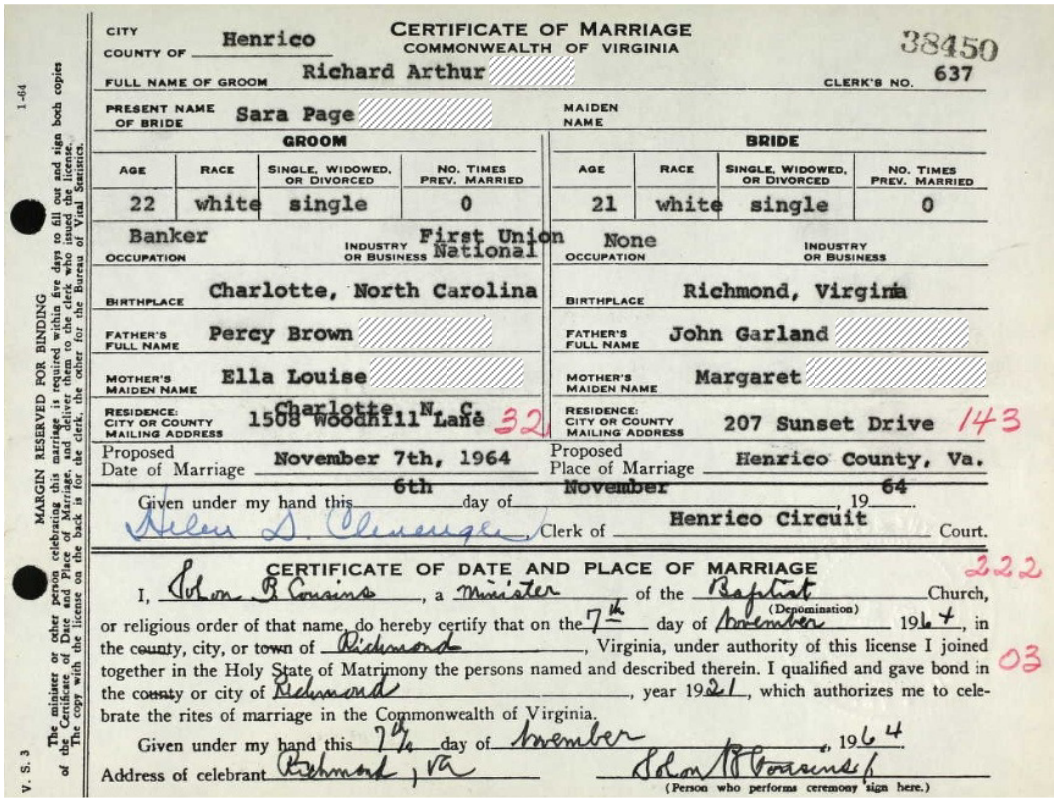
1.C Examples of records

Birth record

TEXAS DEPARTMENT OF HEALTH
BUREAU OF VITAL STATISTICS
CYCLE: 01 THROUGH 99 1940 BIRTHS. PAGE 1143

NAME	COUNTY	DATE	SEX	MOTHER	FATHER
KING, JOHN LEE	137	NOV 25	M	HULBERG, DELLA JEAN	KING, JOHN LAWRENCE
KING, [redacted]	068	APR 16	M	[redacted] LYDA FRANCIS	KING, [redacted]
KING, JOHN RAY	014	AUG 08	M	JUREK, LILLIE MAE	***DO NOT ISSUE***

Marriage record



CERTIFICATE OF MARRIAGE
COMMONWEALTH OF VIRGINIA

CITY / COUNTY OF Henrico — CLERK'S NO. 38450 / 637

FULL NAME OF GROOM: Richard Arthur [redacted]
PRESENT NAME OF BRIDE: Sara Page [redacted] — MAIDEN NAME

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

	GROOM	BRIDE
OCCUPATION	Banker	None
INDUSTRY OR BUSINESS	First Union National	
BIRTHPLACE	Charlotte, North Carolina	Richmond, Virginia
FATHER'S FULL NAME	Percy Brown [redacted]	John Garland [redacted]
MOTHER'S MAIDEN NAME	Ella Louise [redacted]	Margaret [redacted]
RESIDENCE: CITY OR COUNTY MAILING ADDRESS	Charlotte, N. C. 1508 Woodhill Lane 32	207 Sunset Drive 143

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

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

CERTIFICATE OF DATE AND PLACE OF MARRIAGE 222

I, John R Cousins, a Minister of the Baptist (Denomination) Church, or religious order of that name, do hereby certify that on the 7th day of November 1964, in the county, city, or town of Richmond, Virginia, under authority of this license I joined together in the Holy State of Matrimony the persons named and described therein. I qualified and gave bond in the county or city of Richmond, year 1921, which authorizes me to celebrate the rites of marriage in the Commonwealth of Virginia. 03

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

MARGIN RESERVED FOR BINDING
The minister or other person celebrating this marriage is required within five days to fill out and sign both copies of the Certificate of Date and Place of Marriage, and deliver them to the clerk who issued the license. The copy with the license on the back is for the clerk, the other for the Bureau of Vital Statistics.
1-64
V. S. 3

Obituary

[redacted] David C.

February 03, 2002

[redacted], David C.

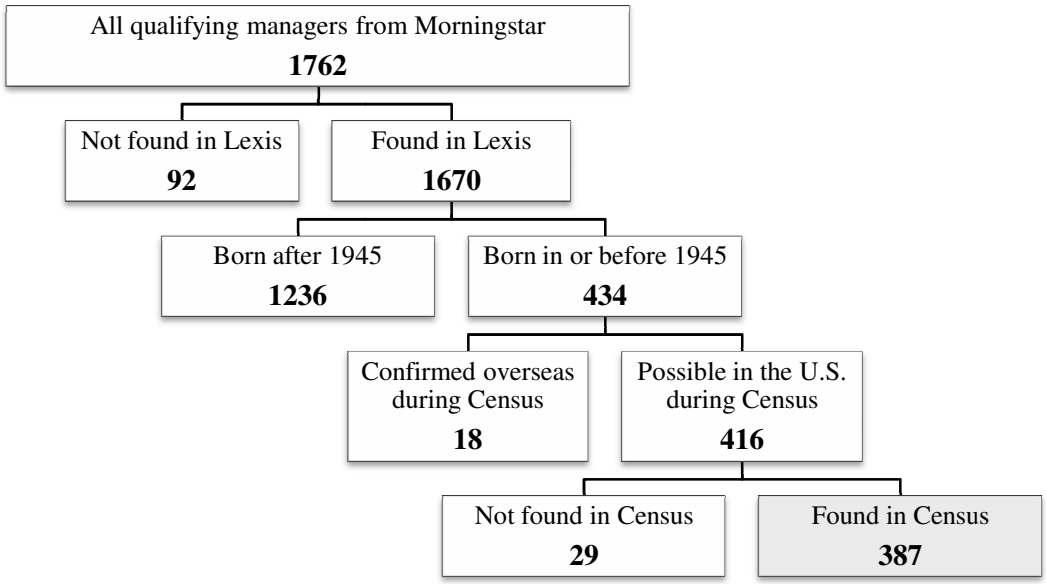
David C[redacted], 60, of Wethersfield, beloved husband of Maryanne[redacted] passed away peacefully on Thursday (January 31, 2002) after a courageous battle with leukemia. He was born April 12, 1941 in Bridgeport and was the son of the late Tyler A. and Frances Conrac[redacted]. He was raised in Fairfield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

Death records

Name:	Murray [redacted]
Gender:	Male
Race:	White
Occupation:	RET VP SLS
Education:	5+ Years College
Hispanic Origin:	No
Industry:	HASBRO IND INC
Marital Status:	Married
Birth Date:	1 May 1911
Birth Place:	New York
Address:	4E PUTNAM
Residence :	Greenwich, Fairfield, Conn
Death Date:	4 Aug 1991
Death Place:	Greenwich, Fairfield, Conn
Age:	80 Years
Spouse:	Charl
Father's Surname:	[redacted]
State File #:	17028

Name:	Joseph A [redacted]
Birth Date:	9 May 1914
Birth Place:	Ohio, United States
Gender:	Male
Race:	White
Residence Place:	Butler, Ohio, United States
Residence Zip Code:	44001-2064
Death Date:	11 Jun 2007
Death Time:	09:40 AM
Death Place:	Ohio, USA
Certificate:	051117
Age at Death:	93
Registrar's Certificate Number:	049413
Certifier:	Physician
Method of Disposition:	Burial
Hospital Status:	Inpatient
Father's Surname:	[redacted]
Marital Status:	Widowed
Education:	High School Graduate or GED Completed
Industry of Decedent:	Steel Manufacturing
Occupation of Decedent:	Rolling Mill
Census Tract:	39093050300

1.D Sample construction cascade



1.E Comparison of the samples: managers found and not found in Census

	Not found		Found		Diff. (*t*-stat)
	mean	median	mean	median	
Monthly net alpha, pp	-0.054	-0.077	-0.054	-0.057	0.000 (0.02)
Monthly gross alpha, pp	0.041	0.014	0.040	0.030	-0.001 (-0.04)
Year of birth	1940.7	1942.0	1938.4	1940.0	-2.3* (-1.83)
Career length, years	12.67	11.25	13.02	11.33	0.35 (0.20)
Private university, indicator	0.67	1.00	0.65	1.00	-0.02 (-0.17)
Ivy League institution, indicator	0.11	0.00	0.18	0.00	0.07 (0.92)
SAT rank	77.2	81.0	82.5	88.0	5.3 (1.64)
Admission rate	49.5%	50.0%	46.8%	43.5%	-2.7% (-0.49)
Tuition, $	17,165.8	18,797.0	18,659.4	23,775.0	1493.6 (0.67)
MBA degree, indicator	0.52	1.00	0.60	1.00	0.08 (0.83)

Appendix 2. 1940 Federal Census Form

2.A Form template

1940 Census - United States

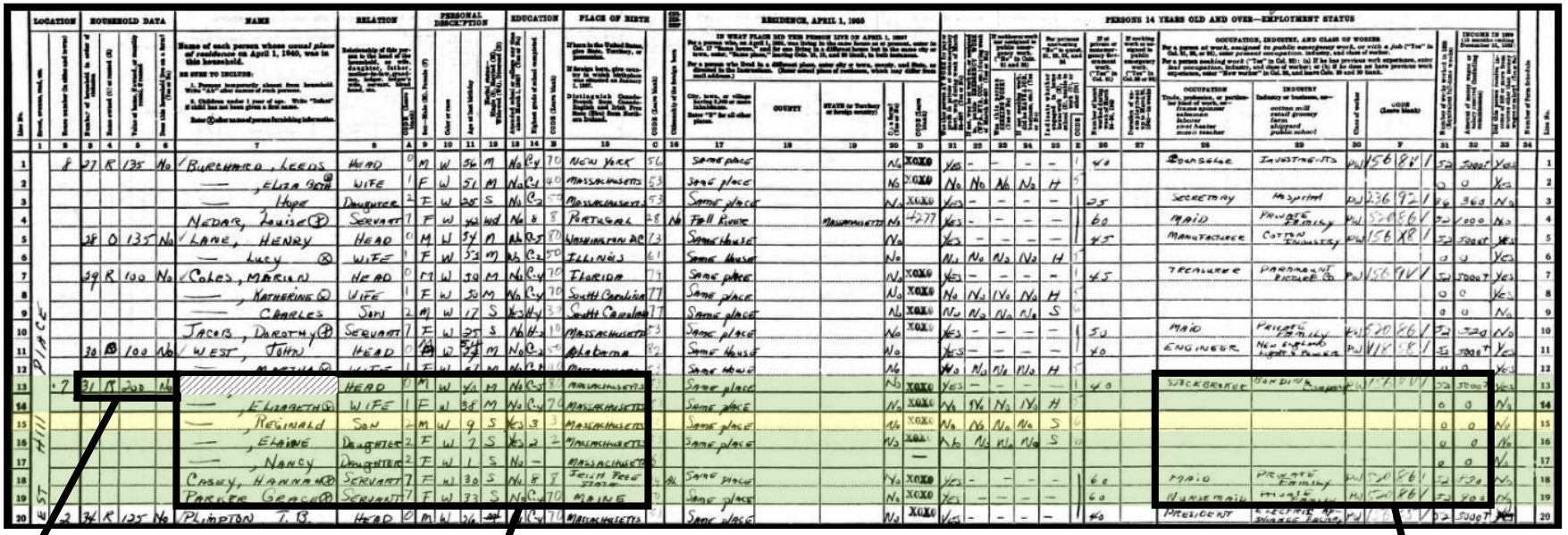
1

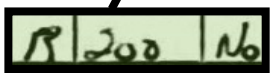
State	County	Town / Township / City and ward		
Microfilm roll number	Enumeration date	Supervisor's district number	Enumeration district number	Sheet number	Page number

Line number	LOCATION: Street, Avenue, road, etc.	LOCATION: House Number (in cities and towns)	HOUSEHOLD DATA: No. of Household in order of visitation	HOUSEHOLD DATA: Home owned (O) or rented (R)	HOUSEHOLD DATA: Value of home or Monthly rental if rented	HOUSEHOLD DATA: Farm? (Yes or No)	NAME: Name of each person whose usual place of residence on April 1, 1940, was in this household. BE SURE TO INCLUDE: 1. Persons temporarily absent from household. Write "Ab" after names of such persons. 2. Children under 1 year of age. Write "Infant" if child has not been given a first name. Enter "X" after name of person furnishing information.	RELATION: Relationship of this person to the head of the household, as wife, daughter, father, mother-in-law, grandson, lodger, lodger's wife, servant, hired hand, etc.	CODE (Leave Blank)	PERSONAL DESCRIPTION: Sex	PERSONAL DESCRIPTION: Color or Race	PERSONAL DESCRIPTION: Age at Last Birthday	PERSONAL DESCRIPTION: Marital Status	EDUCATION: Attended school or college at anytime since March 1, 1940 (Y or N)	EDUCATION: Highest grade of school completed	CODE (Leave Blank)	PLACE OF BIRTH: 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: Citizenship of the foreign born	RESIDENCE, APRIL 1, 1935: 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. City, town, or village having 2,500 or more inhabitants. If less, enter "R"	RESIDENCE, APRIL 1, 1935: County	RESIDENCE, APRIL 1, 1935: State (or Territory or foreign country)	RESIDENCE, APRIL 1, 1935: On the Farm? (Y or N)	RESIDENCE, APRIL 1, 1935: CODE (Leave Blank)
	1	2	3	4	5	6	7	8	A	9	10	11	12	13	14	B	15	C	16	17	18	19	20	D

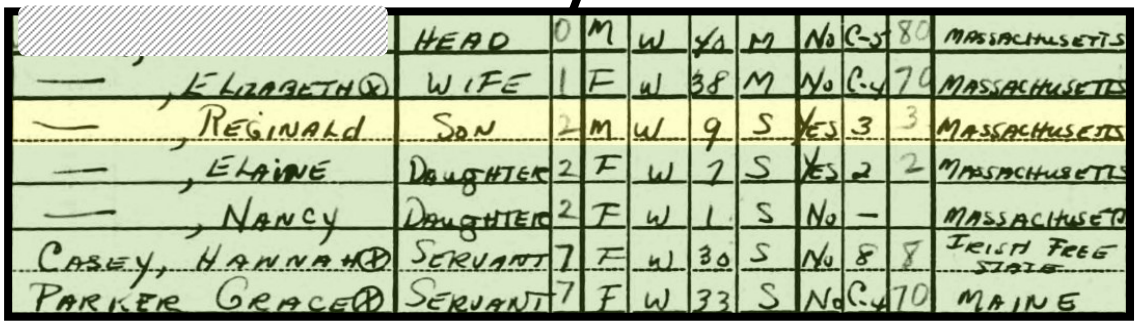
Line Number	PERSONS 14 YEARS OLD AND OVER - EMPLOYMENT STATUS: Was this person AT WORK for pay or profit in private or nonemergency Govt. work during week of March 24, 1940 (Yes or No)	If not, was he at work on, or assigned to, public EMERGENCY WORK (WPA, NYA, CCC, etc.) during week of March 24, 1940 (Yes or No)	If neither at work nor assigned to public emergency work ("No" in cols. 21 & 22): Was this person SEEKING WORK? (Yes or No)	If not seeking work, did he HAVE A JOB, business, etc.? (Yes or No)	For persons answering "No" to questions 21, 22, 23, and 24: Indicate whether engaged in home housework (H), in school (S), unable to work (U), or other (O).	CODE	If at private or nonemergency Government work. ("Yes" in col. 21) Number of hours worked during week of March 24-30, 1940	If seeking work or assigned to public emergency work. ("Yes" in col. 22 or 23) Duration of unemployment up to March 30, 1940 - in weeks.	OCCUPATION, INDUSTRY, AND CLASS OF WORKER. For a person at work, assigned to public emergency work, or with a job ("Yes" in col. 21, 22, or 24), enter present occupation, industry, and class of worker. For a person seeking work ("Yes" in col. 23): (a) if he has previous work experience, enter last occupation, industry, and class of worker; or (b) if he does not have previous work experience, enter "New worker" in col. 28, and leave cols. 29-30 blank. OCCUPATION: Trade, profession, or particular kind of work, as - *frame spinner, salesman, laborer, rivet heater, music teacher*	INDUSTRY: Industry or business, as - *cotton mill, retail grocery, farm, shipyard, public school*	Class of Worker	CODE (leave blank)	Number of weeks worked in 1939 (Equivalent full-time weeks)	INCOME IN 1939 (12 months ending Dec. 31, 1939.): Amount of money, wages or salary received (including commissions)	INCOME IN 1939 (12 months ending Dec. 31, 1939.): Did this person receive income of $500 or more from sources other than money wages or salary (Y or N)	Number of Farm Schedule
	21	22	23	24	25	E	26	27	28	29	30	F	31	32	33	34

2.B Example of a filled record

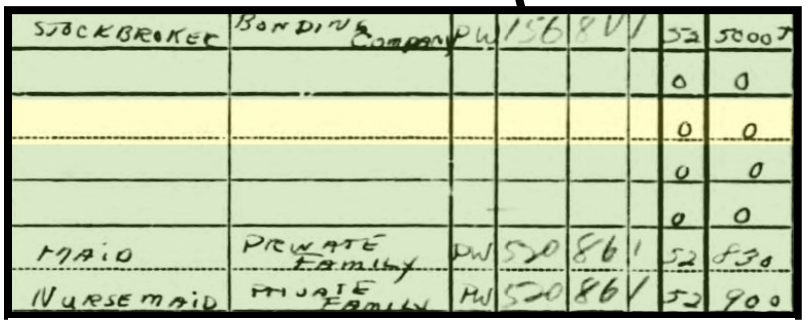




"R" indicates a rented accommodation
Rent is given at $200 per month
"No" indicates that the property was not a farm



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



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

Appendix 3. Definitions of Variables Used in The Analysis

The indexing convention is as follows: *m* denotes a manager, *j* denotes a fund, *t* denotes a month, *T* denotes a calendar quarter.

Variable name	Description
Household wealth	
FatherIncome, actual $_m$	The annual income of manager *m*'s father as per the Census record. This variable is expressed in $000.
FatherIncome, multiples of state median $_m$	The annual income of manager *m*'s father divided by the median male income in the state of the household.
Housing, multiples of state median $_m$	Either the home value or the rent of manager *m*'s household (these variables are available for complementary subsamples) divided by the median of the respective statistic in the state of the household.
Wealth $_m$ or *Wealth, multiples of state median* $_m$	Is equal to manager *m*'s father income, if reported, expressed in multiples of the median male income in the state of the household; is equal to the home value or the rent expressed in multiples of the state median, if the father income is not available.
Wealth rank $_m$	Is equal to 0.01 times the percentile rank of manager *m*'s father income, if reported, and to 0.01 times the percentile rank of either the home value or the rent, if the father income is not available.
WealthQx $_m$	An indicator variable equal to 1 if *Wealth* $_m$ falls in the x^{th} quintile of the distribution.
WealthHigh $_m$	An indicator variable equal to 1 if *Wealth* $_m$ is above the median in the sample.
Managers' and parents' characteristics	
UniSATRank $_m$	0.01 times the 2004 national percentile rank of manager *m*'s undergraduate educational institution by median SAT score.
UniAdmissionRate $_m$	The 2004 undergraduate admission rate of manager *m*'s undergraduate educational institution.
UniTuition $_m$	The 2004 undergraduate in-state tuition (in $000) of manager *m*'s undergraduate educational institution.
UniTuitionRank $_m$	0.01 times the 2004 percentile rank of manager *m*'s undergraduate educational institution by undergraduate in-state tuition.
HasPhD $_m$	An indicator variable equal to 1 if manager *m* holds a PhD degree.

$ParentsEdu_m$	The average education attainment score of manager *m*'s mother and father. The education attainment score is equal to 3 if the person attended college, 2 if he/she attended high school but not college, 1 if he/she attended elementary school but not high school, and 0 if he/she has no school education.
$NumberOfSiblings_m$	The number of siblings for manager *m*.
$Immigrant_m$	An indicator variable equal to 1 if either manager *m* himself is born outside of the U.S. or both his father and mother are born outside of the U.S..
$UnemploymentAtEntry_m$	The average monthly unemployment rate (in pp) in the year that manager *m* joined the mutual fund industry.
$ParentsDead_{mT}$	An indicator variable equal to 1 if both manager *m*'s father and mother died before the year of quarter *T*. This variable is set to missing if either the mother or the father died in the year of quarter *T*.

Performance measures

$Alpha_{jt}$ ($Gross\ Alpha_{jt}$)	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 the estimation period contains fewer than 30 non-missing observations, the variable is set to missing. This variable is expressed in pp.
Benchmark-Adjusted Return $_{jt}$	Fund *j*'s gross return in month *t* minus the return on the fund's prospectus benchmark index. This variable is expressed in pp.
Abnormal Return Over Benchmark $_{jt}$	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, the variable is set to missing. This variable is expressed in pp.
$Value\ Extracted_{jt}$	Dollar value extracted from capital markets computed as the product between fund *j*'s gross alpha in month *t* and the fund's TNA at the end of month *t*-1. The fund's TNA is standardized to 2012 dollars by the Consumer Price Index of the Federal Reserve Bank of St. Louis. This variable is expressed in $mil.
$PastGAlpha_{mt}$	Manager *m*'s average gross monthly alpha (in pp) in the period [*t*-60,*t*-1].
$PastAlpha_{jt}$	Fund *j*'s average net monthly alpha (in pp) in the period [*t*-36,*t*-1].
$PastAlphaLow_{jt}$	Is equal to $PastAlpha_{jt}$, if $PastAlpha_{jt} \leq 0$; is equal to 0, if $PastAlpha_{jt} > 0$.
$PastAlphaHigh_{jt}$	Is equal to 0, if $PastAlpha_{jt} \leq 0$; is equal to $PastAlpha_{jt}$, if $PastAlpha_{jt} > 0$.

Fund and fund family controls

FundSize $_{jt(T)}$	Log(1 + fund *j*'s TNA in $000 at the end of month *t* (quarter *T*)).
FundAge $_{jt(T)}$	The time in years from the month of fund *j*'s first appearance in the sample to the end of month *t* (quarter *T*).
ManagerTenure $_{mjt(T)}$	The time in years from the month of manager *m*'s first appearance in the sample as a manager of fund *j* 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*)).
FirmLogNumFunds $_{jt(T)}$	Log(the number of funds in fund *j*'s fund family at the end of month *t* (quarter *T*)).
Volatility $_{jt(T)}$	The standard deviation of fund *j*'s monthly returns (in pp) over the period [*t*-35, *t*] ([*T*-35, *T*]).
Skewness $_{jt(T)}$	The skewness of fund *j*'s monthly returns (in pp) over the period [*t*-35, *t*] ([*T*-35, *T*]).

Promotion and exit indicators

Promotion, AUM-Inferred $_{mjt}$	An indicator variable equal to 1 if the total dollar assets managed by manager *m* of fund *j* at the end of month *t* is more than double the assets at the end of month *t*-1.
Promotion, Fee-Inferred $_{mjt}$	An indicator variable equal to 1 if the total management fee accruing to manager *m* of fund *j* at the end of month *t* is more than double this fee at the end of month *t*-1. The total management fee is calculated as the sum (across all the funds managed by the manager) of fund TNA * fund expense ratio / number of managers running the fund.
Exit From Asset Management $_{mjt}$	An indicator variable equal to 1 if month *t* is the last month that manager *m* of fund *j* appears in the sample. This variable is undefined if month *t* is December 2012 (end of the sample period). This variable is undefined if either of these two conditions hold for manager *m*: (i) the manager appears as either an insurance fund or a hedge fund manager in Morningstar in the next twelve months after leaving, or (ii) the manager dies in the same or next year after leaving.

Portfolio activity and flows

Turnover $_{jT}$	The annualized ratio (in pp) of the sum of the absolute dollar changes in fund *j*'s stock positions from quarter *T*-1 to quarter *T* to the average fund portfolio size in these adjacent quarters. Formally: $$4 * \frac{\sum_{i \in j_T} \frac{P_{iT-1}+P_{iT}}{2} \lvert NS_{jiT} - NS_{jiT-1} \rvert}{\frac{TNA_{jT-1}+TNA_{jT}}{2}},$$ where NS_{jiT} is the number of shares of stock *i* held by fund *j* at the end of quarter *T*, P_{iT} is the price of stock *i* at the end of quarter *T*, and TNA_{jT} is the dollar total net assets of fund *j* at the end of quarter *T*.

Holding Horizon $_{jT}$	For each stock *i* in fund *j*'s portfolio at the end of quarter *T*, we calculate the average number of months that its shares are held in the portfolio using the FIFO assumption of Lan, Moneta, and Wermers (2016). Next, we aggregate this variable to the fund level as the weighted average measure in which the weights are proportional to the stocks' portfolio weights.
Herding $_{jT}$	We construct a hypothetical style portfolio by aggregating (for each stock and quarter) the dollar positions of all funds in the style. Next, for fund *j* in quarter *T* we compute the correlation (across all the stocks in the style portfolio) of the percentage changes in the number of shares held by fund *j* from quarter *T*-1 to quarter *T* with the corresponding changes in positions of the style portfolio. This variable is expressed in pp.
Stock Picking $_{jT}$	Is equal to $$\sum_{i \in j_T} (w_{jiT} - w_{MiT}) * (r_{iT+1} - \beta_{iT} r_{MT+1}),$$ where w_{jiT} is the weight of stock *i* in fund *j*'s portfolio at the end of quarter *T*, w_{MiT} is the weight of stock *i* in the market portfolio (the benchmark portfolio of all funds in the Morningstar investment style), r_{iT} is the return of stock *i* in quarter *T*, r_{MT} is the market (CRSP value-weighted index) return in quarter *T*, and β_{iT} is the beta of stock *i* (computed from the one-factor model over the period of the past 36 months). See Kacperczyk, Van Nieuwerburgh, and Veldkamp (2014) for details. This variable is expressed in pp.
Market Timing $_{jT}$	Is equal to $$\sum_{i \in j_T} (w_{jiT} - w_{MiT}) * \beta_{iT} r_{MT+1}$$ See the previous item for details.
Flow $_{jt}$	The percentage flow (in pp) for fund *j* in month *t* computed as $$\frac{TNA_{jt} - (1 + r_{jt}) TNA_{jt-1}}{TNA_{jt-1}},$$ where TNA_{jt} is the dollar total net assets of fund *j* at the end of month *t* and r_{jt} is fund *j*'s gross return over month *t*.

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

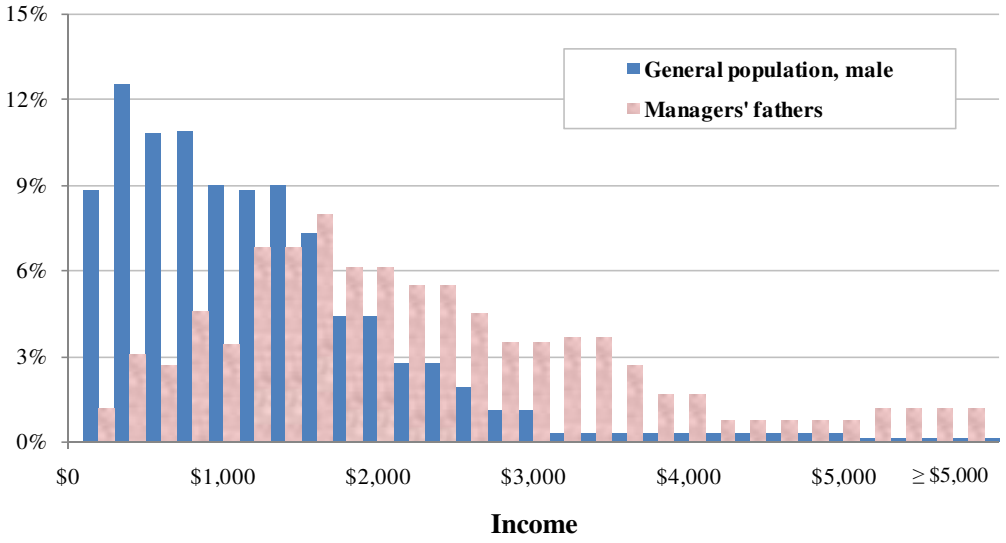


Figure 1.B Distribution of years of education completed: general male population vs managers' fathers

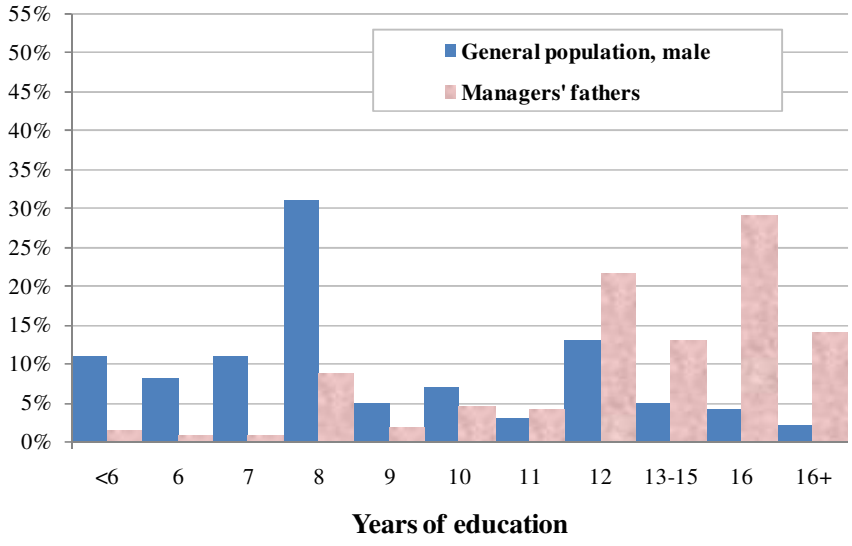


Table 1. Sample Description

This table shows summary statistics for the main sample of 387 managers born in or before 1945 (see Appendix 1 for the sample construction description). Data on managers' careers and education are obtained from Morningstar/FactSet manager biographies and are complemented with university records. Managers' parents' household data are from the 1940 Census household records. Tract-level demographic variables are computed from the summary files for the 1940 Census compiled by Elizabeth Bogue. Mutual fund and family characteristics are from Morningstar.

Panel A: Managers and funds

	mean	st. dev.	5 perc.	10 perc.	25 perc.	median	75 perc.	90 perc.	95 perc.
Managers (2004 data for educational institutions)									
Year of birth	1938.4	6.7	1925.0	1930.0	1936.0	1940.0	1943.0	1945.0	1945.0
Career length, years	13.02	9.04	2.50	3.33	6.17	11.33	18.33	26.08	31.17
Private university, indicator	0.65	0.48	0.00	0.00	0.00	1.00	1.00	1.00	1.00
Ivy League institution, indicator	0.18	0.39	0.00	0.00	0.00	0.00	0.00	1.00	1.00
SAT rank	82.5	15.5	50.0	62.0	73.0	88.0	97.0	98.0	99.0
Undergraduate admission rate	46.8%	26.1%	11.0%	13.0%	23.0%	43.5%	70.0%	83.0%	88.0%
Undergraduate in-state tuition, $	18,659.4	11,036.7	3,324.0	3,916.0	5,670.0	23,775.0	28,400.0	29,318.0	29,846.0
MBA degree, indicator	0.60	0.49	0.00	0.00	0.00	1.00	1.00	1.00	1.00
PhD degree, indicator	0.04	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Managed funds' characteristics									
Monthly return, pp	0.985	5.146	-7.330	-4.860	-1.710	1.230	3.905	6.713	8.600
Monthly net alpha, pp	-0.054	1.696	-2.915	-2.094	-0.997	-0.057	0.876	1.969	2.833
Monthly gross alpha, pp	0.040	1.698	-2.809	-2.005	-0.906	0.030	0.968	2.067	2.946
Volatility (three-year trailing), pp	4.823	1.876	2.351	2.657	3.516	4.600	5.762	7.032	8.156
Total net assets, $mil	1,778.01	7,988.06	7.22	13.38	48.91	193.85	830.95	2,924.82	6,191.42

Panel B: Parents' households

	mean	st. dev.	5 perc.	10 perc.	25 perc.	median	75 perc.	90 perc.	95 perc.
Managers' parents' household (1940 Census data)									
Home value, $	10,708.0	12,605.1	1,500.0	2,040.0	4,000.0	7,000.0	12,000.0	25,000.0	30,000.0
Monthly rent, $	54.46	61.68	13.00	18.00	30.00	40.00	55.00	90.00	166.00
Number of siblings	1.43	1.39	0.00	0.00	0.00	1.00	2.00	3.00	4.00
Resident servants, indicator	0.16	0.37	0.00	0.00	0.00	0.00	0.00	1.00	1.00
Father									
Year of birth	1906.2	9.9	1888.0	1894.0	1902.0	1908.0	1913.0	1917.0	1918.0
Income, $	2,298.2	1,386.3	500.0	700.0	1,200.0	2,000.0	3,100.0	5,000.0	5,000.0
Years of education	13.3	3.2	8.0	8.0	12.0	14.0	16.0	17.0	17.0
Attended college, indicator	0.56	0.50	0.00	0.00	0.00	1.00	1.00	1.00	1.00
Mother									
Year of birth	1909.7	8.9	1893.0	1899.0	1906.0	1911.0	1916.0	1919.0	1921.0
Income, $	842.6	421.6	130.0	240.0	600.0	864.0	1,100.0	1,300.0	1,500.0
Years of education	12.7	2.8	8.0	8.0	12.0	12.0	15.0	16.0	16.0
Attended college, indicator	0.47	0.50	0.00	0.00	0.00	0.00	1.00	1.00	1.00
Tract-level demographics (1940 Bogue files)									
Median home value in the tract, $	5,949.0	4,378.1	0.0	2,042.0	3,380.5	5,331.0	6,961.0	10,200.0	20,000.0
Median rent in the tract (gross) $	46.25	15.49	23.92	30.75	37.24	46.27	53.69	62.19	69.89
Median education years in the tract	10.50	4.39	7.70	8.00	8.57	9.55	12.22	12.53	12.69
Household home value relative to the tract median	1.22	0.53	0.68	0.70	0.86	1.03	1.47	1.97	2.35
Household rent relative to the tract median	1.23	0.91	0.52	0.65	0.81	0.96	1.31	1.77	3.44
Father's education relative to the tract median (male)	1.31	0.38	0.90	0.92	1.03	1.30	1.45	1.86	2.05

Table 2. Univariate Relationships

Panel A of this table shows correlation coefficients among managers' and households' characteristics. Panel B shows mean and median values for the variables of interest for each quintile of the managers' household wealth distribution as proxied by the father's income and home value/rent scaled by the state median. Exact variable definitions are detailed in Appendix 3.

Panel A: Correlations

	Father income	Home value	Rent	Number of siblings	Tract home value	Tract rent	Parents' education	Private university	Ivy League inst.	SAT rank	Adm. rate	Tuition	MBA degree	PhD degree
Father income	1.000													
Home value	0.445	1.000												
Rent	0.627		1.000											
Number of siblings	0.005	0.078	0.027	1.000										
Tract home value, median	0.369	0.094	0.228	0.151	1.000									
Tract rent, median	0.360	-0.138	0.499	0.164	0.589	1.000								
Parents' years of education	0.334	0.224	0.273	-0.074	0.209	0.224	1.000							
Private university	0.279	0.211	0.254	0.008	0.199	0.150	0.129	1.000						
Ivy League institution	0.307	0.315	0.218	-0.025	0.192	0.195	0.174	0.344	1.000					
SAT rank	0.396	0.312	0.263	0.012	0.231	0.174	0.242	0.422	0.462	1.000				
Admission rate	-0.354	-0.348	-0.238	-0.025	-0.191	-0.225	-0.206	-0.452	-0.575	-0.776	1.000			
Tuition	0.362	0.246	0.306	0.029	0.268	0.226	0.198	0.899	0.433	0.612	-0.590	1.000		
MBA degree, indicator	-0.195	-0.027	-0.195	-0.037	-0.213	-0.027	-0.002	-0.040	-0.041	-0.050	0.028	-0.041	1.000	
PhD degree, indicator	-0.076	-0.110	-0.035	0.037	-0.049	-0.059	0.040	-0.112	-0.094	-0.055	0.096	-0.096	-0.025	1.000

Panel B: Family wealth quintiles

	Q1		Q2		Q3		Q4		Q5	
	mean	median	mean	median	mean	median	mean	median	mean	median
Wealth, multiples of the state median	0.75	0.78	1.49	1.48	2.17	2.19	3.30	3.25	6.69	5.10
Wealth rank	12.55	10.50	35.87	35.50	54.60	58.00	69.72	75.00	85.03	91.00
Father income, $	752.8	728.0	1,524.1	1,560.0	2,191.2	2,240.0	3,133.7	3,200.0	4,641.4	5,000.0
Home value, $	3,649.2	2,451.1	5,568.8	4,995.0	7,166.2	6,300.0	9,315.7	7,500.0	20,054.1	14,250.0
Monthly rent, $	31.62	27.50	33.64	35.00	43.02	43.00	53.45	50.00	147.20	97.50
Number of siblings	1.80	1.00	1.18	1.00	1.41	1.00	1.18	1.00	1.64	1.00
Number of resident servants	0.03	0.00	0.05	0.00	0.10	0.00	0.21	0.00	0.96	1.00
Monthly net alpha, pp	-0.037	-0.053	-0.016	-0.032	-0.033	-0.029	-0.078	-0.069	-0.105	-0.103
Monthly gross alpha, pp	0.062	0.040	0.062	0.040	0.061	0.058	0.010	0.012	-0.003	-0.011
Parents' years of education	11.5	12.0	12.4	12.5	12.9	13.0	13.7	14.0	14.6	15.0
Parents attended college, indicator	0.40	0.00	0.57	1.00	0.65	1.00	0.75	1.00	0.89	1.00
Private university, indicator	0.54	1.00	0.61	1.00	0.59	1.00	0.75	1.00	0.78	1.00
Ivy League institution, indicator	0.05	0.00	0.15	0.00	0.11	0.00	0.28	0.00	0.32	0.00
SAT rank	74.2	73.5	80.4	81.0	81.3	87.0	87.5	92.0	89.1	95.0
Admission rate	56.9%	64.0%	49.7%	54.0%	50.3%	49.0%	40.3%	35.0%	36.9%	24.5%
Tuition, $	15,349.4	17,137.0	17,285.3	18,505.0	17,153.5	20,193.0	21,596.3	27,535.5	22,602.4	28,090.0
MBA degree, indicator	0.64	1.00	0.70	1.00	0.58	1.00	0.64	1.00	0.42	0.00
PhD degree, indicator	0.06	0.00	0.04	0.00	0.03	0.00	0.01	0.00	0.03	0.00

Table 3. Family Wealth and Performance of Fund Managers

Panel A of this table shows the regressions of the funds' four-factor monthly alphas (in pp) on two relative measures of the manager's household wealth in 1940. The alpha is defined as the net return of the fund minus the return predicted by the four-factor model estimated over the trailing 36 months. The main independent variable—wealth in multiples of the state median—is equal to the manager's father's income, if reported, scaled by the median male income in the state, and to the home value or the rent scaled by the respective state median, if the father income is not available. Wealth rank is equal to the percentile rank in the sample (in pp) of the manager's father's income, if reported, and to the percentile rank of either the home value or the rent (these variables are defined on non-overlapping subsamples), if the father income is not available. Panel B shows the results for additional proxies of wealth: the actual father income (in $000), father income in multiples of the state median, home value or rent in multiples of the state median, and the dummy variables indicating quintiles of the wealth distribution (main measure). Panel C shows the results for alternative measures of investment performance: *Gross Alpha* (in pp) is computed as the fund's before-fees return in excess of the return predicted by the four-factor model, *Benchmark-Adjusted Return* (in pp) is the fund's return net of the prospectus benchmark index return, *Abnormal Return Over Benchmark* (in pp) is the fund's return minus the return predicted by the benchmark-based one-factor model, and *Value Extracted* is the dollar measure of the value extracted from capital markets (in $mil) computed as the product between the fund's gross alpha and the fund's inflation-adjusted TNA (expressed in 2012 dollars) at the end of the previous month. The control variables capture key mutual fund and fund family characteristics as well as education characteristics of the fund manager and his parents. The values of time-varying controls are taken at the end of the month preceding the observation month. Exact variable definitions are detailed in Appendix 3. The inclusion of Morningstar fund 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 fund manager level. * (**, ***) indicates the significance of the coefficient at the 10% (5%, 1%) level.

Panel A: Main analysis

Indep. variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Wealth, multiples of state median	-0.0100*** (-3.19)	-0.0118*** (-3.63)	-0.0118*** (-3.65)	-0.0120*** (-3.55)	-0.0158*** (-4.12)					
Wealth rank						-0.0507* (-1.75)	-0.0755** (-2.58)	-0.0765*** (-2.59)	-0.0709** (-2.39)	-0.0932*** (-3.03)
FundSize	-0.0412*** (-5.06)	-0.0402*** (-4.87)	-0.0411*** (-4.99)	-0.0427*** (-5.26)	-0.0397*** (-4.73)	-0.0392*** (-4.83)	-0.0380*** (-4.63)	-0.0388*** (-4.74)	-0.0407*** (-5.02)	-0.0373*** (-4.46)
FundAge	-0.0003 (-0.20)	-0.0005 (-0.33)	-0.0006 (-0.40)	0.0000 (0.03)	-0.0011 (-0.75)	-0.0003 (-0.23)	-0.0005 (-0.36)	-0.0006 (-0.43)	0.0000 (0.02)	-0.0011 (-0.76)
ManagerTenure	0.0019 (1.49)	0.0021* (1.71)	0.0023* (1.82)	0.0025* (1.83)	0.0033** (2.48)	0.0016 (1.24)	0.0018 (1.46)	0.0019 (1.57)	0.0021 (1.55)	0.0028** (2.15)
FirmSize	0.0393*** (4.33)	0.0367*** (4.00)	0.0366*** (4.00)	0.0360*** (3.93)	0.0345*** (3.69)	0.0390*** (4.33)	0.0360*** (3.98)	0.0358*** (3.96)	0.0360*** (3.97)	0.0342*** (3.71)
FirmLogNumFunds	-0.0555*** (-3.34)	-0.0525*** (-3.16)	-0.0504*** (-3.04)	-0.0484*** (-2.83)	-0.0494*** (-2.84)	-0.0569*** (-3.44)	-0.0539*** (-3.27)	-0.0515*** (-3.13)	-0.0512*** (-3.01)	-0.0533*** (-3.09)
Volatility	-0.0410*** (-5.20)	-0.0405*** (-5.09)	-0.0407*** (-5.11)	-0.0402*** (-5.09)	-0.0433*** (-5.48)	-0.0405*** (-5.17)	-0.0400*** (-5.08)	-0.0403*** (-5.10)	-0.0394*** (-5.02)	-0.0427*** (-5.40)
Skewness	0.0006*** (2.79)	0.0006*** (2.79)	0.0006*** (2.89)	0.0006*** (2.68)	0.0006*** (2.78)	0.0006*** (2.82)	0.0006*** (2.82)	0.0006*** (2.91)	0.0006*** (2.70)	0.0006*** (2.79)
UniSATRank		0.1252* (1.82)			0.0798 (1.12)		0.0014** (2.00)			0.0009 (1.33)
UniAdmissionRate			-0.0876** (-2.39)					-0.0975*** (-2.59)		
ParentsEdu				0.0285** (1.97)	0.0260* (1.70)				0.0244* (1.72)	0.0205 (1.36)
HasPhD					0.0122 (0.28)					0.0104 (0.24)
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.	45,451	45,190	44,959	44,230	42,426	45,976	45,715	45,484	44,755	42,951
Adj. R-sq	0.0144	0.0146	0.0147	0.0145	0.0150	0.0143	0.0145	0.0146	0.0144	0.0149

Panel B: Other measures of wealth and its components

Indep. variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FatherIncome, actual	-0.0284***	-0.0297***						
	(-3.17)	(-3.28)						
FatherIncome, multiples of state median			-0.0284***	-0.0305***				
			(-3.49)	(-3.69)				
Housing, multiples of state median					-0.0069***	-0.0080***		
					(-3.01)	(-3.44)		
WealthQ2							0.0203	0.0157
							(0.79)	(0.60)
WealthQ3							-0.0188	-0.0206
							(-0.69)	(-0.76)
WealthQ4							-0.0577*	-0.0775**
							(-1.90)	(-2.47)
WealthQ5							-0.0960***	-0.1017***
							(-3.27)	(-3.43)
Fund controls	YES	YES	YES	YES	YES	YES	YES	YES
Manager's controls	YES	YES	YES	YES	YES	YES	YES	YES
Parents' controls	NO	YES	NO	YES	NO	YES	NO	YES
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.	29,767	29,767	29,307	29,307	42,095	40,886	43,635	42,426
Adj. R-sq	0.0147	0.0147	0.0149	0.0149	0.0154	0.0154	0.0151	0.0152

Panel C: Alternative measures of performance

	Gross Alpha		*Benchmark-Adjusted Return*		*Abnormal Return Over Benchmark*		*Value Extracted*	
Indep. variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Wealth	-0.0139***	-0.0154***	-0.0142***	-0.0145***	-0.0107***	-0.0103**	-0.2780**	-0.3934***
	(-4.18)	(-4.31)	(-3.13)	(-3.02)	(-2.67)	(-2.44)	(-2.33)	(-2.71)
Fund controls	YES	YES	YES	YES	YES	YES	YES	YES
Manager's controls	YES	YES	YES	YES	YES	YES	YES	YES
Parents' controls	NO	YES	NO	YES	NO	YES	NO	YES
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.	43,629	42,417	42,545	41,394	41,592	40,445	43,626	42,417
Adj. R-sq	0.0155	0.0155	0.0126	0.0122	0.0148	0.0145	0.0036	0.0035

Table 4. Mediating Effects

This table shows how the effect of the manager's 1940 household wealth on fund alpha varies by different characteristics. *Wealth* is measured in multiples of the state median and is defined as in Table 3. *WealthHigh* is an indicator variable equal to 1 if the manager's family wealth is above the median in the sample. *NumberOfSiblings* is the number of siblings of the manager, *Immigrant* is an indicator variable equal to 1 if either the manager himself was born outside of the U.S. or both his father and mother were born outside of the U.S., *UnemploymentAtEntry* is the average monthly unemployment rate (in pp) in the year that the manager joined the mutual fund industry, and *ManagerTenure* is the duration in years of the manager's tenure with the fund. The control variables are the same as in Table 3 (suppressed for brevity) and capture key mutual fund and fund family characteristics as well as education characteristics of the fund manager and his parents. Exact variable definitions are detailed in Appendix 3. The inclusion of Morningstar fund 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 fund manager level. * (**, ***) indicates the significance of the coefficient at the 10% (5%, 1%) level.

Indep. variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Wealth	-0.0284***		-0.0148***		0.0214		-0.0220***	
	(-4.10)		(-4.07)		(1.37)		(-3.61)	
WealthHigh		-0.1386***		-0.0960***		0.0933		-0.1254***
		(-5.50)		(-5.07)		(1.07)		(-4.39)
NumberOfSiblings	-0.0311***	-0.0285***						
	(-3.50)	(-3.81)						
*Wealth * NumberOfSiblings*	0.0070***							
	(2.83)							
*WealthHigh * NumberOfSiblings*		0.0338**						
		(2.53)						
Immigrant			0.1691*	0.0852				
			(1.93)	(1.45)				
*Wealth * Immigrant*			-0.0564*					
			(-1.69)					
*WealthHigh * Immigrant*				-0.1799				
				(-1.46)				
UnemploymentAtEntry					0.0257**	0.0253**		
					(2.28)	(2.45)		
*Wealth * UnemploymentAtEntry*					-0.0061**			
					(-2.19)			
*WealthHigh * UnemploymentAtEntry*						-0.0305**		
						(-2.24)		
ManagerTenure							0.0013	0.0021
							(0.64)	(1.14)
*Wealth * ManagerTenure*							0.0007	
							(1.59)	
*WealthHigh * ManagerTenure*								0.0028
								(1.33)
Fund controls	YES	YES	YES	YES	YES	YES	YES	YES
Manager's controls	YES	YES	YES	YES	YES	YES	YES	YES
Parents' controls	YES	YES	YES	YES	YES	YES	YES	YES
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.	38,648	38,648	42,426	42,426	42,426	42,426	42,426	42,426
Adj. R-sq	0.0154	0.0158	0.0151	0.0154	0.0151	0.0155	0.0150	0.0154

Table 5. Portfolio Activity and Wealth

This table shows the relationship between the manager's household wealth in 1940 and different measures of portfolio activity. All the regressions are run at quarterly frequency. *Turnover* is the annualized ratio (in pp) of the sum of the absolute dollar changes in the fund's positions over the quarter to the average fund portfolio size in these adjacent quarters, *HoldingHorizon* (in months) measures the average duration that the shares are held in the fund's portfolio and is based on the FIFO assumption about purchases and sales (see Lan, Moneta, and Wermers 2016), *Herding* is the correlation (in pp) between the changes in positions of the fund and the changes in positions of the (hypothetical) average fund in the style, and *Stock Picking* (*Market Timing*) is the fund performance component attributable to stock selection (market timing) (as in Kacperczyk, Van Nieuwerburgh, and Veldkamp 2014). Panel A shows the main results while Panel B shows how the effects vary by *ParentsDead*—an indicator variable equal to 1 if both the manager's father and mother died before the observation year. *Wealth* is measured in multiples of the state median and is defined as in Table 3. The control variables capture key mutual fund and fund family characteristics as well as education characteristics of the fund manager and his parents. Exact variable definitions are detailed in Appendix 3. The inclusion of Morningstar fund 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 fund manager level. *(**, ***) indicates the significance of the coefficient at the 10% (5%, 1%) level.

Panel A: Main effects

	Turnover		*Holding Horizon*		*Herding*		*Stock Picking*		*Market Timing*	
Indep. variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Wealth	-0.6100*	-0.6315**	0.8966*	0.8615*	0.2746	0.2612	-0.0488***	-0.0494***	0.0078	0.0054
	(-1.91)	(-2.20)	(1.76)	(1.79)	(1.08)	(1.05)	(-2.72)	(-2.93)	(0.31)	(0.21)
FundSize	-1.8683**	-2.1347***	-0.0680	0.1528	4.2439***	4.0979***	-0.1186**	-0.1106**	0.0048	-0.0046
	(-2.27)	(-2.95)	(-0.08)	(0.18)	(8.47)	(8.40)	(-2.55)	(-2.35)	(0.11)	(-0.11)
FundAge	-0.0364	0.0441	0.4974**	0.4175*	0.0341	0.0620	-0.0042	-0.0065	0.0037	0.0043
	(-0.21)	(0.28)	(2.16)	(1.96)	(0.33)	(0.62)	(-0.55)	(-0.88)	(0.46)	(0.52)
ManagerTenure	-0.2656*	-0.2239	0.4910**	0.4634**	0.1790*	0.1980*	0.0165**	0.0155**	0.0066	0.0079
	(-1.70)	(-1.55)	(2.02)	(1.96)	(1.73)	(1.93)	(2.38)	(2.25)	(0.87)	(1.03)
FirmSize	-0.5642	-0.4538	1.2181	1.1055	-0.4203	-0.3792	0.0257	0.0220	-0.1207**	-0.1199**
	(-0.63)	(-0.57)	(1.33)	(1.28)	(-0.72)	(-0.66)	(0.52)	(0.44)	(-2.49)	(-2.45)
FirmLogNumFunds	4.0281**	3.9514**	-5.9871***	-5.9059***	-0.0469	-0.0726	-0.0672	-0.0647	0.2022**	0.2020**
	(2.23)	(2.42)	(-3.08)	(-3.25)	(-0.05)	(-0.07)	(-0.81)	(-0.77)	(2.31)	(2.29)
UniSATRank	-2.3869	-0.6164	12.6310	11.4685	0.8415	0.7179	0.3755	0.3484	-0.1108	-0.1677
	(-0.29)	(-0.08)	(1.46)	(1.46)	(0.20)	(0.17)	(1.17)	(1.08)	(-0.38)	(-0.56)
ParentsEdu	-0.1573	0.1287	-4.4731	-4.5394*	-2.5214**	-2.4993**	0.0253	0.0219	0.0810	0.0819
	(-0.08)	(0.08)	(-1.54)	(-1.65)	(-2.36)	(-2.43)	(0.31)	(0.27)	(1.00)	(1.02)
HasPhD	4.8825	4.4912	-7.2772***	-6.8686***	-1.3171	-1.6960	-0.0941	-0.0756	-0.2114	-0.2431
	(1.43)	(1.43)	(-2.96)	(-2.74)	(-0.58)	(-0.73)	(-0.45)	(-0.35)	(-1.02)	(-1.16)
Volatility		3.7071***		-3.6169***		1.3885***		-0.1062***		0.0360
		(5.06)		(-5.67)		(4.40)		(-3.10)		(0.78)
Skewness		0.0357***		-0.0298*		-0.0253***		-0.0004		-0.0037***
		(3.12)		(-1.92)		(-2.61)		(-0.29)		(-2.63)
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.	6,499	6,499	8,723	8,723	8,692	8,692	8,440	8,440	8,440	8,440
Adj. R-sq	0.1235	0.1735	0.2488	0.3013	0.2714	0.2791	0.1043	0.1053	0.3524	0.3528

Panel B: Conditioning on parents' deaths

	Turnover		*Holding Horizon*		*Herding*		*Stock Picking*		*Market Timing*	
Indep. variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Wealth	-0.3699	-0.2956	-0.8579	-0.9468*	0.1677	0.1370	-0.0424	-0.0485	-0.0218	-0.0246
	(-0.55)	(-0.49)	(-1.34)	(-1.68)	(0.39)	(0.32)	(-1.14)	(-1.35)	(-0.54)	(-0.63)
ParentsDead	5.0925	4.4883	-7.2992**	-6.9522**	-2.0029	-1.9759	-0.1669	-0.1470	0.2056	0.2055
	(1.53)	(1.45)	(-2.05)	(-2.04)	(-0.86)	(-0.88)	(-1.12)	(-1.00)	(1.07)	(1.10)
Wealth *	-0.5337	-0.6858	1.8258**	2.0058**	0.3489	0.3281	0.0044	0.0133	0.0321	0.0282
ParentsDead	(-0.74)	(-1.00)	(2.22)	(2.42)	(0.51)	(0.50)	(0.11)	(0.31)	(0.75)	(0.67)
Fund controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Manager's controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Parents' controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Vol. and skew controls	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
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.	4,325	4,325	5,726	5,726	5,705	5,705	5,538	5,538	5,538	5,538
Adj. R-sq	0.1318	0.1633	0.2190	0.2584	0.3073	0.3120	0.1123	0.1142	0.3492	0.3499

Table 6. Promotion and Exit Events

This table shows the linear probability regressions of the indicators of the managers' promotions and exits on their past performance, their household wealth in 1940, and the interaction between the two. *Promotion, AUM-Inferred* (*Promotion, Fee-Inferred*) is an indicator variable equal to 1 if the total dollar assets managed by the manager (total management fee accruing to the manager) more than doubled since the previous month. *Exit From Asset Management* is an indicator variable equal to 1 if the observation month is the last month for the manager in the sample; this variable is undefined if the observation month is December 2012 or if either of these two conditions hold: (i) the manager appears as either an insurance fund or a hedge fund manager in Morningstar in the next twelve months after leaving, or (ii) the manager dies in the same or next year after leaving. *PastGAlpha* is the average gross monthly alpha (in pp) earned by the manager over the past 60 months. *Wealth* is measured in multiples of the state median and is defined as in Table 3. *WealthHigh* is an indicator variable equal to 1 if the manager's family wealth is above the median in the sample. The control variables capture key mutual fund and fund family characteristics as well as education characteristics of the fund manager and his parents. Exact variable definitions are detailed in Appendix 3. The inclusion of Morningstar fund 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 fund manager level. * (**, ***) indicates the significance of the coefficient at the 10% (5%, 1%) level.

	Promotion, AUM-Inferred			*Promotion, Fee-Inferred*			*Exit From Asset Management*		
Indep. variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
PastGAlpha	0.0044**	0.0086**	0.0078**	0.0050**	0.0094**	0.0092**	-0.0036***	-0.0047**	-0.0046***
	(2.02)	(2.31)	(2.21)	(2.21)	(2.41)	(2.48)	(-2.78)	(-2.57)	(-2.69)
Wealth		-0.0003			-0.0003			0.0002	
		(-0.81)			(-0.95)			(0.88)	
WealthHigh			-0.0014			-0.0014			0.0019**
			(-0.86)			(-0.84)			(2.10)
*PastGAlpha * Wealth*		-0.0018**			-0.0019**			0.0003	
		(-2.11)			(-2.20)			(0.49)	
*PastGAlpha * WealthHigh*			-0.0078**			-0.0098**			0.0017
			(-2.06)			(-2.49)			(0.66)
FundSize	-0.0001	-0.0001	-0.0001	-0.0003	-0.0004	-0.0003	-0.0007*	-0.0007	-0.0007
	(-0.19)	(-0.24)	(-0.16)	(-0.56)	(-0.68)	(-0.59)	(-1.77)	(-1.63)	(-1.62)
FundAge	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000
	(0.73)	(0.71)	(0.71)	(0.49)	(0.49)	(0.50)	(0.38)	(0.38)	(0.48)
ManagerTenure	-0.0003***	-0.0003***	-0.0003***	-0.0002***	-0.0002**	-0.0002**	0.0000	0.0000	0.0000
	(-4.19)	(-3.55)	(-3.46)	(-2.92)	(-2.34)	(-2.28)	(0.18)	(-0.04)	(-0.29)
FirmSize	-0.0007	-0.0008	-0.0009	-0.0009	-0.0009	-0.0010	-0.0003	-0.0003	-0.0003
	(-1.16)	(-1.22)	(-1.32)	(-1.31)	(-1.31)	(-1.41)	(-0.62)	(-0.72)	(-0.62)
FirmLogNumFunds	0.0035**	0.0036**	0.0037**	0.0041***	0.0042***	0.0043***	0.0026***	0.0025***	0.0024***
	(2.48)	(2.48)	(2.48)	(2.80)	(2.75)	(2.74)	(3.29)	(3.15)	(3.11)
Volatility	0.0000	0.0000	0.0000	0.0001	0.0001	0.0002	-0.0003	-0.0003	-0.0003
	(-0.13)	(-0.08)	(0.14)	(0.19)	(0.27)	(0.50)	(-0.98)	(-1.00)	(-1.13)
Skewness	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(1.47)	(1.42)	(1.42)	(1.28)	(1.14)	(1.13)	(0.36)	(0.10)	(0.12)
UniSATRank	0.0023	0.0030	0.0031	0.0049	0.0055	0.0056	0.0015	0.0007	-0.0001
	(0.77)	(0.89)	(0.87)	(1.52)	(1.56)	(1.46)	(0.50)	(0.22)	(-0.02)
ParentsEdu	0.0002	0.0004	0.0006	0.0004	0.0006	0.0007	-0.0003	-0.0006	-0.0008
	(0.16)	(0.32)	(0.41)	(0.31)	(0.44)	(0.53)	(-0.38)	(-0.83)	(-1.08)
HasPhD	-0.0026	-0.0030*	-0.0033*	-0.0008	-0.0013	-0.0015	-0.0046***	-0.0042***	-0.0036**
	(-1.59)	(-1.66)	(-1.70)	(-0.40)	(-0.60)	(-0.66)	(-2.93)	(-2.67)	(-2.23)
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.	41,026	40,218	40,218	41,026	40,218	40,218	37,503	36,825	36,825
Adj. R-sq	0.0054	0.0058	0.0060	0.0047	0.0050	0.0054	0.0012	0.0013	0.0015

Table 7. Flows

This table shows the regressions of monthly flows into the fund on the manager's household wealth in 1940 and the fund past performance. The flow (in pp) is computed as the dollar flow (the difference between the end-of-quarter fund TNA and the previous-quarter fund TNA multiplied by one plus the gross return of the fund over the quarter) divided by the previous-quarter fund TNA. *Wealth* is measured in multiples of the state median and is defined as in Table 3. *PastAlpha* is the fund's average net monthly alpha (in pp) over the past 36 months. *PastAlphaLow* (*PastAlphaHigh*) is equal to *PastAlpha*, if *PastAlpha* is negative (positive), and 0 otherwise. The control variables capture key mutual fund and fund family characteristics as well as education characteristics of the fund manager and his parents. Exact variable definitions are detailed in Appendix 3. The inclusion of Morningstar fund 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 fund manager level. * (**, ***) indicates the significance of the coefficient at the 10% (5%, 1%) level.

Indep. variables	(1)	(2)	(3)	(4)	(5)
Wealth	-0.0555*	-0.0286	-0.0275	-0.0368	-0.0136
	(-1.94)	(-1.03)	(-1.00)	(-1.29)	(-0.35)
PastAlpha		2.5259***		2.7627***	
		(10.56)		(7.21)	
*PastAlpha * Wealth*				-0.1024	
				(-0.98)	
PastAlphaLow			1.4578***		1.4386***
			(5.86)		(3.25)
PastAlphaHigh			3.3648***		3.6939***
			(7.22)		(4.86)
*PastAlphaLow * Wealth*					0.0098
					(0.07)
*PastAlphaHigh * Wealth*					-0.1509
					(-0.72)
FundSize	-0.2892***	-0.2982***	-0.2741***	-0.2997***	-0.2746***
	(-3.62)	(-3.68)	(-3.50)	(-3.66)	(-3.47)
FundAge	-0.0633***	-0.0462***	-0.0422***	-0.0457***	-0.0421***
	(-5.94)	(-4.73)	(-4.32)	(-4.68)	(-4.30)
ManagerTenure	0.0080	0.0017	0.0038	0.0023	0.0043
	(0.73)	(0.18)	(0.40)	(0.23)	(0.45)
FirmSize	0.4478***	0.4006***	0.3852***	0.4009***	0.3852***
	(4.87)	(4.55)	(4.47)	(4.53)	(4.44)
FirmLogNumFunds	-0.8208***	-0.6980***	-0.6722***	-0.6996***	-0.6742***
	(-4.77)	(-4.51)	(-4.42)	(-4.50)	(-4.40)
Volatility	-0.0368	0.0244	-0.0211	0.0241	-0.0200
	(-0.65)	(0.44)	(-0.37)	(0.43)	(-0.35)
Skewness	0.0028*	0.0020	0.0018	0.0020	0.0018
	(1.71)	(1.35)	(1.21)	(1.35)	(1.22)
UniSATRank	-0.8459	-1.0209*	-0.9901*	-1.0190*	-0.9800*
	(-1.56)	(-1.93)	(-1.89)	(-1.93)	(-1.88)
ParentsEdu	-0.0161	-0.0348	-0.0310	-0.0329	-0.0274
	(-0.14)	(-0.30)	(-0.27)	(-0.29)	(-0.24)
HasPhD	0.4297	0.2233	0.2632	0.2164	0.2511
	(1.19)	(0.68)	(0.80)	(0.65)	(0.76)
Time F.E.	YES	YES	YES	YES	YES
Fund style F.E.	YES	YES	YES	YES	YES
Num. obs.	40,334	39,776	39,776	39,776	39,776
Adj. R-sq	0.0121	0.0337	0.0352	0.0338	0.0353

Table 8. College Tuition as A Proxy for Wealth

This table shows the relationship between fund alpha (defined as in Table 3) and the tuition charged by the manager's undergraduate institution. This analysis includes all managers for whom the education data are available, including managers born after 1945. Columns 7-10 show the results in the subsamples split by the manager's year of birth. *UniTuition* (*UniTuitionRank*) is the 2004 undergraduate in-state tuition in $000 (the percentile rank of this tuition) of the manager's undergraduate institution. The control variables capture key mutual fund and fund family characteristics as well as education characteristics of the fund manager. Exact variable definitions are detailed in Appendix 3. The inclusion of Morningstar fund 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 fund manager level. * (**, ***) indicates the significance of the coefficient at the 10% (5%, 1%) level.

	Entire sample						Birth year < 1960		Birth year ≥ 1960	
Indep. variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
UniTuition	-0.0008*	-0.0007	-0.0010**				-0.0005		-0.0016**	
	(-1.84)	(-1.46)	(-2.13)				(-0.99)		(-2.02)	
UniTuitionRank				-0.0546***	-0.0455**	-0.0588***		-0.0544**		-0.0602*
				(-3.01)	(-2.30)	(-3.23)		(-2.47)		(-1.79)
FundSize	-0.0194***	-0.0195***	-0.0194***	-0.0195***	-0.0196***	-0.0195***	-0.0233***	-0.0234***	-0.0134***	-0.0135***
	(-5.79)	(-5.84)	(-5.77)	(-5.83)	(-5.87)	(-5.81)	(-5.17)	(-5.20)	(-2.67)	(-2.69)
FundAge	-0.0003	-0.0003	-0.0004	-0.0003	-0.0003	-0.0004	-0.0007	-0.0007	-0.0004	-0.0004
	(-0.57)	(-0.58)	(-0.74)	(-0.56)	(-0.58)	(-0.73)	(-0.87)	(-0.84)	(-0.50)	(-0.51)
ManagerTenure	0.0011	0.0008	0.0011	0.0010	0.0008	0.0011	0.0019**	0.0019*	0.0001	0.0002
	(1.35)	(1.07)	(1.41)	(1.32)	(1.04)	(1.39)	(2.02)	(1.96)	(0.03)	(0.08)
FirmSize	0.0191***	0.0206***	0.0190***	0.0190***	0.0205***	0.0188***	0.0273***	0.0269***	0.0001	0.0003
	(4.34)	(4.65)	(4.27)	(4.30)	(4.62)	(4.23)	(4.75)	(4.69)	(0.02)	(0.05)
FirmLogNumFunds	-0.0237***	-0.0248***	-0.0240***	-0.0228***	-0.0239***	-0.0231***	-0.0435***	-0.0423***	0.0175	0.0177
	(-2.75)	(-2.87)	(-2.76)	(-2.65)	(-2.77)	(-2.66)	(-4.03)	(-3.92)	(1.19)	(1.20)
Volatility	-0.0457***	-0.0471***	-0.0447***	-0.0456***	-0.0470***	-0.0446***	-0.0425***	-0.0423***	-0.0481***	-0.0481***
	(-9.13)	(-9.46)	(-8.88)	(-9.12)	(-9.45)	(-8.86)	(-8.08)	(-8.03)	(-5.13)	(-5.12)
Skewness	0.0003**	0.0004***	0.0004**	0.0003**	0.0004***	0.0004**	0.0005***	0.0005***	0.0002	0.0002
	(2.44)	(2.67)	(2.49)	(2.40)	(2.65)	(2.45)	(3.41)	(3.35)	(0.45)	(0.45)
UniSATRank	0.1285***		0.1271***	0.1601***		0.1575***	0.1240***	0.1668***	0.1201*	0.1191
	(3.35)		(3.29)	(4.03)		(3.94)	(2.71)	(3.60)	(1.72)	(1.58)
UniAdmissionRate		-0.0720***			-0.0876***					
		(-3.15)			(-3.61)					
HasPhD			0.0118			0.0114	0.0125	0.0113	0.0004	0.0068
			(0.61)			(0.58)	(0.62)	(0.56)	(0.01)	(0.08)
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.	194,901	198,432	190,020	194,901	198,432	190,020	123,410	123,410	66,155	66,155
Adj. R-sq	0.0135	0.0136	0.0137	0.0135	0.0136	0.0137	0.0129	0.0129	0.0164	0.0164