Review of Finance, 2023, 1373–1421
https://doi.org/10.1093/rof/rfac067
Advance Access Publication Date: 20 October 2022

OXFORD

Life is Too Short? Bereaved Managers and Investment Decisions*

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Abstract

We examine whether bereavement affects managerial investment decisions in large organizations using the exogenous events of managers' family deaths. We find evidence that bereaved managers take less risk in separate samples of mutual funds and publicly traded firms. Mutual funds managed by bereaved managers exhibit smaller tracking errors, lower active share measures, and higher portfolio weights on larger stocks after bereavement events. Firms managed by bereaved CEOs exhibit lower capital expenditures and fewer acquisitions after bereavement events. Further analyses support the emotion-driven explanation over other explanations. The risk shifting by bereaved managers has negative implications on the performance of funds and firms that they manage.

Keywords: life experience, bereavement, investment decisions, mutual fund, public firms, risk-taking, endogenous matching

* We thank Geoffrey Tate (Editor), two anonymous referees, Murray Carlson, Si Cheng, Jared Delisle, Francisco Pérez González, Jennifer Huang, Dirk Jenter, Matti Keloharju, Lisa Kramer, Harrison Hong, Xiaomeng Lu, Gonzalo Maturana, David Reeb, Amit Seru, Paul Smeets, Clemens Sialm, Yuehua Tang, Sheridan Titman, and Scott Yonker for helpful comments and suggestions, and Kayla Kissane and Sharon Wang for excellent research assistance. We appreciate the helpful comments from the 2020 American Finance Association Annual Meeting, 2019 Paris December Finance Meeting, 2019 China Finance Review International Conference (Emerald Best Paper Award Winner), 2016 European Finance Association Meeting, 2016 Conference of Financial Economics and Accounting, 2016 ABFER Meeting, 2016 China International Conference in Finance, 2016 Singapore Scholars Symposium, 2016 Northern Finance Association Meeting, and seminar participants at CKGSB, Peking University, the PBCSF of Tsinghua University, Hong Kong University of Science and Technology, National University of Singapore, University of Mannheim, University of Hong Kong, Auburn University, and University of Georgia.

JEL classification: G11, G31, G41

Received May 19, 2020; accepted March 14, 2022 by Editor Geoffrey Tate.

1. Introduction

Following the pioneering works of Malmendier and Tate (2005) and Malmendier and Nagel (2011), a fast-growing body of research links economic agents' personal life experiences to their investment decisions. Recent studies document relations between corporate policies and various managerial characteristics including personal finance, personal traits, and personal experience.[1]

There are, however, two challenges to establishing the causal link between corporate policies and observable managerial characteristics that proxy for managerial preference. The first challenge is the possibility of omitted variables driving both corporate policies and managerial characteristics. Recent studies address this concern by focusing on some specific managerial characteristics that are likely independent from firm fundamentals, such as military service, early professional experience, market conditions when CEOs started their career, early-life disasters, family background, cultural heritage, and birth month.[2]

The second issue, the possibility of "endogenous matching", is more difficult to overcome. In an ideal experiment, managers with varying characteristics would be randomly allocated to firms. However, the employment decisions of managers are likely to be endogenous. For example, a firm that intends to make aggressive investments may hire managers whose early life experiences result in higher risk tolerance. The idea of endogenous matching can be traced back to Ackerberg and Botticini (2002) and is clearly explained by Graham, Harvey, and Puri (2013): "We cannot determine the direction of causality… Managers may self-select into companies (or companies may hire managers) who have the 'right' personality traits for the particular company. What we document is that there is a significant relationship between CEO characteristics and company characteristics."[3] For instance, a recent study by Pool et al. (2019) addresses the endogenous matching issue by exploiting the exogenous wealth shocks associated with the collapse of the housing market and documenting that the decline in fund managers' personal wealth reduces mutual fund risk-taking.

To overcome these challenges, we focus on events related to family members of managers. Specifically, we examine whether the deaths of managers' parents affect the investment decisions of the managers' organizations. Examining family members' events such as parental deaths is advantageous in this context because these events are exogenous to the

1 An incomplete list of these studies includes Becker (2006), Hackbarth (2008), Cronqvist, Makhija, and Yonker (2012), Pool, Stoffman, and Yonker (2012), Ahern, Duchin, and Shumway (2014), Jia, Lent, and Zeng (2014), Jenter and Lewellen (2015), Davidson, Dey, and Smith (2015), Aktas et al. (2016), Cain and Mckeon (2016), Ho et al. (2016), Sunder, Sunder, and Zhang (2017), Cronqvist and Yu (2017), Koh, Reeb, and Zhao (2018), Phua, Tham, and Wei (2018), Banerjee et al. (2018), Brown et al. (2018), and Cline, Walkling, and Yore (2018).

2 Examples of this work include Malmendier, Tate, and Yan (2011), Benmelech and Frydman (2015), Dittmar and Duchin (2016), Schoar and Zuo (2017), Bernile, Bhagwat, and Rau (2017), Chuprinin and Sosyura (2018), Nguyen, Hagendorff, and Eshraghi (2018), and Bai et al. (2019).

3 Controlling for firm fixed effects can alleviate but not fully address this concern because CEO turnover can also be associated with firms' shifting preference for corporate policies.

operations of the organizations managed by the bereaved individuals, addressing potential concerns of omitted variables or endogenous matching that can be pervasive in many other settings. We posit that the bereavement from death events can induce emotion-driven time-varying risk preferences, affecting the investment decisions of the bereaved individuals and the organizations they manage (Guiso, Sapienza, and Zingales, 2018; Loewenstein, 2000).

To facilitate the generalization of our results, our empirical analyses employ two distinct samples of managers of large organizations. The first sample includes 304 US mutual funds that are actively managed by managers who experience parental deaths during 1999–2013. To identify "bereaved managers", we search for parental death events experienced by fund managers in the Morningstar universe using the LexisNexis Accurint database, which contains a broad set of personal information collected from over 37 billion US public records. We follow the same methodology to construct the second sample that includes 295 large US public firms in the ExecuComp database whose CEOs experience parental deaths during the 1994–2014 period (i.e., "bereaved CEOs").

We employ difference-in-difference (diff-in-diff) tests in our empirical analyses. For the mutual fund sample, we calculate the first "diff" as the change in observable fund characteristics (e.g., tracking errors) around the bereavement event for both treated funds (whose managers experience bereavement) and control funds, which are matched by investment objective, fund size, and manager age. We then calculate the second "diff" as the difference in the changes in these observable characteristics between treated and control funds. This diff-in-diff approach controls for both cross-sectional differences in the fund and managerial characteristics as well as the general time series patterns. We follow the same methodology to compare treated firms (whose CEOs experience bereavement) and control firms matched by industry, firm size, and CEO age. In addition to the univariate analysis, we estimate diff-in-diff regressions that control for a broad set of fund and firm characteristics beyond the variables we use for matching.

Our results indicate that bereaved fund managers become more risk averse in their investment decisions as they act more like quasi-indexers in the year after the parental death events. Specifically, funds with bereaved managers exhibit smaller tracking errors and lower active-share measures (Cremers and Petajisto, 2009), indicating that they mimic their peers more after the parental death events. Furthermore, funds with bereaved managers exhibit lower idiosyncratic return volatility, higher market beta (co-movement with index), and a shift in their portfolio allocation to larger stocks ("safer" assets).

We also document results consistent with a long-term shift in bereaved CEOs' risk-taking preferences. Firms managed by bereaved CEOs reduce their capital expenditures in both the event year of parental death and subsequent years, resulting in a persistent negative effect on the level of corporate investments. These firms also reduce their merger and acquisition (M&A) activities, in terms of both the number and the total dollar values of deals, in the event year and subsequent years. The results that we document on the effect of parental deaths on fund managers and CEOs survive a number of robustness checks including alternative selections of matched funds/firms and alternative sample constructions.

The reduced risk-taking that we document is consistent with the time-varying risk preferences induced by emotions (Loewenstein, 2000). Negative emotions (i.e., anxiety) can make bereaved managers more risk averse, a common finding among adults.[4] Recent

4 Prior research has documented large long-term negative emotional effects of parental death on adult children. See, for example, Umberson and Chen (1994), Marks, Jun, and Song (2007), and

psychological studies suggest that anxious subjects prefer lower risk, because anxiety primes uncertainty reduction. Consistent with deaths in the family resulting in elevated anxiety, Kettlewell (2019) finds that family deaths increase people's risk aversion based on survey data on almost five thousand Australians. Using lab experiments, Kuhnen and Knutson (2011) also find that anxiety reduces the propensity to take risks. Therefore, if parental deaths increase adult children's anxiety about their own lives (i.e., life is too short), then these events would reduce bereaved managers' risk-taking propensity in their investment decisions.[5]

To further test the emotion-driven explanation, we focus on its unique prediction that unexpected parental deaths cause larger emotional impact, which also results in larger shifts in risk aversion, relative to expected parental deaths. Using two different approaches to classify unexpected and expected events (i.e., the obituary information and the death ages of the parents), we find that the bereavement effect is more pronounced among the unexpected death events for both mutual fund managers and CEOs than the expected death events. Under the emotion-driven explanation, one would also expect the bereavement effect to be stronger for single-manager funds than for team-managed funds. We find evidence consistent with this prediction.

We also examine several alternative explanations for the reduced risk-taking by bereaved managers. First, distractions (i.e., the duties related to deceased parents such as traveling, arranging the funeral, and executing the will) may divert managers' attention from work. It is worth noting that most distractions are short term and therefore cannot explain the long-term effects of bereavement that we document. We do, however, examine a particular type of distraction that could last longer: selling the deceased parent's real estate properties.[6] We find that only 18% of the death events in our sample of mutual funds are followed by the sales of real estate properties, out of which only half take more than a year. The average transaction price of approximately $250,000 is unlikely to have a substantial long-term impact on the well-paid corporate and fund managers in our sample.

The second alternative explanation is that managers may receive substantial inheritances that reduce the relative importance of incentive-based compensation provided by the firm and in turn reduce managers' propensity to take risks in their professional roles. Inheritances also make bereaved managers wealthier, which may fundamentally change their risk preferences. Using the deceased parents' housing wealth as a proxy for wealth inheritance, we fail to find support for this explanation, as the bereavement effect does not vary with wealth inheritances. This failure is not surprising as the wealth inheritances are small relative to managers' professional incomes.

Third, the experience of parental death could cause managers to re-optimize their work–family balance in favor of lower effort provision at work and higher engagement with family activities. To test this potential explanation, we examine whether the decrease

Leopold and Lechner (2015). Additionally, previous studies also find that negative emotions such as seasonal depression can have a significant impact on investors and financial markets (e.g., Kamstra, Kramer, and Levi, 2003, 2015; Garrett, Kamstra, and Kramer, 2005; Kamstra et al., 2017).

5 On the other hand, sadness does not seem to generate consistent predictions regarding risk-taking. While Raghunathan and Pham (1999), Raghunathan, Pham, and Corfman (2006), and Pham (2007) show that sadness fosters more risk-taking, Leith and Baumeister (1996) and Hockey et al. (2000) do not find such effects.

6 The LexisNexis Accurint database allows us to identify such real estate transactions and gauge this possibility for mutual fund managers.

in risk-taking is particularly pronounced among fund managers and CEOs with young children (i.e., under 18 years old), as these managers are more likely to rebalance. We find that, inconsistent with the work–family rebalance explanation, the bereavement effect is not more pronounced among managers with young children.

Fourth, if the death of a parent causes managers to reassess their own mortality due to mental stress and physical efforts, parental deaths could induce an inactiveness on managers (regardless of their family situation like having young children). To test this potential explanation, we analyze various CEO professional activities, including earnings conference calls, press interviews, and voluntary disclosures. We observe no evidence of reduced activities by CEOs. Overall, our results are more consistent with the emotion-driven explanation than other alternative explanations.

Do the resulting changes in investment decisions affect fund or firm performance? On one hand, if the changes in investment behaviors deviate from optimal strategies, we expect performance to worsen following parental deaths. On the other hand, we might observe little change in performance. First, actively managed mutual funds do not generate superior performance relative to passive benchmarks (e.g., Jensen, 1968; Fama and French, 2010). If mutual fund managers contribute little to their funds' returns, the effect of manager bereavement would cause a trivial change in fund performance. Second, corporate investments can result from agency problems (e.g., Jensen, 1986) and lead to lower firm performance (e.g., Titman, Wei, and Xie, 2004; Cooper, Gulen, and Schill, 2008), so the lower investments might lead to little change or even improvement in firm performance.

Our diff-in-diff analyses show that funds with bereaved managers experience an average decline in the Fama–French five-factor alpha of 1.40 percentage points over the 4-month parental death event window, and a total decline of 3.49 percentage points in the year following the parental deaths. Regarding CEOs, we document a 1.41 percentage points decline in return on assets (ROA) during the year of the CEO's parental death. The decline in ROA is stronger among event firms that are less likely to be afflicted by overinvestment.

Our last analysis examines how the monitoring system in large organizations may respond to the decreased performance of bereaved managers. We examine managerial turnover events in the year following bereavement events as well as the sensitivity of turnover to poor performance. For CEOs, the bereavement events do not increase CEOs' turnover probability. However, we find that bereavement events are associated with reduced sensitivity to poor performance, consistent with the board of directors perceiving the bereaved CEO's poor performance as temporary or perhaps feeling sympathetic for the bereaved CEO. We also examine mutual fund manager turnovers and find similar albeit weaker evidence.

The evidence in this article extends the existing literature on the effects of personal life experiences on financial decisions and outcomes by explicitly addressing the endogenous matching problem. While previous studies focus largely on the personal events of the managers themselves (e.g., vacation trips, health issues, marriages, or divorces), we examine events afflicting family members of managers, which are unlikely to be related to firm fundamentals or employment decisions. Our results provide unambiguous empirical support for the hypothesis that common life experience of individual managers could influence the decisions and performance of large organizations.

Our article is related to two studies that also use the setting of deaths in family. In analyzing the relation between mutual fund managers' family background and fund performance, Chuprinin and Sosyura (2018) conduct one test using fund managers' parental deaths to examine the wealth inheritance channel (their table 8, Panel B) and do not find statistically significant results. An early working paper version of Bennedsen, Pérez-González, and Wolfenzon (2020) includes an analysis of CEO family death using a sample of small Danish firms, which differ from our sample of large public firms in many dimensions such as organizational and ownership structure, monitoring mechanisms, and resources.[7] Bennedsen, Pérez-González, and Wolfenzon (2020) acknowledge that whether the results from a sample consisting of small- and medium-sized nonlisted firms in Denmark would be "valid in large publicly traded companies is an open question". For example, managers of small private businesses as well as their family members can be much more essential to the day-to-day operations of these businesses than CEOs of large public firms or their family members. Additionally, large public firms may have more resources or existing mechanisms in place to handle the situation of managerial bereavement than small private firms. Besides examining CEOs of large firms, we also examine mutual fund managers and provide consistent evidence using the rich data in the mutual fund setting.

Our study also presents a new path of research on time-varying risk preferences in corporate decisions. Whereas the existing literature on time-varying risk preference focuses on investors' investment decisions (e.g., Brunnermeier and Nagel, 2008; Guiso, Sapienza, and Zingales, 2018), our study examines the potential impact of nonstrategic variation in risk preferences in corporate decisions. In the mutual fund literature, there is a voluminous literature on managers' strategic risk-shifting behaviors due to economic incentives (e.g., Brown, Harlow, and Starks, 1996; Huang, Sialm, and Zhang, 2011; Pool et al., 2019). We contribute to this literature by documenting the economic effects of the variation in managers' "innate" risk aversion over time that is unrelated to economic incentives.

This article also contributes specifically to the behavioral finance literature on the effects of human emotion. Previous studies have documented that weather-induced negative emotions could affect stock market outcomes and investor decisions (e.g., Kamstra, Kramer, and Levi, 2003; Hirshleifer and Shumway, 2003; Goetzmann et al., 2015). By focusing on bereavement, our analysis provides novel evidence in this line of research and improves the understanding of how emotions affect investment behaviors.

2. Data and Methodology

2.1 Mutual Fund Manager Sample

We construct our sample of mutual funds by combining the (i) CRSP Survivorship Bias Free Mutual Fund Database, (ii) Thomson Financial CDA/Spectrum holdings database, and (iii) Morningstar Mutual Fund Database. Specifically, we first obtain mutual fund data from the CRSP Survivorship Bias Free Mutual Fund Database and restrict the sample to actively managed domestic equity mutual funds. We then merge the CRSP sample with the Thomson Financial CDA/Spectrum holdings database using the MFLINKS file based on Wermers (2000).[8]

7 This analysis is removed from the published version of their paper.

8 Specifically, we require the sample funds from the CRSP Mutual Fund Database to have WFICNs in the MFLINKS file. The MFLINKS file is available through the Wharton Research Data Services (WRDS).

We obtain fund managers' background information from Morningstar and match it with the CRSP sample using fund tickers. A small number of ticker matches have different fund names between Morningstar and CRSP mainly due to reasons such as fund issuers versus fund management companies, or mergers of financial companies. We manually screen and confirm the validity of these matches. This approach generates 8,529 unique mutual funds as identified by CRSP_FundNo (the CRSP's fund identifier). We focus on the more recent period after 1999 because our analyses require daily fund returns that become available only after 1999. After this filter, we have 2,047 fund managers with available information on education background and employment history.

We identify the events of parents' death using the LexisNexis Accurint database, which contains a broad set of personal information by linking over 37 billion US public records. This search process takes three steps. We first identify a mutual fund manager in the LexisNexis Accurint database using the information on name, age range (based on the year of graduate school or college graduation), and employment history. We are able to identify 1,839 fund managers, where each manager is linked to a LexID, which is the unique personal identifier in all databases contained in LexisNexis Accurint. For the second step, we identify the parent(s) of a manager in the LexisNexis Accurint database. For each manager, we use the LexID to retrieve a list of relatives, which contains for each relative the name, year and month of birth, age (age at death for a deceased person), and current address. Relatives of a person are defined as those who ever lived at the same address as the person and share the same last name. We identify parent(s) of a fund manager from the list of relatives according to the age of the manager and the age of potential parent(s).[9] For a large majority of fund managers, there are exactly one male individual and one female individual from the list of relatives that fall in the age range of parents. For a small number of fund managers, the list of relatives has only one or no individual that fits the age range of potential parents.[10]

For the third step, we identify the deaths of individuals identified as parents of fund managers in the second step. In the list of relatives on LexisNexis, a red "D" mark next to the name of a relative denotes a deceased individual. We then search for the death record of the deceased parent using the name, year and month of birth, zip code or state of the last address, and age at death. We collect the exact date of death of the deceased parent from this death record. Using this approach, we identify 471 fund managers who experienced at least one parental death.

We require the event of parental death to occur during the period when a fund manager manages at least one fund in the mutual fund sample. Our final sample contains 304 funds with bereaved managers from 1999 to 2013 influenced by 161 parental death events. Supplementary Appendix Section A1 provides more details about the sample construction. Panel A of Table I shows that the sample events are relatively evenly distributed across

9 For a female fund manager, a deceased relative falling in the age range of parent can be a parent-in-law instead of a parent if the manager changes her last name after getting married. There are only a small number of female managers in our sample, and we carefully examine the historical address to ensure the deceased person shared an address with the manager in the early years (i.e., the deceased person is a parent instead of a parent-in-law).

10 A very small fraction of managers have more than two relatives that fit the age of parents. We take the conservative approach and exclude these cases in our main analyses. We conduct robustness tests by including them in Section 5.1.

Table I. Sample distribution and summary statistics: bereavement events of mutual fund managers

This table reports the distribution of bereavement events for our sample mutual fund managers and mutual funds as well as the summary statistics of fund characteristics from 1999 to 2013. Panel A reports the annual frequency of bereavement events for fund managers in our sample. Panel B reports the number of mutual funds managed by bereaved managers in our sample by investment objective codes. Panel C reports the average, standard deviation, 25th percentile, median, and 75th percentile of the characteristics of mutual funds in the sample. TNA is total assets under management. Turnover ratio is the annual turnover ratio of the fund's portfolio. Expense ratio is the fund's annual expense ratio. These ratios are calculated as the TNA-weighted average across all share classes for each fund. Fund age is the age of fund in years. # Classes is the number of classes the fund offers.

Panel A: Number of bereavement events ($n = 161$)

Year	Number of events	Year	Number of events
1999	6	2007	14
2000	12	2008	11
2001	6	2009	23
2002	9	2010	10
2003	12	2011	13
2004	8	2012	8
2005	10	2013	12
2006	7		

Panel B: Number of funds with bereaved managers ($n = 304$)

CRSP objective code	Lipper objective code	Objective name	No. of funds with bereaved managers
EDYI	EI	Equity Income Funds	14
EDSF	FS	Financial Services Funds	5
EDYB	GI	Growth and Income Funds	52
EDYG	G/CA	Growth/Capital Appreciation Funds	107
EDSH	H	Health/Biotechnology Funds	6
EDCI	MR	Micro-Cap Funds	5
EDCM	MC	Mid-Cap Funds	39
EDST	TK	Science and Technology Funds	3
EDCS	SG	Small-Cap Funds	69
EDSU	UT	Utility Funds	3
M	S	Specialty/Miscellaneous Funds	1

Panel C: Summary statistics of funds with bereaved managers

	Mean	STD	P25	Median	P75
TNA	1,198	5,202	40	163	531
Turnover ratio	0.865	0.890	0.400	0.640	0.995
Expense ratio	0.013	0.005	0.010	0.012	0.015
Fund age	12.3	10.0	6.0	9.5	16.0
# Classes	2.4	1.8	1.0	2.0	3.0

years, which is consistent with parental deaths being exogenous events that are unrelated to potential omitted variables such as economic or capital market conditions. Panel B of Table I shows that sample funds fall into eleven investment objective categories (IOC), with the highest number of funds in the growth, small-cap, and growth and income categories. When we identify funds' objective codes, we use Lipper codes that cover 70% of sample funds. Funds with missing Lipper codes are assigned to investment objective groups based on their CRSP-assigned codes, which are then mapped to the most closely matched Lipper code.[11]

Panel C of Table I reports the summary statistics of the characteristics of funds with bereaved managers. The definitions of the fund characteristics are described in Appendix A. Funds with bereaved managers on average have total assets under management (*TNA*) of $1.20 billion ($1.22 billion for fund universe), annual turnover ratio of 0.865 (1.04 for fund universe), annual expense ratio of 1.3% (1.3% for fund universe), age of 12.3 years (13.7 years for fund universe), and 2.4 classes (3.0 classes for fund universe). Therefore, the characteristics of funds with bereaved managers are reasonably close to those of the fund universe.

2.2 CEO Sample

We obtain our initial sample of corporate CEOs from Standard and Poor's ExecuComp database which contains information about CEOs of firms in the S&P 1500 index (including those removed from the index but still trading). Our sample starts from 1994 when ExecuComp starts to have comprehensive coverage. We exclude financial firms (Standard industrial classification codes (SICCD) between 6000 and 6999 during our sample period) since their risk-taking measures and behaviors differ from other sectors. Our initial sample of CEOs contains 5,876 CEOs from 2,825 nonfinancial firms during the 1994–2014 period. For each CEO, we obtain information of name, present age, and beginning and ending dates as CEO. We repeat the same three steps described in the previous subsection to identify the CEOs in the LexisNexis Accurint database using the information on name, present age, and employment history.[12] We then identify the parents of a CEO in the LexisNexis Accurint database and the events of parental deaths. Our final sample includes a total of 317 such events.

Panel A of Table II reports the annual frequency of the CEO bereavement events, which are also relatively evenly distributed across years and consistent with being exogenous to firm fundamentals. Panel B of Table II further shows the distribution of CEO bereavement events across industry sectors. Firms in manufacturing, high-tech, and shopping have the highest number of bereavement events, which is in line with the industry distribution of the

11 For example, for funds with both Lipper and CRSP codes, all funds with the "G" (growth) code in the Lipper classification are assigned to the "EDYG" group in the CRSP classification. Therefore, funds with EDYG classification in CRSP but with missing Lipper code are grouped into the same objective code as funds with the G code in Lipper.

12 The CEO's employment history in the ExecuComp database includes the CEO's current firm as well as his/her historical firms. We require an identified manager to have at least one employment record in the LexisNexis Accurint database to match the employment history in the ExecuComp database. Several managers in our sample do not have employment history available in the LexisNexis database but are unique and perfect matches in LexisNexis by name, age, and location.

Table II. Sample distribution and summary statistics: bereavement events of corporate CEOs

This table reports the distribution of our sample events and firms and summary statistics of firm characteristics from 1994 to 2014. Panel A reports the annual frequency of bereavement events in our sample. Panel B reports the number of event firms in our sample by industry. Panel C reports the average, standard deviation, 25th percentile, median, and 75th percentile of the event firms' characteristics including the natural log of market capitalization, book-to-market ratio, ROA, Tobin's *Q*, capital expenditure (scaled by the lagged total assets), dividend (scaled by the lagged total assets), asset tangibility, and CEO age.

Panel A: Number of bereavement events ($n = 317$)

Year	Number of events	Year	Number of events
1994	5	2005	13
1995	8	2006	21
1996	12	2007	21
1997	10	2008	22
1998	5	2009	19
1999	11	2010	23
2000	11	2011	26
2001	13	2012	21
2002	17	2013	16
2003	22	2014	13
2004	8		

Panel B: Number of event firms ($n = 295$)

Industry	#Event firms	Industry	#Event firms
Nondurables	26	Telecommunication	6
Durables	6	Shopping	43
Manufacturing	56	Healthcare	17
Energy	15	Utilities	19
High Tech	58	Other	49

Panel C: Summary statistics of event firms

	Mean	STD	P25	Median	P75
Ln(Mkt. Cap.)	7.29	1.53	6.33	7.24	8.21
BM	0.63	0.58	0.32	0.49	0.76
ROA	0.05	0.09	0.01	0.05	0.10
Q	1.81	1.17	1.13	1.48	2.01
CAPEX	0.06	0.07	0.02	0.04	0.07
Dividend	0.01	0.03	0.00	0.00	0.02
Tangibility	0.29	0.24	0.11	0.21	0.42
CEO age	54.4	6.3	50.0	55.0	59.0

Compustat or ExecuComp universe. Panel C of Table II presents the summary statistics of the characteristics of firms with bereaved managers. These statistics are very similar to those of the ExecuComp universe over the same period. For our sample firms, the natural logarithm of market capitalization is 7.29 on average (7.32 for ExecuComp universe); the book-to-market ratio is 0.63 (0.60 for ExecuComp universe); ROA is 5% (5% for ExecuComp universe); Tobin's *Q* is 1.81 (1.93 for ExecuComp universe); capital expenditure is 0.06 (0.06 for ExecuComp universe); dividend ratio is 1% (1% for ExecuComp universe), and asset tangibility of 0.29 (0.27 for ExecuComp universe). These similarities further illustrate that the family death events are exogenous to firm fundamentals. Appendix A provides detailed definitions of the firm characteristics.

3. The Impact of Parental Death on Mutual Fund Managers' Investment Behaviors

In this section, we examine whether parental deaths cause mutual fund managers to take less risk in their investment decisions. Our analysis represents a diff-in-diff analysis as the effect of bereavement events on event funds is estimated relative to control funds. As discussed earlier, for each event fund, we identify a control fund as the equity mutual fund in the same size (*TNA*) quintile within the same investment objective category that has the closest manager age to that of the event fund. For funds with multiple managers, we use the age of the eldest manager.[13] If there are multiple funds with the same absolute fund manager age difference, we choose the control fund with the closest fund size.

We acknowledge that because we examine a broad set of outcome variables, our selection of control funds may not fully capture the differences in all the determinants of all these outcome variables between event funds and their control funds. To ensure that our results are not driven by such differences, we formally conduct tests for the parallel trend assumption (report in Supplementary Appendix Table IA1) and discuss them in the following sections. The results of these tests indicate that our findings are not driven by the levels or trends of the dependent variables in the pre-event window.

3.1 Tracking Errors

First, we examine whether funds with bereaved managers act more like quasi-indexers after the parental death events. We focus on the tracking error of a fund, which is the volatility of daily fund returns in excess of the average return of funds with the same investment objective. A lower tracking error indicates that a specific fund's returns co-move more with the average peer funds. Thus, a lower tracking error around a fund manager's parental death indicates that the fund's strategy, or at least the resulting return pattern, is more similar to other funds with the same investment objective (or can be more easily explained by return factors).

It is worth noting that the impact of parental death events could start long before the date of death. For example, Singer et al. (2015) document that more than 80% of deaths are "expected" rather than "sudden" such as heart attack or car accident. Additionally, a large fraction—around 42.2%—of these expected deaths involve hospice care (Teno et al., 2013), which serves those deemed as terminally ill. Because the average length of hospice care is around 70 days (National Hospice and Palliative Care Organization, 2015), we start the event window around 2 months before the date of parental death. Specifically, we estimate tracking errors over three mutually exclusive windows around fund manager's bereavement events: pre-event months [−6, −3], event months [−2, +1], and post-event months [+2, +12], where Month 0 is the month of the bereavement event.

13 The results are qualitatively similar if we use the average manager age.

Table III. Mutual fund tracking errors around bereavement events

This table examines the tracking errors of mutual funds around fund managers' bereavement events. The tracking error of a fund is calculated as the volatility of fund daily returns in excess of the average daily returns of all funds with the same investment objective. The tracking errors are calculated over three mutually exclusive windows around fund managers' bereavement events, pre-event months [−6, −3], event months [−2, +1], and post-event months [+2, +12], where Month 0 is the month of the bereavement event. For each event fund, we identify a control fund by first selecting a set of candidate funds with the same investment objective and in the same TNA quintile as the event fund. We then choose from this candidate set a control fund that has the closest manager age to that of the event fund's manager. Panel A reports the means of tracking errors of the event funds, control funds, the difference between event funds and control funds as well as the diff-in-diffs between the pre-event window and the subsequent windows. The sample includes 239 event funds and their corresponding control funds. Panel B reports the results of DID regressions of tracking errors on the interaction terms between the event dummy and two post-event window dummies. Control variables include the natural log of TNA and its squared term, portfolio turnover ratio, expense ratio, fund return over the last quarter, fund flow over the last quarter, and the natural log of fund age. TNA, portfolio turnover ratio, expense ratio, and fund age are all measured using the most recent available data before the beginning of the window. Fund fixed effects and year–month fixed effects are also included. The variables are described in Appendix A. The *t*-statistics for DID regressions are based on robust standard errors clustered by fund and year–month. The *t*-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Bold figures indicate diff-in-diff.

Panel A: Tracking errors around fund managers' bereavement events

Windows	Pre-event [−6, −3]	Event [−2, +1]	Post-event [+2, +12]
Event funds, %	5.98	5.55	5.26
Control funds, %	5.66	5.63	5.64
Diff (Event–control), %	0.31	−0.08	−0.37
Diff-in-diff (versus pre-event), %		**−0.40**** **(−2.25)**	**−0.69***** **(−2.88)**

Panel B: DID regressions of tracking errors

Independent variables	(1) Tracking errors	(2) Tracking errors
Post [−2, +1] × Event	**−0.0040****	**−0.0040****
	(−2.14)	**(−2.15)**
Post [+2, +12] × Event	**−0.0069****	**−0.0065****
	(−2.42)	**(−2.28)**
Post [−2, +1]	−0.0003	0.0022
	(−0.18)	(1.32)
Post [+2, +12]	−0.0003	0.0037
	(−0.10)	(1.68)
Log (TNA)		−0.0048
		(−0.93)
Log $(TNA)^2$		0.0007
		(1.02)

(continued)

Table III. Continued

Panel B: DID regressions of tracking errors

Independent variables	(1) Tracking errors	(2) Tracking errors
Turnover		0.0040
		(1.30)
Expenses		0.6318
		(0.74)
Return ($q-1$)		−0.0466
		(−4.28)
Flow ($q-1$)		0.0001
		(1.21)
Log (Fund age)		−0.0226
		(−2.37)
Fund fixed effects	Yes	Yes
Year–month fixed effects	Yes	Yes
No. of obs.	1,434	1,375
Adj. R^2	0.871	0.884

In Panel A of Table III, we observe that funds with bereaved managers experience decreases in tracking errors from the [−6, −3] pre-event window to both the [−2, +1] event window and the [+2, +12] post-event window (i.e., from 5.98% to 5.55% and then 5.26%). In contrast, the control sample of matched funds does not exhibit such declines over the same windows. The diff-in-diff in average tracking error between the pre-event window and the event window is −0.40% (*t*-stat of −2.25). Similarly, we observe a significant decline in average tracking error in the [+2, +12] post-event windows (−0.69%, *t*-stat of −2.88). The decreases are economically significant: the decrease of −0.69% during the [+2, +12] window alone is about 12% of the average tracking error during the pre-event window.

Panel B of Table III reports the DID regressions of tracking errors for bereaved and control funds in the pre-event window, event window, as well as the post-event window. The DID regressions allow us to control for an array of fund characteristics including total assets under management (TNA), portfolio turnover ratio (Turnover), expense ratio (Expenses), fund return (Return), fund flows (Flow), and fund age (Fund Age). We also include fund fixed effects and year–month fixed effects to control for time-invariant fund characteristics and time trends, respectively. We focus on the interaction terms between the indicator variable Event and the two indicator variables Post [−2, +1] and Post [+2, +12], where Event equals one for funds with bereaved managers and zero for control funds, and Post [−2, +1] and Post [+2, +12] are the two dummy variables for the [−2, +1] and [+2, +12] windows, respectively.[14] In both columns, the coefficients on the interaction terms are negative and statistically significant, indicating that event funds' tracking errors decrease more than control funds during the post-event windows.

14 The main effect on the Event indicator is absorbed by fund fixed effects.

We further conduct a parallel trend analysis by replacing the Post dummy with a Pre dummy in the full regression (Column 2 of Panel B). The Pre dummy equals one for the window [−10, −7], which is before the pre-event window [−6, −3] and symmetric to the event window [−2, +1]. The first column in Panel A of Supplementary Appendix Table IA1 shows that the coefficient of Pre×Event is small and statistically insignificant. This confirms that our results are not driven by the differential trends in tracking errors between event funds and control funds. Overall, the empirical evidence from our analysis of tracking errors is consistent with the hypothesis that bereaved managers become less likely to employ investment strategies that are distinct from return factors and/or their peers.

3.2 Active Share

In addition to examining return-based measures, we also employ the active share measure proposed by Cremers and Petajisto (2009) to test the hypothesis that bereaved managers become more passive. Active share is defined as the sum of absolute differences in portfolio weights between a fund and its corresponding benchmark divided by two, measuring the degree to which a fund manager deviates from the benchmark. Given the difficulty in identifying a specific benchmark for each sample fund, we use the aggregate holdings of all mutual funds in the same objective code as the benchmark. If bereaved managers become more risk averse after parental deaths, we expect a decline in active share after these events. Since fund holdings data are at quarterly frequency, we calculate active share using the last available quarterly holdings in the pre-event quarters $[Q-2, Q-1]$ and the last available quarterly holdings in the event window $[Q, Q+1]$ and post-event window $[Q+2, Q+3]$, where quarter Q represents the quarter of the parental death events.

In Panel A of Table IV, we find that, consistent with our prediction, event funds' average active share declines from the pre-event window to the event and post-event windows. On the other hand, there is no similar decline for the control funds over these windows. The diff-in-diff for the event window $[Q, Q+1]$ is a significant −0.86% (t-stat of −2.00), indicating that bereaved managers become less willing to deviate from their benchmarks. The diff-in-diff for the post-event window $[Q+2, Q+3]$ is a significant −1.43% (t-stat of −2.63). Panel B of Table IV presents the DID regressions of the active share measure, which include various control variables, fund, and year-quarter fixed effects, and the interaction terms of the event fund dummy with the event- and post-event window indicators. The coefficients of the interaction terms are negative and statistically significant, indicating a significant decline in the active share measure for event funds relative to control funds, consistent with the univariate results.[15]

3.3 Further Analyses: Idiosyncratic Volatility, Market Beta, and Portfolio Stock Size

We further examine patterns of risk shifting manifested in fund idiosyncratic volatility and market beta. We expect that the reduced deviation from indices would manifest in lower idiosyncratic volatility and higher market beta for fund returns. We measure the

15 We also conduct a parallel trend test by replacing the Post dummy with a Pre dummy which equals one for the window $[Q-4, Q-3]$, the window symmetric to the event window. The second column in Panel A of Supplementary Appendix Table IA1 documents that the coefficient of the interaction of Pre is statistically indistinguishable from zero, confirming that our results are not driven by the differential trends in active share between event funds and control funds.

Table IV. Fund active share around bereavement events

This table examines the active share of mutual funds around fund managers' bereavement events. Active share is calculated as the sum of absolute differences in portfolio weights between the fund and its index and then divided by two. We use the aggregate holdings of all mutual funds in the same objective code as the index for each fund. We calculate active share over three exclusive bi-quarterly windows: pre-event quarter [Q−2, Q−1], event quarter [Q, Q+1], and post-event quarter [Q+2, Q+3], where quarter Q is the bereavement event quarter. The construction of control fund sample is described in the header of Table III. Panel A reports the means of active share of the event funds, control funds, the difference between event funds and control funds as well as the diff-in-diffs between the pre-event quarter and the subsequent windows. The sample includes 181 event funds and their corresponding control funds. Panel B presents the DID regressions of active share on the interaction terms between the event dummy and two post-event window dummies. Control variables are the same as those in Table III and not reported for brevity. The variables are described in Appendix A. Fund fixed effects and year-quarter fixed effects are also included. The *t*-statistics for DID regressions are based on robust standard errors clustered by fund and year-quarter. The *t*-statistics for the differences are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Bold figures indicate diff-in-diff.

Panel A: Active share around fund managers' bereavement events

Windows	Pre-event [$Q-2$, $Q-1$]	Event [Q, $Q+1$]	Post-event [$Q+2$, $Q+3$]
Event funds, %	81.52	80.97	80.53
Control funds, %	81.65	81.95	82.08
Diff (Event–Control)	−0.12	−0.98	−1.55
Diff-in-diff (versus Pre-event), %		**−0.86****	**−1.43*****
		(−2.00)	**(−2.63)**

Panel B: DID regressions of active share

Independent variables	(1) Active share	(2) Active share
Post [Q, Q + 1] × Event	**−0.0086****	**−0.0079****
	(−2.35)	**(−2.06)**
Post [Q + 2, Q + 3] × Event	**−0.0143*****	**−0.0128****
	(−3.03)	**(−2.58)**
Post [Q, $Q+1$]	0.0031	0.0044
	(1.10)	(1.35)
Post [$Q+2$, $Q+3$]	0.0044	0.0064
	(1.26)	(1.67)
Controls	No	Yes
Fund fixed effects	Yes	Yes
Year-quarter fixed effects	Yes	Yes
No. of observations	1,086	1,041
Adj. R^2	0.943	0.943

idiosyncratic volatility of a fund during a window as the standard deviation of the residuals from the regression of daily fund returns on the five Fama–French factors in the corresponding window, annualized by multiplying the square root of 252. The market beta is measured as the coefficient of the market factor from the same regression model. We report the results of DID regressions for idiosyncratic volatility and market beta in Panel A of Table V. Columns (1) and (2) show that event funds exhibit significant decreases in idiosyncratic volatility during both the event months [−2, +1] and the post-event months [+2, +12]. Columns (3) and (4) present weak evidence that event funds exhibit a slight increase in market beta, as all four coefficients are positive and two of them are statistically significant.

We also examine the size of stocks held by bereaved fund managers using the Thomson Financial CDA/Spectrum mutual fund holdings database. If managers take less risk following parental deaths, we expect bereaved managers to allocate higher fractions of their portfolios to stocks with larger market capitalizations. In general, mutual funds tend to allocate most of their portfolios to relatively large stocks.[16] As such, our analysis focuses on their portfolio (re)allocations to stocks above the median market capitalization. We divide these above-median stocks into two categories: the largest market capitalization quartile ("Large") and the second largest size quartile ("Small"). We calculate the portfolio weights of Small and Large stocks in a fund's portfolios at three portfolio snapshots: the last holding snapshot (before the end) of the pre-event window $[Q-2, Q-1]$, the last holding snapshot of the event window $[Q, Q+1]$, and the last holding snapshot of the post-event window $[Q+2, Q+3]$.

Panel B of Table V reports the estimates from DID regressions of portfolio weights. Columns (1) and (2) show that the interaction terms of the Event firm indicator and the two Post indicators are negative and statistically significant in the small stock regressions, consistent with event funds shifting their portfolio away from small stocks. Columns (3) and (4) show positive coefficients of similar magnitudes and statistical significance for the interaction terms in the large stock regressions, indicating that funds with bereaved managers reallocate their portfolios toward large stocks.[17]

To summarize, this section documents that funds with bereaved managers experience lower tracking errors in fund returns, deviate less from the average holdings of funds with the same investment objective, display lower fund idiosyncratic volatilities and higher market beta, and shift their portfolio holdings to larger stocks. These consistent findings provide support for the notion that bereaved mutual fund managers take less risk following parental deaths.

4. The Impact of CEO Bereavement Events on Firm Investments

In this section, we examine how bereavement may affect CEOs' decisions about firm investments. If parental death events affect CEOs' risk-taking, we expect bereaved managers to

16 Less than 5% of the stocks in the average mutual fund portfolio have below-median market capitalization; these stocks make up less than 2.5% of the average portfolio by dollar value.

17 We also conduct parallel trends tests by replacing the Post dummy with a Pre dummy which equals one for the window $[Q–4, Q–3]$, the window symmetric to the event window. The third and fourth columns in Panel A of Supplementary Appendix Table IA1 show that our results are not driven by the differential trends between event funds and control funds.

Table V. Idiosyncratic volatility, market beta, and fund portfolio stock size around bereavement events

This table examines the idiosyncratic volatility, market beta, and the fraction of fund portfolios allocated to large-cap and small-cap stocks around fund managers' bereavement events. The idiosyncratic volatility of a fund is the standard deviation of the residuals from the regression of daily fund returns on the five Fama–French factors and then annualized by multiplying the square root of 252. The market beta is the coefficient of the market factor from the regression of daily fund returns on the five Fama–French factors. The idiosyncratic volatility and market beta are calculated over three mutually exclusive windows around fund manager's bereavement events, pre-event months [−6, −3], event months [−2, +1], and post-event months [+2, +12], where Month 0 is the month of the bereavement event. "Large" stocks are defined as stocks in the top monthly quartile of market capitalizations, while "Small" stocks are stocks in the second quartile of market cap. The fractions are calculated for three separate fund holdings reports: the last in the pre-event window [*Q*–2, *Q* −1] prior to the parental death event, the last report in the event window [*Q*, *Q*+1], and the first report in the post-event window [*Q*+2, *Q*+3], where quarter *Q* represents the event quarter. The construction of the control fund sample is described in the header of Table III. Panel A (B) presents DID regressions of idiosyncratic volatility and market beta (portfolio stock sizes) on the interaction terms between the event dummy and two post-event window dummies. Control variables include the natural log of TNA and its squared term, portfolio turnover ratio, expense ratio, fund return over the last quarter, fund flow over the last quarter, and the natural log of fund age. TNA, portfolio turnover ratio, expense ratio, and fund age are all measured using the most recent available data before the beginning of the window. The variables are described in Appendix A. Fund-fixed effects and year–month (year-quarter) fixed effects are also included. The *t*-statistics for DID regressions are based on robust standard errors clustered by fund and year–month (year-quarter). The *t*-statistics for the differences are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Bold figures indicate diff-in-diff.

Panel A: DID regressions of idiosyncratic return volatility and market beta

	(1)	(2)	(3)	(4)
Independent variables	**IVOL**	**IVOL**	**$BETA_{MKT}$**	**$BETA_{MKT}$**
Post [−2, +1] × Event	**−0.0020****	**−0.0017****	**0.0099**	**0.0069**
	(−2.46)	**(−2.23)**	**(1.60)**	**(1.12)**
Post [+2, +12] × Event	**−0.0026*****	**−0.0023*****	**0.0185*****	**0.0132***
	(−2.59)	**(−2.81)**	**(3.31)**	**(1.76)**
Post [−2, +1]	0.0004	0.0004	−0.0282	−0.0312
	(0.43)	(0.42)	(−3.38)	(−3.28)
Post [+2, +12]	0.0037	0.0031	−0.0414	−0.0431
	(3.83)	(3.44)	(−3.29)	(−2.93)
Controls	No	Yes	NO	Yes
Fund fixed effects	Yes	Yes	Yes	Yes
Year–month fixed effects	Yes	Yes	Yes	Yes
No. of observations	1,440	1,378	1,440	1,378
Adj. R^2	0.861	0.885	0.810	0.801

Panel B: DID regressions of fraction of small or large stocks in fund portfolio

	(1) Small Stocks	(2) Small Stocks	(3) Large Stocks	(4) Large Stocks
Post [*Q*, *Q* + 1] × Event	**−0.0116****	**−0.0127****	**0.0102****	**0.0113*****
	(−2.36)	**(−2.41)**	**(2.51)**	**(2.63)**

(continued)

Table V. Continued

Panel B: DID regressions of fraction of small or large stocks in fund portfolio

	(1) Small Stocks	(2) Small Stocks	(3) Large Stocks	(4) Large Stocks
Post [$Q+2$, $Q+3$] × Event	**−0.0124**[**]	**−0.0144**[**]	**0.0109**[**]	**0.0130**[**]
	(−2.19)	**(−2.38)**	**(2.07)**	**(2.24)**
Post [Q, $Q+1$]	0.0007	0.0003	0.0007	0.0003
	(0.19)	(0.08)	(0.24)	(0.09)
Post [$Q+2$, $Q+3$]	0.0037	0.0043	−0.0021	−0.0039
	(0.86)	(0.81)	(−0.51)	(−0.91)
Controls	No	Yes	No	Yes
Fund fixed effects	Yes	Yes	Yes	Yes
Year-quarter fixed effects	Yes	Yes	Yes	Yes
No. of observations	1,212	1,160	1,212	1,160
Adj. R^2	0.960	0.960	0.971	0.971

reduce operating risk by cutting investments (i.e., reducing capital expenditures and M&A activities). These investments are long-term projects that require relatively large inputs, have a higher probability of failure, and generate highly volatile payoffs.

4.1 Capital Expenditures

To examine whether firms with bereaved CEOs cut back on capital expenditures, we obtain data on annual capital expenditures from the Compustat database. Capital expenditure (CAPX) of a firm, scaled by lagged total assets, is calculated over the pre-event year $t-1$, event year t, and post-event years $t+1$, $t+2$, and $t+3$, where year t is the year of CEO parental death. As discussed earlier, for each event firm, we identify a control firm by first selecting a set of candidate firms that operate in the same FF-10 industry and in the same size quintile as the event firm. We then choose the candidate as the control firm whose CEO has the closest age to that of the event firm's bereaved CEO.[18]

Table VI reports the capital expenditure of the event firms, control firms, their differences, as well as the diff-in-diff between the pre-event window and subsequent windows. Panel A shows that firms with bereaved CEOs reduce their capital expenditures in the event year by 0.5% of assets (t-stat of –1.64), relative to the pre-event year, while the control firms' capital expenditures only experience minimal changes, although the diff-in-diff is statistically insignificant. The decline in event firms' capital expenditure is more pronounced in subsequent years ($t+1$ onwards), as reported in Panels B–D.[19] Indeed, firms with bereaved managers display lower capital expenditure in each of the subsequent 3 years relative to the pre-event year (i.e., –0.92%, –1.10%, and –1.57%, respectively), while the control firms' capital expenditures experience almost no change. The diff-in-diffs

18 In the cases for which there are multiple candidate firms with the same absolute CEO age difference, we choose the candidate firm with the closest book-to-market ratio to that of the event firm.

19 Note that the number of observations decreases from Panels A to D due to the declining number of event firms with available data in longer periods after the events.

Table VI. Firm capital expenditure around and after bereavement events

This table examines the capital expenditure of firms around and after their CEOs' bereavement events. Capital expenditure of a firm is scaled by the lagged total assets and calculated over 5 years around the CEO's bereavement event: pre-event year $t-1$, event year t, and post-event years $t+1$, $t+2$, and $t+3$, where year t is the year of bereavement event. For each event firm, we identify a control firm by first selecting a set of candidate firms in the same FF-10 industry as the event firm that also belongs to the same size quintile as the event firm within the industry. We then choose from this candidate set a control firm that has the closest CEO age to that of the event firm's CEO. In case there are multiple firms with the same absolute CEO age difference, we choose the control firm with the closest book-to-market ratio to that of the event firm. We report the average capital expenditure of the event firms, control firms, the difference between event firms and control firms as well as the diff-in-diffs between the pre-event window and the subsequent windows. Panels A–D report capital expenditure of year t, year $t+1$, year $t+2$, and year $t+3$, respectively. The samples in these panels include 309, 234, 184, and 144 event funds and their corresponding control funds, respectively. Panel E presents DID regressions of capital expenditure on the interaction terms between the event dummy and four post-event window dummies. Control variables include Tobin's Q, operating cash flows, book leverage, dividend, cash, ROA, sales growth rate, the natural log of firm size, the natural log of one plus firm age, and asset tangibility. Operating cash flows, dividend, cash are all scaled by the gross property, plant, and equipment of the previous year end. Control variables are all measured at the previous year end. The variables are described in Appendix A. Firm fixed effects and year fixed effects are also included. The t-statistics for DID regressions are based on robust standard errors clustered by firm and year. The t-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Bold figures indicate diff-in-diff.

	Event firms	Control firms	Difference
Panel A: Capital expenditure of event year [t]			
Pre-event [$t-1$]	0.0654	0.0653	0.0001
Event [t]	0.0602	0.0636	−0.0034
Difference	−0.0052	−0.0017	**−0.0035**
	(−1.64)	(−0.69)	**(−0.99)**
Panel B: Capital expenditure of year [$t+1$]			
Pre-event [$t-1$]	0.0669	0.0619	0.0051
Event [$t+1$]	0.0578	0.0632	−0.0054
Difference	−0.0092	0.0013	**−0.0105****
	(−2.26)	(0.41)	**(−2.14)**
Panel C: Capital expenditure of year [$t+2$]			
Pre-event [$t-1$]	0.0646	0.0563	0.0083
Event [$t+2$]	0.0536	0.0548	−0.0012
Difference	−0.0110	−0.0015	**−0.0095***
	(−2.27)	(−0.50)	**(−1.85)**
Panel D: Capital expenditure of year [$t+3$]			
Pre-event [$t-1$]	0.0675	0.0537	0.0138
Event [$t+3$]	0.0518	0.0525	−0.0006
Difference	−0.0157	−0.0012	**−0.0145****
	(−2.95)	(−0.28)	**(−2.45)**

Table VI. Continued

Panel E: DID regressions of capital expenditure		
	CAPX	
Independent variables	(1)	(2)
$Post_t$ × Event	**−0.0035**	**−0.0029**
	(−1.16)	**(−0.83)**
$Post_{t+1}$ × Event	**−0.0078****	**−0.0089****
	(−1.97)	**(−2.05)**
$Post_{t+2}$ × Event	**−0.0074**	**−0.0102***
	(−1.58)	**(−1.93)**
$Post_{t+3}$ × Event	**−0.0121****	**−0.0114****
	(−2.37)	**(−2.17)**
$Post_t$	−0.0008	−0.0006
	(−0.44)	(−0.26)
$Post_{t+1}$	0.0016	0.0026
	(0.57)	(0.80)
$Post_{t+2}$	−0.0011	0.0002
	(−0.29)	(0.05)
$Post_{t+3}$	0.0006	0.0003
	(0.14)	(0.06)
Tobin's Q		0.0083
		(4.24)
Operating CF		−0.0009
		(−1.89)
Leverage		−0.0023
		(−0.54)
Dividend		−0.0600
		(−3.74)
Cash		0.0040
		(1.75)
ROA		−0.0001
		(−1.11)
Sales growth		0.0529
		(2.42)
Ln(Size)		0.0048
		(1.09)
Ln(FirmAge + 1)		−0.0078
		(−0.66)
Tangibility		−0.0334
		(−0.73)
Firm fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
No. of observations	2,360	2,118
Adj. R^2	0.754	0.773

(i.e., –1.05%, –0.95%, and –1.45%, respectively) are statistically significant. This persistent decline in capital expenditure, lasting for at least 3 years, is difficult to reconcile with short-term distractions experienced by bereaved CEOs.

Inferences are similar when we perform DID regressions, which are presented in Panel E of Table VI. The sample for each of these regressions includes the event firms and their control firms. The main independent variables are the interactions of the event-firm indicator (Event) and indicators of 4 years in the event and post-event windows ($Post_t$ to $Post_{t+3}$), respectively. We control for firm- and year-fixed effects in the regressions. Model (1) presents the regressions of the interaction terms, in which the coefficients for all the 3 years in the post-event window are negative and two of them are statistically significant, consistent with the univariate analyses that firms with bereaved managers experience a significant decline in capital expenditures in the post-event years relative to that for control firms. Model (2) includes various control variables, and the interaction terms for the post-event years remain negative. Coefficients on control variables are consistent with prior work (Hubbard, 1998; Bliss, Cheng, and Denis, 2015; Gulen and Ion, 2016).[20] Overall, the results in Table VI support the hypothesis that parental deaths induce CEOs to take less risk and reduce capital expenditures.

4.2 M&A Activities

M&A activities are among the most important corporate events, typically involving large investments by the acquirers. To test whether firms with bereaved CEOs take lower risk and hence engage in fewer M&As, we obtain the data on M&As from the SDC Platinum database. We start with all unique deals from SDC Platinum and follow the literature to exclude deals for which: (i) the deal value is missing; (ii) the deal is classified by SDC as rumors, recapitalizations, repurchases, or spinoffs; (iii) the bidder holds more than 50% of the target's shares at the announcement date of the bid; or (iv) the bidder is seeking to acquire less than 50% of the target shares.[21]

We focus on bereaved and control firms' acquisitions in pre-event year $t-1$, event year t, and post-event years $t+1$, $t+2$, and $t+3$, where year t is the year of bereavement event. We examine two annual measures of M&A activities: the number of acquisitions announced in a year and the total deal value of those acquisitions. Panel A of Table VII shows that firms with bereaved managers tend to engage in about 0.5 acquisitions per year, which is similar to that of the control firm. Relative to control firms, event firms do not significantly reduce their M&As in the year that their CEOs experience parental deaths (i.e., the diff-in-diff in Panel A is –0.0506, t-stat of –0.68). The inference is the same based on the total deal value. However, we observe a significant decrease in event firms' M&A activities in the subsequent 3 years in terms of both the number of acquisitions and total deal value (Panels B–D). The diff-in-diffs are negative and statistically significant in Panels B and D. For instance, the decrease in M&A activities for event firms is –0.1603 in year $t+1$,

20 Similar to the parallel trend tests for the mutual fund analyses, we also conduct these tests for all CEO analyses by replacing the Post dummy with a Pre dummy which equals one for the year $t-2$, the window symmetric to the event window. The results in Panel B of Supplementary Appendix Table IA1 indicate that our results are not driven by differential pre-event trends between event firms and control firms.

21 Our results are similar if we further exclude relatively small acquisitions that account for less than 1% or 5% of the acquirer's market value of equity (Supplementary Appendix Table IA2).

Table VII. Firm acquisition activities around and after bereavement events

This table examines the acquisition activities of firms around and after their CEOs' bereavement events. We examine two annual measures of acquisition activities for a firm–year: the number of announced acquisitions made by the firm in a year, and the natural log of total deal values of the acquisitions. We calculate these two measures over 5 years around firm CEOs' bereavement events: pre-event year $t-1$, event year t, and post-event years $t+1$, $t+2$, and $t+3$, where year t is the year of bereavement event. The construction of the control firm sample is described in the header of Table VI. We report the average number of acquisition deals and the natural log of total deal value for the event firms, control firms, the difference between the event firms and control firms as well as the diff-in-diffs between the pre-event window and the subsequent windows. Panels A–D report acquisition activities of year t, year $t+1$, year $t+2$, and year $t+3$, respectively. The samples in these panels include 316, 237, 184, and 144 event firms and their corresponding control firms, respectively. Panel E presents DID regressions of acquisition activities on the interaction terms between event dummy and four post-event window dummies. Control variables include Tobin's Q, operating cash flows, book leverage, dividend, cash, ROA, sales growth rate, the natural log of firm size, the natural log of one plus firm age, and asset tangibility. Operating cash flows, dividend, cash are all scaled by the gross property, plant, and equipment of the previous year end. Control variables are all measured at the previous year end. The variables are described in Appendix A. Firm fixed effects and year fixed effects are also included. The t-statistics for DID regressions are based on robust standard errors clustered by firm and year. The t-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Bold figures indicate diff-in-diff.

	No. of acquisitions			Total deal value		
Windows	Event firms	Control firms	Difference	Event firms	Control firms	Difference
Panel A: Acquisitions in event year [t]						
Pre-event [$t-1$]	0.4810	0.4114	0.0696	2.0539	1.7745	0.2793
Event [t]	0.3956	0.3766	0.0190	1.6740	1.6052	0.0688
Difference	−0.0854	−0.0348	**−0.0506**	−0.3799	−0.1693	**−0.2105**
	(−1.68)	(−0.63)	**(−0.68)**	(−1.65)	(−0.68)	**(−0.61)**
Panel B: Acquisitions in year [$t+1$]						
Pre-event [$t-1$]	0.4852	0.3924	0.0928	2.0656	1.6895	0.3761
Event [$t+1$]	0.3249	0.4346	−0.1097	1.3670	2.0178	−0.6508
Difference	−0.1603	0.0422	**−0.2025****	−0.6987	0.3283	**−1.0269****
	(−2.57)	(0.66)	**(−2.24)**	(−2.67)	(1.11)	**(−2.53)**
Panel C: Acquisitions in year [$t+2$]						
Pre-event [$t-1$]	0.4728	0.3696	0.1033	1.9691	1.4975	0.4716
Event [$t+2$]	0.3370	0.3967	−0.0598	1.4439	1.6646	−0.2208
Difference	−0.1359	0.0272	**−0.1630**	−0.5252	0.1671	**−0.6924**
	(−1.99)	(0.34)	**(−1.61)**	(−1.67)	(0.50)	**(−1.53)**
Panel D: Acquisitions in year [$t+3$]						
Pre-event [$t-1$]	0.4514	0.3750	0.0764	1.9275	1.5038	0.4236
Event [$t+3$]	0.2431	0.4236	−0.1806	1.0550	1.8487	−0.7937
Difference	−0.2083	0.0486	**−0.2569****	−0.8725	0.3449	**−1.2173****
	(−2.85)	(0.52)	**(−2.21)**	(−2.68)	(0.89)	**(−2.44)**

Table VII. Continued

Panel E: DID regressions of acquisition activities

	No. of acquisitions		Total deal value	
Independent variables	(1)	(2)	(3)	(4)
$Post_t$ × Event	**−0.0506**	**−0.0469**	**−0.2105**	**−0.1096**
	(−0.82)	**(−0.61)**	**(−0.81)**	**(−0.37)**
$Post_{t+1}$ × Event	**−0.1989*****	**−0.2111*****	**−1.0591*****	**−1.0603*****
	(−2.68)	**(−2.78)**	**(−3.18)**	**(−3.16)**
$Post_{t+2}$ × Event	**−0.1373****	**−0.1923****	**−0.6268****	**−0.8079*****
	(−1.96)	**(−2.53)**	**(−2.25)**	**(−2.63)**
$Post_{t+3}$ × Event	**−0.2228****	**−0.2181****	**−1.0699*****	**−0.9877****
	(−2.52)	**(−2.23)**	**(−2.94)**	**(−2.40)**
$Post_t$	−0.0327	−0.0307	−0.1730	−0.2134
	(−0.97)	(−0.71)	(−1.06)	(−1.06)
$Post_{t+1}$	0.0555	0.0563	0.3636	0.3524
	(1.01)	(0.93)	(1.43)	(1.24)
$Post_{t+2}$	0.0309	0.0569	0.1653	0.2182
	(0.41)	(0.68)	(0.54)	(0.64)
$Post_{t+3}$	0.0611	0.0321	0.3704	0.1889
	(0.82)	(0.36)	(1.27)	(0.55)
Controls	No	Yes	No	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
No. of observations	2,394	2,137	2,394	2,137
Adj. R^2	0.239	0.250	0.208	0.221

whereas the M&A activities for control firms hardly change (difference of 0.0422). The diff-in-diff is –0.2025 (with a t-stat of –2.24). The inference is similar when we focus on the natural log of deal value as the diff-in-diff is –1.0269 (t-stat of –2.53) for year $t+1$.

Panel E of Table VII further presents DID regressions of acquisitions, and we observe negative coefficients for the interaction term between the Event and Post indicator variables, reflecting significant differences in the reductions of the number and the value of M&A deals for event firms from the pre-event year to the post-event years, relative to those for control firms. Control variables generally carry the expected sign and significance. Overall, the results in Table VII are consistent with the hypothesis that bereaved CEOs become less active in potentially risky M&A activities.

5. Robustness and Evaluations of Potential Explanations

In this section, we first conduct several robustness tests on our main results, and then evaluate various potential explanations regarding why parental deaths may cause the observed less risk-taking at the organizational level. Because we have two samples using various risk-taking measures, we focus on the main measures to make our analyses manageable (i.e., tracking errors and active share for fund managers; and capital expenditures and M&A activities for CEOs).

5.1 Robustness Tests

We conduct several tests using alternative sample constructions. First, we examine the alternative matched sample constructed using propensity score matching (PSM). For the fund manager analysis, in each year *t*, we estimate a Probit model of a bereavement dummy on lagged fund characteristics including fund size, fund manager age, investment objective, and year fixed effects, using all funds in the pre-event years. We then use the coefficients from the Probit regression and the fund characteristics at the end of the year $t-1$ to calculate the predicted treatment probability of each fund in year *t*. As the final step, we identify the matched fund using the nearest neighbor matching procedure without replacement and setting the caliper at 0.25. For the CEO analysis, we follow a similar procedure to identify a PSM firm except that the matching characteristics in the Probit regression include firm size, book–market ratio, CEO age, industry, and year fixed effects. Panel A of Supplementary Appendix Table IA3 shows that our main results are robust to using the PSM approach. In Panel B of Supplementary Appendix Table IA3, we construct the matched sample using the PSM approach with replacement and our findings remain robust.

Next, we examine an alternative matching approach for mutual funds by removing age as a matching criterion. Since we obtain manager age from Accurint, requiring age as a matching criterion necessarily limits the matching funds to those whose managers can be identified in Accurint. For robustness, we use only investment objectives and fund size as the matching criteria, which effectively expand the pool of matching fund selection to virtually the entire fund population. Panel A of Supplementary Appendix Table IA4 shows that the results using this alternative matching are very similar to our baseline results. We also examine an alternative matching approach for the CEO sample using two-digit SIC industries rather than the Fama–French industry classification; Panel B of Supplementary Appendix Table IA4 shows that our findings are robust using this alternative approach.

We also conduct robustness tests by including the small number of events with more than two qualified parents. Recall that we use the conservative approach of excluding fund managers or CEOs with more than two relatives in Accurint who appear to satisfy the conditions to be deemed a parent. However, excluding those cases may disproportionately exclude fund managers and CEOs whose parents split up and formed new unions (i.e., some managers/CEOs could end up with more than two parents/step-parents who share the same last name), and some of these cases may not need to be excluded because people may form close bonds with step-parents. Supplementary Appendix Table IA5 shows that the observed bereavement effects are robust when we include these cases.

Finally, we examine the comparability of bereaved and matched managers regarding the slopes of their contracts, which can have a substantial impact on managers' risk-taking decisions. Specifically, we follow the literature and calculate flow-performance sensitivity for the mutual fund sample and pay-performance sensitivity for the CEO sample (e.g., Sirri and Tufano, 1998; Bergstresser and Philippon, 2006; Huang, Wei, and Yan, 2007; Christoffersen and Xu, 2017). The results in Supplementary Appendix Table IA6 indicate that the pay-performance and flow-performance sensitivity of event funds and firms are economically and statistically indistinguishable from matched funds and firms, respectively.

5.2 Evaluations of Potential Explanations

5.2.a. *Emotion-driven risk shifting*

Our main hypothesis is that parental deaths cause large emotional effects and increase managers' risk aversion. In this subsection, we conduct two analyses to test the emotion effect and its carryover to organizational behavior more directly.

First, the emotion-driven explanation predicts that unexpected deaths, which involve larger emotional effects than expected events, will cause bigger shifts in risk aversion than expected death events. We take two approaches to classify unexpected and expected death events. First, we manually collect data of the deceased parents' obituaries and search for the reasons for parental deaths.[22] Despite our laborious efforts, we are able to identify only a small sub-sample of parental deaths because many obituaries do not provide the reasons for deaths and instead merely state that the person passed away at home or at the hospital. We are able to classify sixty events in the CEO sample (sixteen unexpected deaths and forty-four expected deaths) and twenty-two events in the mutual fund sample (three unexpected for six funds and nineteen expected deaths for thirty-two funds). We construct a dummy variable, Unexpected, which equals one for unexpected events and zero for expected events. We then repeat our baseline regressions by including a triple interaction term Post × Event × Unexpected as well as the related two-way interaction terms. We focus on the sign and magnitude of the coefficient rather than statistical significance because of the much reduced sample size. Table VIII reports the negative coefficients on the triple interaction terms, which indicate that the investment effects of unexpected deaths are larger than those of expected deaths.

We use the age of the deceased parent as an alternative proxy for the degree of anticipation (i.e., more unexpected if the deceased's age at death is in the bottom tercile). While this approach is less accurate than the obituary information, we are able to retain the initial samples. We repeat the above analyses and report the results in Table IX. In Panel A, we observe that all of the triple interaction terms are negative, with six out of eight statistically significant, for the mutual fund sample. Panel B further shows that, for the CEO sample, the coefficients of the triple interaction terms are all negative, with half of them statistically significant, also indicating that the bereavement effect is much stronger for unexpected deaths than for expected deaths. Taken together, inferences based on both approaches support the emotion-driven explanation.[23]

22 We collect the obituary from multiple sources including legacy.com, findagrave.com, ancestry.-com, and Google. We use the deceased parent's name, date of birth, date of death, and address to conduct an intense manual search, and find obituaries for 192 out of the 317 CEO events, and 102 out of the 161 fund manager events. We then read through each obituary and classify a death as unexpected if the obituary mentions that the death is sudden, or due to a short illness (e.g., heart attack, stroke, or pneumonia), and classify a death as expected if the cause is a long illness (e.g., diabetes, prostate cancer, or "long illness").

23 We also conduct a robustness test by moving the test windows of mutual fund analysis forward by two months for unexpected events (i.e., let the event window start right after the unexpected events). In untabulated results, we find that the results remain similar when we adjust the windows for the very small number of unexpected events identified based on obituaries, and the results become stronger when we adjust the windows for the unexpected events identified using deceased parents' age.

Table VIII. Expected versus unexpected death events classified by obituaries

This table examines whether the bereavement effect varies with expected versus unexpected death events classified by obituary. We classify a death as unexpected if the obituary mentions that the death is sudden, or due to a short illness, and classify a death as expected if the cause is a long illness. We add triple interactions of DID interaction terms and unexpected death dummy (Unexpected). All lower-order terms are included in the regressions except for the event dummy, unexpected dummy, and the interaction between them, as they will be subsumed by the fund (firm) fixed effects. Panel A reports triple interaction regressions of tracking errors and active share. The two-way interaction terms in Columns (1) and (2) include Post[−2, +1] × Event, Post[−2, +1] × Unexpected, Post[+2, +12] × Event, and Post[+2, +12] × Unexpected. The two-way interaction terms in Columns (3) and (4) include Post [Q, Q+1] × Event, Post [Q, Q+1] × Unexpected, Post [Q+2, Q+3] × Event, and Post [Q+2, Q+3] × Unexpected. Control variables include the natural log of TNA and its squared term, portfolio turnover ratio, expense ratio, fund return over the last quarter, fund flow over the last quarter, and the natural log of fund age. TNA, portfolio turnover ratio, expense ratio, and fund age are all measured using the most recent available data before the beginning of the window. Fund fixed effects and time fixed effects are also included. Time fixed effects refer to year–month for tracking errors and year-quarter for active share. Panel B reports triple interaction regressions of capital expenditure and two acquisition activity measures including the number of acquisitions and the natural log of total deal value. The two-way interaction terms in Panel B include $Post_t$ × Event, $Post_t$ × Unexpected, $Post_{t+1}$ × Event, $Post_{t+1}$ × Unexpected, $Post_{t+2}$ × Event, $Post_{t+2}$ × Unexpected, $Post_{t+3}$ × Event, and $Post_{t+3}$ × Unexpected. Control variables include Tobin's Q, operating cash flows, book leverage, dividend, cash, ROA, sales growth rate, the natural log of firm size, the natural log of one plus firm age, and asset tangibility. Operating cash flows, dividend, cash are all scaled by the gross property, plant, and equipment of the previous year end. Control variables are all measured at the previous year end. Firm fixed effects and year fixed effects are also included. All variables are described in Appendix A. For brevity, this table only reports the coefficient estimates of triple interaction terms and associated t-statistics in parenthesis based on robust standard errors clustered by fund (firm) and time. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Mutual fund sample

Dependent variables	Tracking errors		Active share	
	(1)	(2)	(3)	(4)
Post [−2, +1] × Event × Unexpected	−0.0096*	−0.0038		
	(−1.83)	(−0.52)		
Post [+2, +12] × Event × Unexpected	−0.0038	0.0038		
	(−0.83)	(0.55)		
Post [Q, Q + 1] × Event × Unexpected			−0.0222**	−0.0109
			(−2.07)	(−0.86)
Post [Q + 2, Q + 3] × Event × Unexpected			−0.0180*	−0.0119
			(−1.69)	(−0.86)
Two-way interaction terms	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
Fund fixed effects	Yes	Yes	Yes	Yes
Year–month fixed effects	Yes	Yes	No	No
Year-quarter fixed effects	No	No	Yes	Yes
No. of observations	216	212	192	189
Adj. R^2	0.875	0.872	0.969	0.967

Table VIII. Continued

Panel B: CEO sample

Dependent variables	Capital expenditure		No. of acquisitions		Deal value	
	(1)	(2)	(3)	(4)	(5)	(6)
Post$_t$ × Event × Unexpected	**−0.0331****	**−0.0253**	**−0.5126**	**−0.4229**	**−2.8213***	**−2.0957**
	(−2.55)	**(−1.32)**	**(−1.45)**	**(−1.01)**	**(−1.91)**	**(−1.20)**
Post$_{t+1}$× Event × Unexpected	**−0.0598****	**−0.0594***	**−0.6082**	**−0.7298**	**−2.4408**	**−2.6080**
	(−2.19)	**(−1.71)**	**(−1.29)**	**(−1.49)**	**(−1.38)**	**(−1.44)**
Post$_{t+2}$× Event × Unexpected	**−0.0268**	**−0.0307**	**−0.6946****	**−0.9302****	**−2.6537***	**−3.4944****
	(−0.76)	**(−0.95)**	**(−1.97)**	**(−2.28)**	**(−1.95)**	**(−2.13)**
Post$_{t+3}$× Event × Unexpected	**−0.0271**	**−0.0164**	**−0.4291**	**−0.6536**	**−2.1997**	**−2.8438**
	(−0.81)	**(−0.55)**	**(−1.05)**	**(−1.30)**	**(−1.22)**	**(−1.36)**
Two-way interaction terms	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
No. of observations	460	420	450	410	450	410
Adj. R^2	0.693	0.727	0.125	0.146	0.119	0.117

Next, we exploit the variation in mutual fund management structure to examine how bereaved managers' risk aversion translates into organizational risk-taking propensity. To the extent that mutual funds' investment decisions are decided by the management team, the bereavement effect should be stronger for the single-manager funds than for the team-managed funds, where the bereaved managers are likely to play more limited roles. We focus on mutual funds because CEOs can be easily identified as the individual with the main responsibility for making corporate investment decisions. We collect the data about fund management teams from Morningstar following the literature (e.g., Pool, Stoffman, and Yonker, 2012), and construct a SingleManager dummy variable for funds with single managers. We then repeat our regressions by including Event × Post × SingleManager as well as controlling for the related two-way interaction terms. Table X shows that, consistent with our prediction, the bereavement effect is significantly stronger for single-manager funds than team-managed funds in both the tracking errors regression and the active share regression. This result is consistent with the hypothesis that the emotional impact on fund managers translates into a decrease in organizational risk-taking.

5.2.b. *Attention distraction*

The first alternative explanation is distractions from handling the matters related to parental deaths that divert managers' attention from work in the post-event period. Note that distractions are relatively short term, whereas emotion effects could last longer. In this sense, distractions alone cannot entirely explain our findings because some of the changes in investment behavior that we document last from 1 to 3 years after the parental death.

To further examine the distraction explanation, we investigate a major distraction that could last for a long time after parental deaths. Specifically, if bereaved managers need to sell the houses of deceased parents and this process drags for a long time, the distractions

Table IX. Expected versus unexpected death events classified by parental death age

This table examines whether the bereavement effect varies with expected versus unexpected death events classified by parental death age. We add triple interactions of DID interaction terms and young parental death age dummy (Unexpected). Unexpected dummy is defined to be one for event fund managers (CEOs) in the bottom parental death age tertile (whose parental death age is below or equal to 74 at the event time for mutual fund managers and 79 for CEOs). All lower-order terms are included in the regressions except for the event dummy, unexpected dummy, and the interaction between them, as they will be subsumed by the fund (firm) fixed effects. Panel A reports triple interaction regressions of tracking errors and active share. The two-way interaction terms in Columns (1) and (2) include Post [−2, +1] × Event, Post [−2, +1] × Unexpected, Post [+2, +12] × Event, and Post [+2, +12] × Unexpected. The two-way interaction terms in Columns (3) and (4) include Post [*Q*, *Q*+1] × Event, Post [*Q*, *Q*+1] × Unexpected, Post [*Q*+2, *Q*+3] × Event, Post [*Q*+2, *Q*+3] × Unexpected. Control variables include the natural log of TNA and its squared term, portfolio turnover ratio, expense ratio, fund return over the last quarter, fund flow over the last quarter, and the natural log of fund age. TNA, portfolio turnover ratio, expense ratio, and fund age are all measured using the most recent available data before the beginning of the window. Fund fixed effects and time fixed effects are also included. Time fixed effects refer to year–month for tracking errors and year-quarter for active share. Panel B reports triple interaction regressions of capital expenditure, and two acquisition activity measures including the number of acquisitions and the natural log of total deal value. The two-way interaction terms in Panel B include $Post_t$ × Event, $Post_t$ × Unexpected, $Post_{t+1}$ × Event, $Post_{t+1}$ × Unexpected, $Post_{t+2}$ × Event, $Post_{t+2}$ × Unexpected, $Post_{t+3}$ × Event, and $Post_{t+3}$ × Unexpected. Control variables include Tobin's *Q*, operating cash flows, book leverage, dividend, cash, ROA, sales growth rate, the natural log of firm size, the natural log of one plus firm age, and asset tangibility. Operating cash flows, dividend, cash are all scaled by the gross property, plant, and equipment of the previous year end. Control variables are all measured at the previous year end. Firm fixed effects and year fixed effects are also included. All variables are described in Appendix A. For brevity, this table only reports the coefficient estimates of triple interaction terms and associated *t*-statistics in parenthesis based on robust standard errors clustered by fund (firm) and time. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Mutual fund sample

Dependent variables	Tracking errors		Active share	
	(1)	(2)	(3)	(4)
Post [−2, +1] × Event × Unexpected	**−0.0052****	**−0.0033***		
	(−2.46)	**(−1.66)**		
Post [+2, +12] × Event × Unexpected	**−0.0159*****	**−0.0139*****		
	(−4.29)	**(−3.81)**		
Post [*Q*, *Q* + 1] × Event × Unexpected			**−0.0218****	**−0.0208****
			(−2.31)	**(−2.00)**
Post [*Q* + 2, *Q* + 3] × Event × Unexpected			**−0.0164**	**−0.0125**
			(−1.60)	**(−1.12)**
Two-way interaction terms	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
Fund fixed effects	Yes	Yes	Yes	Yes
Year–month fixed effects	Yes	Yes	No	No

(continued)

Table IX. Continued

Panel A: Mutual fund sample

Dependent variables	Tracking errors		Active share	
	(1)	(2)	(3)	(4)
Year-Quarter fixed effects	No	No	Yes	Yes
No. of observations	1,434	1,375	1,086	1,041
Adj. R^2	0.877	0.889	0.946	0.945

Panel B: CEO sample

Dependent variables	Capital expenditure		No. of acquisitions		Deal value	
	(1)	(2)	(3)	(4)	(5)	(6)
$Post_t$ × Event × Unexpected	−0.0250**	−0.0309***	−0.4757**	−0.5830***	−2.0551**	−2.5595***
	(−2.51)	(−2.66)	(−2.48)	(−2.99)	(−2.49)	(−3.18)
$Post_{t+1}$× Event × Unexpected	−0.0099	−0.0207	−0.2434	−0.2480	−0.7376	−0.8273
	(−0.72)	(−1.41)	(−1.06)	(−1.00)	(−0.70)	(−0.75)
$Post_{t+2}$× Event × Unexpected	−0.0297*	−0.0413**	−0.1398	−0.2569	−1.0511	−1.5524**
	(−1.85)	(−2.54)	(−0.78)	(−1.42)	(−1.32)	(−2.10)
$Post_{t+3}$× Event × Unexpected	−0.0277*	−0.0343*	−0.1333	−0.1933	−0.4315	−0.6135
	(−1.81)	(−1.95)	(−0.59)	(−0.73)	(−0.43)	(−0.53)
Two-way interaction terms	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
No. of observations	2,360	2,118	2,394	2,137	2,394	2,137
Adj. R^2	0.756	0.775	0.239	0.251	0.207	0.222

associated with the real estate sales could affect managers' investment activities even in the long-term window. We use the information on real estate properties in the LexisNexis Accurint database to investigate real estate sales for our sample managers. To make this analysis manageable, we focus on mutual fund managers rather than CEOs because real estate sales are less likely to be a major distraction for CEOs who have generally worked for many years and are wealthier than mutual fund managers.

We search for each deceased parent's real estate property transactions in the Accurint database. From our sample events, we are able to collect information of real estate properties for 133 deceased parents, which account for over 80% of our sample events. Among these 133 deceased parents, only 24 (18%) death events are followed by the sales of real estate properties. Moreover, only 17 (9) events are followed by real estate sales over 3 months (1 year) after parental deaths. Additionally, we observe the transaction price for nine of the sales, with the median transaction price of $250,000. After accounting for agent fees, taxes, mortgage loan repayments, and distribution among siblings, this amount is unlikely to have a large influence on a mutual fund manager. Therefore, both the frequency and the amount of real estate sales suggest that on average real estate sale is unlikely to explain the part of the results on longer-term effects.

Table X. Single-manager versus team-managed mutual funds

This table examines whether the bereavement effect on tracking errors and active share varies with single-manager versus team-managed funds. We add triple interactions of DID interaction terms and single-manager dummy. All lower-order terms are included in the regressions except for the event dummy, single-manager dummy, and the interaction between them, as they will be subsumed by the fund fixed effects. Two-way interaction terms in Columns (1) and (2) include Post[−2, +1] × Event, Post[−2, +1] × SingleManager, Post[+2, +12] × Event, and Post[+2, +12] × SingleManager. Two-way interaction terms in Columns (3) and (4) include Post[*Q*, *Q* + 1] × Event, Post [*Q*, *Q*+1] × SingleManager, Post [*Q*+2, *Q* +3] × Event, and Post [*Q*+2, *Q*+3] × SingleManager. Control variables include the natural log of TNA and its squared term, portfolio turnover ratio, expense ratio, fund return over the last quarter, fund flow over the last quarter, and the natural log of fund age. TNA, portfolio turnover ratio, expense ratio, and fund age are all measured using the most recent available data before the beginning of the window. Fund fixed effects and time fixed effects are also included. Time fixed effects refer to year–month for tracking errors and year-quarter for active share. All variables are described in Appendix A. For brevity, this table only reports the coefficient estimates of triple interaction terms and associated *t*-statistics in parenthesis based on robust standard errors clustered by fund and time. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variables	Tracking errors		Active share	
	(1)	(2)	(3)	(4)
Post [−2, +1] × Event × SingleManager	−0.0077**	−0.0081**		
	(−2.21)	(−2.15)		
Post [+2, +12] × Event × SingleManager	−0.0076*	−0.0073*		
	(−1.89)	(−1.84)		
Post [Q, Q + 1] × Event × SingleManager			−0.0253***	−0.0255***
			(−3.85)	(−3.95)
Post [Q + 2, Q + 3] × Event × SingleManager			−0.0176*	−0.0159
			(−1.94)	(−1.63)
Two-way interaction terms	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
Fund fixed effects	Yes	Yes	Yes	Yes
Year–month fixed effects	Yes	Yes	No	No
Year-quarter fixed effects	No	No	Yes	Yes
No. of observations	1,434	1,375	1,086	1,041
Adj. R^2	0.872	0.884	0.944	0.943

5.2.c. *Wealth inheritance*

CEOs and fund managers may receive substantial inheritances which can either cause bereaved managers to (i) feel wealthier and thus have a different risk preference in general and/or (ii) reduce the relative importance of monetary incentives provided by the compensation contracts. Before testing the wealth inheritance explanation, we first gauge the magnitude of wealth inherited from deceased parents in our sample. While the amount of wealth inheritance from deceased parents is not directly observable, we make an attempt to estimate it by collecting the real estate information of the deceased parents. Housing wealth accounts for almost two-thirds of the total wealth of a median US household (Iacoviello, 2012). For each deceased parent, we estimate the home value using Zillow's home value index, which reflects the typical value for homes in the 35th to 65th percentile range of the deceased's zip code (in the Accurint database) in the month of the death event. Using this method, we estimate that the median home value of a deceased parent is US$245,836.[24] We calculate the ratio of the deceased parent's estimated home value to the CEO's annual compensation in the year of the death event. The mean of this ratio is 18.4% and the median is 8.7%. Therefore, on average, the magnitude of estimated inheritance seems relatively small compared to CEO's annual income, let alone the CEO's total income in subsequent years after the parental death events. After further accounting for inheritance taxes, the amount of inheritance based on our estimates is unlikely to fundamentally change a CEO or mutual fund manager's work attitude and risk preference.

Next, we examine if the bereavement effect is stronger for CEOs who receive larger amounts of inheritance relative to their income. We add a triple interaction term of the home value ratio above, the event dummy, and the post dummy into our baseline regressions. Panel A in Supplementary Appendix Table IA7 shows that the triple interaction terms are statistically insignificant in all regressions of our outcome variables. To control for outliers in house values, we also conduct this analysis by excluding the top 5% (Panel B) or top 10% (Panel C) of the zip codes of house prices, and the results remain similar. These results indicate that the amount of inheritance is not likely to explain the bereavement effect.

5.2.d. *Work–family rebalance*

Parental deaths might cause managers to reoptimize their work–family balance in favor of lower effort provision at work and higher engagement with family activities. This rebalancing is consistent with the tracking errors and less active trading among event funds as well as the decreased investment levels for event firms that we document. Unlike the attention distraction explanation, the work–family rebalancing could have long-lasting effects on managers.

The work–family channel would also predict stronger bereavement effects for those managers with young children as they are more likely to divert time and efforts from work to family life. We collect data on the ages of children for all fund managers and CEOs in our sample from the Accurint database, and construct two measures of managers' young children: (i) an indicator variable indicating whether the manager has any children under 18 years old and (ii) the number of manager's children under 18 years old. We include a triple interaction term of the measure of young children, the event dummy, and the post dummy into our baseline regressions. The results in Supplementary Appendix Table IA8 show that, inconsistent with the work–family rebalance explanation, the triple interaction terms are mostly insignificant, with the few exceptions being significantly positive (rather than significantly negative as predicted by the work–family rebalance explanation).

24 To validate our approach, we conduct a cross-check using Chuprinin and Sosyura's (2018) estimate that the median value of the home in which a mutual fund manager grew up is 154% higher than the median US home value. Multiplying this figure to the median US home value in 2004 (midpoint of our sample period) of 150,635 USD (from Zillow) yields an estimated parent's home value of 382,613 USD (150,635 $\times$ (1 + 154%)), which is largely in line with our approach.

5.2.e. *Inactiveness*

The above results of young children do not rule out the "inactiveness" explanation that predicts a general decrease in managerial efforts in both professional work and family life. Specifically, parental deaths could induce an inactiveness on the part of managers if the death of a parent causes managers to reassess their own mortality due to mental stress and physical efforts. To test this inactiveness explanation, we analyze observable CEO activities as proxies of their work efforts.

For the first measure of CEO professional activities, we use the earnings conference call data from Capital IQ's Key Developments database from 2002 to 2014 and define the frequency of CEO's earnings conference calls (Conference Call) as the natural logarithm of the total number of earnings conference calls in the test window. For the second measure of CEO activities, we use the data on CEO press interviews with CNBC during 1997–2006, including a total of 7,037 interview text files obtained from Factiva.[25] We manually read through each interview text file to retrieve company name, ticker, CEO name, and interview date, and define the frequency of CEO press interviews (Media Interview) as the natural logarithm of the total number of CEO press interviews in the test window. For the third measure of CEO activities, we use voluntary 8-K disclosures to capture active efforts made by managers on corporate disclosure. We obtain the 8-K data from 1994 to 2014 from the SEC Analytics Suite database. We classify 8-K sections 2.02, 7.01, and 8.01, and their related exhibits as voluntary 8-K filings, following He and Plumlee (2020).[26] We then define the Voluntary 8-K Disclosure variable as the natural logarithm of the total number of voluntary 8-K filings in the test window.

We conduct our baseline regression analyses but replace the independent variable with alternative proxies of CEO activeness defined above. As reported in Supplementary Appendix Table IA9, none of these activities decrease after parental death events as the estimated coefficients on Post $\times$ Event are positive in all models and statistically significant in some models. These results are inconsistent with the alternative explanation that parental death induces CEO inactiveness.

Overall, the results in Section 5.2 provide further evidence consistent with the emotion-driven explanation, but inconsistent with other potential explanations such as attention distractions, wealth inheritance, work–family rebalance, or managerial inactiveness.

6. Performance Analysis

6.1 The Effect of Parental Death on Fund and Firm Performance

6.1.a. *Fund performance*

Consistent with the analysis of investment decisions, we measure performance in three separate windows: pre-event window [−6, −3], event window [−2, +1], and post-event window [+2, +12], where Month 0 is the month of parental death. The pre-event window serves as the benchmark, and our analysis examines the difference between the pre-event

25 The coverage of Factiva on CNBC interviews starts from 1997 and stops at 2006.

26 Item 2.02 is "Results of Operations and Financial Condition", item 7.01 is "Regulation FD Disclosure", and item 8.01 is "Other Events" (events that are not specifically called for by Form 8-K).

window and each of the latter two windows. Besides these three windows, we also present the return results for the second year following the event (i.e., [+13, +24]).

Table XI presents the average abnormal monthly fund returns in the event and post-event windows, in terms of three-factor alphas (Panel A) and Fama–French five-factor alphas (Panel B).[27] We are particularly interested in the difference between the benchmark pre-event window and the event window (or post-event window), which is reported in the bottom rows of each panel. Even though we do not select control funds based on their pre-event performance, the performance of funds with bereaved managers and the control funds are very similar in the pre-event window. However, funds with bereaved managers experience substantial return declines relative to their control funds during the event window [−2, +1]. We also observe a substantial decline in the return of event funds in the post-event months [+2, +12], while there is only weak evidence of continued decline in fund performance in the [+13, +24] window.[28] In sum, funds with bereaved managers experience an underperformance by about 3.45 percentage points in terms of the Fama–French three-factor alphas over the 15-month event and post-event period [−2, +12].

We also estimate diff-in-diff regressions in Panel C of Table XI. The dependent variable is Fama–French three-factor alpha in Models (1) and (2), and Fama–French five-factor alpha in Models (3) and (4). The main independent variables are the interaction terms of the event dummy with the dummies of event- and post-event windows. We further control for a broad set of fund characteristics including total assets under management (TNA), its squared term, turnover ratio, expenses, lagged quarterly fund return and fund flows, and fund age. In all regressions, the coefficients of the interaction terms of [−2, +1] and [+2, +12] are negative and statistically significant, and the coefficient of the interaction term of [+13, +24] is negative albeit statistically insignificant. These results are consistent with the univariate result of a significant decline in performance for event funds in the event- and post-event windows.[29] Overall, our results in this subsection are consistent with the joint hypothesis that (i) parental deaths have a negative impact on mutual fund managers' risk-taking and (ii) bereaved fund managers influence fund performance despite any contingency

27 We follow the literature and control for potential variations in risk exposure across funds by subtracting the expected return of each fund as calculated using factor loadings estimated over the previous 36 months. The following factor models are used to generate estimates of expected returns: the Fama–French three-factor model (Fama and French, 1993) which includes MKT, SMB, and HML; and the Fama–French five-factor model (Fama and French, 2015) which includes MKT, SMB, HML, RMW, and CMA. Inferences from both the univariate and regression results are the same when we use the Pástor-Stambaugh five-factor model which includes the Fama–French three factors, a momentum factor (UMD), and a liquidity factor (Pástor and Stambaugh, 2003).

28 The magnitude of the decline in alphas is economically meaningful. For instance, the diff-in-diff in terms of three-factor alphas between the pre-event window and the event window (in Panel A) is negative 34 bps per month, corresponding to a total abnormal return of 1.36% over the four-month event window. The diff-in-diff between the pre-event window and the post-event window is negative 19 bps, corresponding to a total lower return of 2.09% in this 11-month window.

29 We follow the literature and calculate alphas based on the betas estimated in the previous rolling windows. This approach does not consider the potential changes in betas because of the shift in the agents' investment behaviors. For robustness, we repeat the analysis using daily fund alphas estimated using daily fund returns and daily return factors in the return windows and report the results in Supplementary Appendix Table IA10. The results are similar.

Table XI. Fund returns around bereavement events

This table examines the performance of mutual funds around fund managers' bereavement events. Monthly fund returns are controlled against funds with the peer funds, after controlling for Fama–French three-factor model (in Panel A) and Fama–French five-factor model (i.e., MKT, SMB, HML, RMW, and CMA, in Panel B). For each event fund, we identify a control fund by first selecting a set of candidate funds with the same investment objective as the event fund that also belongs to the same TNA quintile as the event fund within that investment objective group. We then choose from this candidate set a control fund that has the closest manager age to that of the event fund's manager. The factor models are estimated using 36-month time-series rolling regressions. These adjusted returns are calculated over four exclusive windows around the fund manager's bereavement event: pre-event months [−6, −3], event months [−2, +1], and post-event months [+2, +12] and [+13, +24], where Month 0 is the month of the bereavement event. We then report the means of these adjusted returns, the corresponding adjusted returns of the control funds, the difference between event funds and control funds as well as the diff-in-diffs between pre-event windows and the subsequent windows. The sample in Panel A includes 205 event funds and their corresponding control funds. Panel C reports DID regressions of the Fama–French three-factor and five-factor alphas on the interaction terms between the event dummy and three post-event window dummies. Control variables include the natural log of TNA and its squared value, portfolio turnover ratio, expense ratio, fund return over the last quarter, fund flow over the last quarter, and the natural log of fund age. TNA, portfolio turnover ratio, expense ratio, and fund age are all measured using the most recent available data before the beginning of the window. The variables are described in Appendix A. Fund fixed effects and year–month fixed effects are also included. The *t*-statistics for DID regressions are based on robust standard errors clustered by firm and year–month. The *t*-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Bold figures indicate diff-in-diff.

Panel A: Fama–French three-factor alphas

	Pre-event	Event	Post-event	
	[−6, −3]	[−2, +1]	[+2, +12]	[+13, +24]
Event funds, %	−0.03	−0.35	−0.19	−0.10
Control funds, %	−0.07	−0.05	−0.04	−0.06
Diff (event–control), %	0.04	−0.30	−0.15	−0.04
Diff-in-Diff (versus pre-event), %		**−0.34*****	**−0.19****	**−0.08**
		(−2.74)	**(−2.00)**	**(−0.81)**

Panel B: Fama–French five-factor alphas

	Pre-event	Event	Post-event	
	[−6, −3]	[−2, +1]	[+2, +12]	[+13, +24]
Event funds, %	−0.04	−0.34	−0.20	−0.10
Control funds, %	−0.09	−0.04	−0.06	−0.06
Diff (event–control), %	0.05	−0.30	−0.14	−0.05
Diff-in-Diff (versus pre-event), %		**−0.35****	**−0.19***	**−0.10**
		(−2.41)	**(−1.77)**	**(−0.87)**

Table XI. Continued

Panel C: DID regressions of alphas

Independent variables	(1) FF three-factor alpha	(2) FF three-factor alpha	(3) FF five-factor alpha	(4) FF five-factor alpha
Post [−2, +1] × Event	**−0.0034**[**]	**−0.0032**[**]	**−0.0035**[**]	**−0.0034**[**]
	(−2.53)	**(−2.50)**	**(−2.19)**	**(−2.13)**
Post [+2, +12] × Event	**−0.0019**[*]	**−0.0023**[**]	**−0.0019**[*]	**−0.0022**[*]
	(−1.66)	**(−1.96)**	**(−1.68)**	**(−1.81)**
Post [+13, +24] × Event	**−0.0008**	**−0.0012**	**−0.0010**	**−0.0012**
	(−0.69)	**(−0.99)**	**(−0.75)**	**(−0.88)**
Post [−2, +1]	0.0012	0.0011	0.0012	0.0013
	(1.12)	(1.06)	(0.96)	(1.04)
Post [+2, +12]	0.0008	0.0011	0.0007	0.0012
	(0.96)	(1.39)	(0.87)	(1.30)
Post [+13, +24]	0.0012	0.0013	0.0009	0.0012
	(1.31)	(1.46)	(0.97)	(1.34)
Controls	No	Yes	No	Yes
Fund fixed effects	Yes	Yes	Yes	Yes
Year–month fixed effects	Yes	Yes	Yes	Yes
No. of observations	1,640	1,611	1,640	1,611
Adj. R^2	0.224	0.248	0.259	0.264

plans in place to ensure smooth operations in these mutual funds managing large amount of financial assets.

6.1.b. *Firm performance*

We then turn to the performance of bereaved CEOs in terms of both ROA and stock returns around the bereavement events. Panel A of Table XII presents the ROA and returns of event firms and control firms in the pre-event year of $t-1$ and the event year of t, as well as diff-in-diff. The left panel shows that the ROA of event firms experiences a significant decline of 0.90 percentage point in the event year (t-stat of −1.82). This decline is also economically significant, which is about 16% of the ROA in year $t-1$. In contrast, the control firms do not experience a decline in ROA in year t. The diff-in-diff is 1.41 percentage points and statistically significant (t-stat of −1.96).

The right panel presents the average monthly DGTW characteristics-adjusted returns for event firms and control firms in the years $t-1$ and t.[30] Event firms experience a decline in returns of 0.41% per month in the event year t relative to year $t-1$, although this change is statistically insignificant (t-stat of −1.60). Control firms experience little change in returns, and the diff-in-diff is −0.47% per month (t-stat of −1.32). We also examine the

30 Monthly DGTW-adjusted return is calculated as a firm's monthly raw return minus the return of the benchmark portfolio based on size, book-to-market ratio, and momentum (Daniel et al., 1997; Wermers, 2004). We follow the same methodology as in Daniel et al. (1997) with the modification proposed by Wermers (2004) that uses the industry-adjusted book-to-market ratio.

Table XII. Firm performance around and after bereavement events

This table reports firms' ROA and abnormal returns around and after their CEOs' bereavement events. ROA is the firm's net income scaled by total assets of previous year end. Abnormal return is the firm's average DGTW characteristics-adjusted monthly return of a year. We calculate the two performance variables over the 5 years around the CEO's bereavement event: the pre-event year $t-1$, the event year t, and the post-event years $t+1$, $t+2$, and $t+3$, where year t is the year of bereavement event. The construction of control firm sample is described in the header of Table VI. We report the average performance measures of the event firms, control firms, the difference between event firms and control firms as well as the diff-in-diff between the pre-event window and the subsequent windows. Panel A reports the univariate DID test for the performance measures of year t. The sample includes 317 event firms and their corresponding control firms. Panel B presents DID regressions of performance measures on the interaction terms between event dummy and four post-event window dummies. Panel C presents regressions that include triple interactions of the DID interactions and low asset growth dummy (LowATG). LowATG is a dummy variable, which takes the value of one for firms in the bottom tercile of asset growth in the year prior to the event (total assets of year $t-1$ divided by total assets of year $t-2$). All lower-order terms are included in the regressions except for the event dummy, low asset growth dummy, and the interaction between them, as they will be subsumed by the firm fixed effects. The two-way interaction terms include $Post_t \times$ Event, $Post_t \times$ LowATG, $Post_{t+1} \times$ Event, $Post_{t+1} \times$ LowATG, $Post_{t+2} \times$ Event, $Post_{t+2} \times$ LowATG, $Post_{t+3} \times$ Event, and $Post_{t+3} \times$ LowATG. Control variables include Tobin's Q, operating cash flows, book leverage, dividend, cash, ROA, sales growth rate, the natural log of firm size, the natural log of one plus firm age, and asset tangibility. Control variables are all measured at the previous year end. The variables are described in Appendix A. Firm and year fixed effects are also controlled. The t-statistics for DID regressions are based on robust standard errors clustered by firm and year. The t-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Bold figures indicate diff-in-diff.

Panel A: Performance of event year [t]

	ROA			DGTW-adjusted return		
	Event firms	Control firms	Difference	Event firms	Control firms	Difference
Pre-event [$t-1$]	0.0548	0.0450	0.0098	−0.0009	−0.0012	0.0003
Event [t]	0.0458	0.0501	−0.0043	−0.0050	−0.0005	−0.0045
Difference	−0.0090*	0.0051	**−0.0141****	−0.0041	0.0007	**−0.0047**
	(−1.82)	(0.92)	**(−1.96)**	(−1.60)	(0.26)	**(−1.32)**

Panel B: DID regressions of performance measures

	Dependent variables: ROA		Dependent variable: DGTW-adjusted Return	
Independent variables	(1)	(2)	(3)	(4)
$Post_t$ × Event	**−0.0141****	**−0.0136****	**−0.0047**	**−0.0036**
	(−2.04)	**(−2.17)**	**(−1.32)**	**(−1.26)**
$Post_{t+1}$ × Event	**−0.0013**	**−0.0002**	**−0.0007**	**−0.0022**
	(−0.13)	**(−0.02)**	**(−0.20)**	**(−0.65)**
$Post_{t+2}$ × Event	**−0.0125**	**−0.0129**	**0.0004**	**0.0012**
	(−1.48)	**(−1.46)**	**(0.11)**	**(0.31)**

(continued)

Table XII. Continued

Panel B: DID regressions of performance measures

	Dependent variables: ROA		Dependent variable: DGTW-adjusted Return	
Independent variables	(1)	(2)	(3)	(4)
$Post_{t+3}$ × Event	**−0.0043**	**0.0024**	**0.0032**	**0.0042**
	(−0.46)	**(0.19)**	**(0.68)**	**(0.82)**
$Post_t$	0.0068	0.0092	0.0011	−0.0010
	(1.20)	(1.46)	(0.40)	(−0.41)
$Post_{t+1}$	0.0074	0.0097	0.0005	−0.0002
	(0.82)	(1.01)	(0.18)	(−0.05)
$Post_{t+2}$	0.0034	0.0104	−0.0012	−0.0022
	(0.37)	(1.16)	(−0.44)	(−0.56)
$Post_{t+3}$	−0.0058	−0.0029	−0.0049	−0.0074
	(−0.48)	(−0.27)	(−1.36)	(−1.52)
Controls	No	Yes	No	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
No. of observations	2,404	2,147	2,190	1,974
Adj. R^2	0.467	0.541	−0.020	0.181

Panel C: DID regressions of performance measures: interactions with past asset growth

Independent variables	(1)	(2)	(3)	(4)
$Post_t$ × Event × LowATG	**−0.0501*****	**−0.0453*****	**−0.0054**	**−0.0133****
	(−3.65)	**(−3.95)**	**(−0.87)**	**(−2.02)**
$Post_{t+1}$× Event × LowATG	**−0.0492*****	**−0.0407****	**0.0048**	**−0.0068**
	(−2.63)	**(−2.45)**	**(0.57)**	**(−0.76)**
$Post_{t+2}$× Event × LowATG	**−0.0245**	**−0.0035**	**0.0039**	**−0.0076**
	(−0.99)	**(−0.18)**	**(0.46)**	**(−0.75)**
$Post_{t+3}$× Event × LowATG	**−0.0007**	**0.0103**	**−0.0019**	**−0.0148**
	(−0.03)	**(0.45)**	**(−0.24)**	**(−1.55)**
Two-way interaction terms	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
No. of observations	2,404	2,147	2,190	1,974
Adj. R^2	0.474	0.544	−0.018	0.181

performance measures for the years $t+1$, $t+2$, and $t+3$, and the unreported results show little change in performance.

Panel B of Table XII presents the DID regressions of ROA and DGTW-adjusted returns, which control for a broad set of firm characteristics. The main independent variables are the interaction terms of the death event dummy with the dummies of event- and post-event windows. In the regressions of ROA (Models 1 and 2), the coefficient of $Post_t$ × Event is negative and statistically significant. The point estimate for $Post_t$ × Event is negative but statistically insignificant in the regressions of stock returns (Models 3 and 4). These results are consistent with the univariate results.

The reduced investment associated with bereaved managers can potentially impact firm performance through two channels, depending on whether the firm adopts an "optimal" level of investment in the pre-event period. While a deviation from the optimal level of investments harms firm performance, lowering investments could positively affect firm performance by alleviating the well-known overinvestment problem (e.g., Jensen, 1986; Titman, Wei, and Xie, 2004; Cooper, Gulen, and Schill, 2008). Our results presented in Panels A and B of Table XII suggest that the negative effect seems to (weakly) dominate the positive effect, causing an average decline in firm performance.

To explicitly examine these two channels, we test if the decline in performance varies across asset growth in the pre-event period. Asset growth is a proxy for overinvestments as prior research shows that low (or high) asset growth predicts positive (or negative) future performance in general (e.g., Cooper, Gulen, and Schill, 2008), suggesting that low (or high) asset growth is associated with less (or more) overinvestment. Therefore, we expect the decline in performance to be more pronounced for event firms with lower asset growth in the pre-event period. In Panel C of Table XII, we include the triple interaction of a dummy of low asset growth (LowATG) with the DID interaction. LowATG equals one if the firm is in the bottom tercile of asset growth in the pre-event period, and zero otherwise.[31] The results of ROA regressions (Models 1 and 2) show that the decline in ROA for event firms in the first 2 years after the event is significantly larger for event firms with lower asset growth prior to the event. Specifically, we observe negative coefficients on $\text{Post}_t \times \text{Event} \times \text{LowATG}$ and $\text{Post}_{t+1} \times \text{Event} \times \text{LowATG}$. For high asset-growth firms, on the other hand, there is weak evidence of an increase in ROA for event firms after the events. Specifically, the coefficient estimates for $\text{Event} \times \text{Post}_t$ and $\text{Event} \times \text{Post}_{t+1}$ are 0.003 (*t*-stat of 0.33) and 0.016 (*t*-stat of 1.29), respectively. The more pronounced decline for low asset-growth firms confirms that the lower investments due to CEO bereavement unlikely correct the potential overinvestments in prior periods.

6.2 Bereavement Event and Managerial Turnover

The observed negative effect of bereavement on firm performance raises a natural question: How do the organizations' monitoring functions (e.g., board of directors) respond to such performance declines? We therefore examine how bereavement events affect managerial turnover as well as the sensitivity of managerial turnover to firm performance. On the one hand, the board may punish a bereaved CEO for poor performance related to personal life events which should be independent from her professional obligations and decisions. In this case, bereavement events would not change CEO turnover-performance sensitivity, although it might increase the likelihood of turnover due to the previously documented poor performance. On the other hand, the board might punish a bereaved CEO less than her peers with similar poor performance if the board perceives her low performance as temporary or the board feels sympathetic for the bereaved CEO. In this scenario, bereavement events would reduce CEO turnover-performance sensitivity but would not necessarily change the likelihood of turnover.

We focus on the post-event period (i.e., year $t+1$) and define CEO Turnover for both bereaved and control firms as a dummy variable, which equals one if there is CEO turnover

31 The Event dummy and the LowATG dummy are both firm specific and subsumed by the firm fixed effects. Therefore, in Panel B, the Event dummy is dropped, and in Panel C the Event dummy, the LowATG dummy, and their interaction term Event × LowATG are dropped.

and zero otherwise. We then estimate a linear probability model (LPM) of CEO Turnover on the interaction between Event and low performance dummy (LowPerf), which equals one if the firm's performance is below the industry median in event year *t* and zero otherwise. For robustness, we use both accounting performance and stock performance measures. We control for various firm and CEO characteristics (firm size, leverage, market-to-book ratio, CEO age, CEO tenure, and CEO gender) as well as their interactions with the low performance dummy.

Model (1) in Panel A of Table XIII reports the LPM regression of CEO turnover using the low performance dummy based on ROE. The coefficient on LowPerf is positive (0.092, *t*-stat of 2.23), consistent with a large literature that documents an inverse relation between CEO turnover and firm performance (e.g., Coughlan and Schmidt, 1985; Warner, Watts, and Wruck, 1988; Jenter and Kanaan, 2015). The negative coefficient on Event × LowPerf (−0.098, *t*-stat −1.78) indicates that bereavement events diminish the turnover-performance sensitivity. The inferences are similar when we add control variables in Model (2) and when we focus on ROA in Models (3) and (4) and DGTW-adjusted stock returns in Models (5) and (6). Therefore, the bereavement events reduce CEO turnover-performance sensitivity, which is consistent with the board perceiving the bereaved CEO's poor performance as temporary or feeling sympathetic for the bereaved CEO. Furthermore, the coefficient on Event is statistically insignificant, indicating that the parental death events do not increase CEOs turnover probability unconditionally.[32]

While we focus the turnover analyses on CEOs, we also examine how bereavement events affect mutual fund managers' turnover and the turnover-performance sensitivity. Turnovers in the mutual fund sector can occur when a manager outperforms and joins the more lucrative hedge fund industry (e.g., Deuskar et al., 2011; Kostovetsky, 2017), which could introduce noise in attempting to use fund manager turnover as a proxy for penalty (which is likely to be the case for CEOs). It is therefore not surprising that the coefficients on Event × LowPerf are statistically insignificant in the mutual fund regressions (Panel B of Table XIII), although the point estimates are negative, similar to the estimates in the CEO regressions in Panel A.

7. Conclusion

Establishing a causal relation between the personal life experience of managers and their professional decisions is challenging, as both managers' own life events and employment decisions of managers can be endogenous. We utilize managers' family-level events, parental deaths, as exogenous shocks to document the causal relation between managers' life experience and investment decisions in large organizations. Our findings extend the existing literature by providing unambiguous evidence that the common life experience of individual managers can influence the decisions and performance of large organizations they manage. Our results on the bereavement effects and the emotion channel contribute to the behavioral finance literature by documenting that negative emotions can be an important determinant of corporate investments.

32 We also conduct regressions of CEO turnover on the Event dummy only, without including its interaction terms, and the results in Supplementary Appendix Table IA11 also show that the coefficient is statistically insignificant, which indicates that the overall CEO turnover probability does not significantly change after the parental death events.

Table XIII. Bereavement events and sensitivity of CEO/mutual fund manager turnover to firm/fund performance

This table reports the effect of bereavement events on the sensitivity of CEO/mutual fund manager turnover to firm/fund performance. Panel A reports for the CEO sample. For each event firm, we define CEO Turnover as a dummy variable, which takes the value of one if there is CEO turnover in the year after the bereavement event (year $t+1$) and zero otherwise. The construction of control firm sample is described in the header of Table VI. We define CEO Turnover for control firm similarly as its event firm. We present LPM of CEO Turnover on the event dummy, low performance dummy (LowPerf.), and their interaction. Event dummy takes the value of one for firms that experience CEO bereavement event in year *t*. Low performance dummy takes the value of one if the firm's performance variable is below the industry median in year *t*. We use three performance variables: (i) ROE, which is defined as net income scaled by market equity of previous year end; (ii) ROA, which is defined as net income scaled by total assets of previous year end; and (iii) DGTW Ret., which is defined as the firm's DGTW characteristics-adjusted stock return of a year. Control variables include the natural log of firm size, book leverage, market-to-book ratio, the natural log of one plus CEO age, the natural log of one plus CEO tenure, a dummy variable for CEO gender which takes the value of one if the CEO is a woman and zero otherwise. Interactions between low performance dummy and controls variables are also included in the regression. Control variables are all measured at year *t*. Industry fixed effects are also controlled. In Panel B, we perform similar analysis on mutual fund manager turnover. Low performance dummy equals one if the fund's performance is below the median of funds with the same investment objective codes in event year *t*. We use three fund performance variables including the raw return, Fama–French three-factor alpha and five-factor model alpha. Control variables include total assets under management (TNA), portfolio turnover ratio (Turnover), expense ratio (Expenses), fund flows (Flow), and fund age (Fund Age), as well as their interactions with the low performance dummy. Investment objective fixed effects are also controlled. The variables are described in Appendix A. The *t*-statistics based on standard errors clustered at the industry/investment objective level are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Regressions of CEO turnover

	Perf. Measure: ROE		Perf. Measure: ROA		Perf. Measure: DGTW Ret.	
	(1)	(2)	(3)	(4)	(5)	(6)
Event × LowPerf.	**−0.098***	**−0.112****	**−0.102***	**−0.122****	**−0.148*****	**−0.161*****
	(−1.78)	**(−2.03)**	**(−1.85)**	**(−2.18)**	**(−2.74)**	**(−2.97)**
Event	**0.018**	**0.022**	**0.020**	**0.023**	**0.045**	**0.050**
	(0.54)	**(0.65)**	**(0.59)**	**(0.68)**	**(1.25)**	**(1.38)**
LowPerf.	**0.092****	**1.267**	**0.075***	**1.236**	**0.125*****	**1.329**
	(2.23)	**(1.26)**	**(1.82)**	**(1.21)**	**(3.25)**	**(1.34)**
Ln(Size) × LowPerf.		0.030		0.017		−0.004
		(1.55)		(0.89)		(−0.20)
Leverage × LowPerf.		−0.239*		−0.131		−0.261**
		(−1.94)		(−1.04)		(−2.13)
Market-to-Book× LowPerf.		−0.001		0.016		0.020
		(−0.06)		(1.24)		(1.94)
Ln(CEOAge + 1)× LowPerf.		−0.355		−0.377		−0.256
		(−1.42)		(−1.49)		(−1.04)

(continued)

Table XIII. Continued

Panel A: Regressions of CEO turnover

	Perf. Measure: ROE		Perf. Measure: ROA		Perf. Measure: DGTW Ret.	
	(1)	(2)	(3)	(4)	(5)	(6)
Ln(Tenure + 1) × LowPerf.		−0.031		−0.001		−0.028
		(−0.89)		(−0.02)		(−0.82)
Gender × LowPerf.		0.184		0.261		−0.064
		(0.95)		(1.33)		(−0.33)
Ln(Size)	−0.006	−0.020	−0.009	−0.017	−0.008	−0.008
	(−0.60)	(−1.51)	(−0.91)	(−1.31)	(−0.85)	(−0.59)
Leverage	−0.028	0.066	−0.035	0.022	−0.015	0.108
	(−0.42)	(0.80)	(−0.52)	(0.25)	(−0.22)	(1.26)
Market-to-Book	0.010	0.010	0.009	0.006	0.009	0.002
	(1.95)	(1.83)	(1.83)	(1.14)	(1.88)	(0.27)
Ln(CEOAge + 1)	0.623	0.771	0.627	0.785	0.646	0.756
	(5.05)	(4.79)	(5.09)	(5.05)	(5.20)	(4.59)
Ln(Tenure + 1)	−0.007	0.005	−0.008	−0.010	−0.009	0.007
	(−0.42)	(0.23)	(−0.46)	(−0.47)	(−0.51)	(0.32)
Gender	0.028	−0.054	0.038	−0.077	0.017	0.078
	(0.29)	(−0.43)	(0.39)	(−0.61)	(0.18)	(0.58)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
No. of observations	603	603	603	603	596	596
Adj. R^2	0.043	0.049	0.041	0.044	0.051	0.062

Panel B: Regressions of mutual fund manager turnover

	Perf. Measure: Raw Return		Perf. Measure: Alpha_FF3		Perf. Measure: Alpha_FF5	
	(1)	(2)	(3)	(4)	(5)	(6)
Event × LowPerf.	**−0.008**	**−0.000**	**−0.045**	**−0.034**	**−0.044**	**−0.025**
	(−0.14)	**(−0.01)**	**(−0.73)**	**(−0.56)**	**(−0.74)**	**(−0.43)**
Event	**0.029**	**0.027**	**0.045**	**0.049**	**0.047**	**0.045**
	(0.76)	**(0.71)**	**(1.17)**	**(1.26)**	**(1.16)**	**(1.09)**
LowPerf.	**0.018**	**−0.237**	**0.072***	**−0.422***	**0.053**	**−0.539*****
	(0.46)	**(−1.06)**	**(1.82)**	**(−1.92)**	**(1.38)**	**(−2.70)**
Two-way interaction terms	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Fund objective FEs	Yes	Yes	Yes	Yes	Yes	Yes
No. of observations	526	526	522	522	522	522
Adj. R^2	0.021	0.029	0.014	0.035	0.011	0.045

Our study also contributes to the literature on time-varying risk preferences. Previous studies have provided novel evidence on the time-varying risk aversion of individual and institutional investors motivated by economic incentives (e.g., Brown, Harlow, and Starks, 1996; Brunnermeier and Nagel, 2008; Huang, Sialm, and Zhang, 2011; Guiso, Sapienza, and Zingales, 2018; Pool et al., 2019). We provide new evidence on the potential impact of nonstrategic variation in risk preferences in corporate decisions, as well as the variation in innate risk aversion over time that is orthogonal to economic incentives. While our results are "relative" in the sense that the jump in risk aversion is observed among selected individuals with negative emotions relative to those without such emotions, these long-lasting effects can have broad and cumulative implications for individuals' time-varying risk aversion such as the well-documented higher risk aversion among older individuals.

Data Availability

We combine five datasets to construct the sample in our analyses: (i) LexisNexis Accurint database; (ii) CRSP Survivorship Bias Free Mutual Fund Database; (iii) Thomson Financial CDA/Spectrum holdings database; (iv) Morningstar Mutual Fund Database; and (v) Standard and Poor's ExecuComp database. We further use CRSP, Compustat, IBES, SDC Mergers and Acquisitions database, Capital IQ's Key Developments, Factiva CNBC interviews, SEC Analytics Suite, Zillow's home value index, and obituaries from legacy.com, findagrave.com, and ancestry.com to construct some variables used in the analyses. The datasets were purchased through our research funding or our institutions. As such, we do not personally own the data and would not be allowed to make them available to third parties. Among the data vendors, the LexisNexis Accurint is particularly stringent about its data availability. However, we will be glad to provide guidance to third parties who have access to these datasets on how to process the data and construct the sample.

Funding

Clark Liu acknowledges financial support from the National Natural Science Foundation of China [Grant No. 71790605 and No. 72272130].

Supplementary Material

Supplementary data are available at *Review of Finance* online.

Conflicts of interests: C.L., J.S., T.S., and P.E.Y. certify that they have no affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or nonfinancial interest (such as personal or professional relationships, affiliations, knowledge, or beliefs) in the subject matter or materials discussed in this article.

Appendix A

Variable	Description
Outcome variables for the fund analysis	
Tracking error	Tracking error is calculated as the volatility of fund daily returns in excess of the average daily returns of all funds with the same CRSP investment objective in the specified window. This measure requires a minimum of 22 days and is annualized by multiplying the square root of 252
Active share	Active share is calculated as the sum of absolute differences in portfolio weights between the fund and its index and then divided by two. We use the aggregate holdings of all mutual funds in the same CRSP objective code as the index for each fund
Idiosyncratic volatility	Idiosyncratic volatility is calculated as the standard deviation of residuals from the regression of fund daily returns on the Fama–French five-factor model in the specified window. This measure requires a minimum of 22 days and is annualized by multiplying the square root of 252
Market beta	Market beta is the estimated coefficient of the market factor from the regression of fund daily returns on the Fama–French five-factor model in the specified window. This measure requires a minimum of 22 days
Portfolio weights-large/small stocks	Portfolio weights are defined as the dollar value invested in large/small stocks divided by the total dollar value of the portfolio. Large stocks refer to stocks in the largest market capitalization quartile. Small stocks refer to stocks in the 2nd largest market capitalization quartile.
No. of portfolio stocks-large/small stocks	No. of portfolio stocks is defined as the number of large/small stocks in the portfolio, divided by the total number of stocks in the portfolio
FF three-factor alpha	FF three-factor alpha is defined as the monthly risk-adjusted return over the specified period. Expected returns are calculated using the Fama–French three-factor model in which factor loadings are estimated over the previous 36 months
FF five-factor alpha	Defined similarly as FF three-factor alpha but using the FF five-factor model for risk adjustment
Pástor Stambaugh five-factor alpha	Defined similarly as FF three-factor alpha but using the Pástor Stambaugh five-factor model for risk adjustment
Control variables for the fund analysis	
Log (TNA)	The natural logarithm of fund total net assets (in million dollars)
Turnover	Turnover ratio obtained directly from CRSP
Expenses	Expense ratio obtained directly from CRSP
Return	Fund holding period returns
Flow	Mutual fund flow is inferred from fund returns and TNA as reported by CRSP. Let TNA(q) be the total net asset of a fund in quarter q and Ret(q) be its return between quarter $q-1$ and quarter q. Flow(q) = TNA(q)/TNA($q-1$) – (Ret(q) + 1)

(continued)

Continued

Variable	Description
Log (Fund Age)	The natural logarithm of the number of years from the fund inception
No. of classes	Number of fund classes
Outcome variables for the firm analysis	
Capital expenditure	Capital expenditure (item CAPX), normalized by beginning-of-year total assets (item AT)
No. of acquisitions	Number of acquisitions made by a firm over a fiscal year. We start with all unique deals from SDC platinum and exclude deals for which: the deal value is missing; the deal is classified by SDC as rumors, recapitalizations, repurchases, or spinoffs; the bidder holds more than 50% of the target's shares at the announcement date of the bid; or the bidder is seeking to acquire less than 50% of the target shares
Total deal value	The natural log of total deal value (in million dollars) of all acquisitions made by a firm in a fiscal year
Debt issuance	Long-term debt issuance (item DLTIS) minus long-term debt reduction (item DLTR), normalized by beginning-of-year total assets (item AT)
ROA	Net income (item IB), normalized by beginning-of-year total assets (item AT)
Conference call	The natural logarithm of the total number of earnings conference calls over a fiscal year plus one. Earnings conference call data is obtained from Capital IQ's Key Developments database
Media interview	The natural logarithm of the total number of CEO press interviews over a fiscal year plus one. CEO press interview data are obtained from Factiva's CNBC database during 1997–2006
8-K disclosure	The natural logarithm of the total number of 8-K filings over a fiscal year plus one. 8-K filings are obtained from SEC Analytics Suite
Voluntary 8-K disclosure	The natural logarithm of the total number of voluntary 8-K filings over a fiscal year plus one. Following He and Plumlee (2020), we classify three 8-K items (item numbers 2.02, 7.01, and 8.01) and related exhibits as voluntary 8-K filings
Control variables for the firm analysis	
Tobin *Q*	(Book total assets − book value of equity + market value of equity), scaled by book total assets. Book value of equity is defined as common equity (item CEQ) if available or total assets (item AT) minus liability (item LT), plus balance sheet deferred taxes (item TXDB) if available and investment tax credits (item ITCI) if available, minus preferred stock liquidation value (item PSTKL) if available, or redemption value (item PSTKRV) if available, or carrying value (item PSTK) if available. Market value of equity is defined as shares outstanding (CSHO) times share price at the fiscal year end (item PRCC_F)
OperatingCashflows	Income before extraordinary items (item IB) plus depreciation (item DP), scaled by beginning-of-year net property, plant, and equipment (item PPENT)

(continued)

Continued

Variable	Description
Leverage	Sum of long-term debt (item DLTT) and short-term debt (item DLC), divided by the sum of long-term debt, short-term debt, and book value of equity
Dividend	Dividends (item DVC), scaled by beginning-of-year net property, plant, and equipment (item PPENT)
Cash	Cash holdings (item CHE), scaled by beginning-of-year net property, plant, and equipment (item PPENT)
SalesGrowth	Sales (item SALE) of year t divided by sales of year $t-1$, then minus one
Ln(Size)	The natural logarithm of market capitalization of equity (item CSHO times item PRCC_F)
Ln(FirmAge + 1)	The natural logarithm of one plus the number of years a stock has appeared in the CRSP database
Tangibility	Net property, plant, and equipment (item PPENT), normalized by assets (item AT)
Market-to-Book	The ratio of market value of equity to book value of equity. Market value of equity is defined as shares outstanding (CSHO) times share price at the fiscal year end (item PRCC_F). Book value of equity is defined as common equity (item CEQ) if available or total assets (item AT) minus liability (item LT), plus balance sheet deferred taxes (item TXDB) if available and investment tax credits (item ITCI) if available, minus preferred stock liquidation value (item PSTKL) if available, or redemption value (item PSTKRV) if available, or carrying value (item PSTK) if available
Ln(CEOAge + 1)	The natural logarithm of one plus CEO age
Ln(Tenure + 1)	The natural logarithm of one plus the number of years that a CEO has held her or his position
Gender	An indicator variable that takes the value of 1 if the CEO is a woman and 0 otherwise

References

Ackerberg, D. A. and Botticini, M. (2002): Endogenous matching and the empirical determinants of contract form, *Journal of Political Economy* 110, 564–591.

Ahern, K. R., Duchin, R., and Shumway, T. (2014): Peer effects in risk aversion and trust, *Review of Financial Studies* 27, 3213–3240.

Aktas, N., De Bodt, E., Bollaert, H., and Roll, R. (2016): CEO narcissism and the takeover process: From private initiation to deal completion, *Journal of Financial and Quantitative Analysis* 51, 113–137.

Bai, J., Ma, L., Mullally, K. A., and Solomon, D. H. (2019): What a difference a (birth) month makes: The relative age effect and fund manager performance, *Journal of Financial Economics* 132, 200–221.

Banerjee, S., Humphery-Jenner, M., Nanda, V., and Tham, T. (2018): Executive overconfidence and securities class actions, *Journal of Financial and Quantitative Analysis* 53, 2685–2719.

Becker, B. (2006): Wealth and executive compensation, *Journal of Finance* 61, 379–397.

Benmelech, E. and Frydman, C. (2015): Military CEOs, *Journal of Financial Economics* 117, 43–59.

Bennedsen, M., Pérez-González, F., and Wolfenzon, D. (2020): Do CEOs matter? Evidence from hospitalization events, *Journal of Finance* 75, 1877–1911.

Bergstresser, D. and Philippon, T. (2006): CEO incentives and earnings management, *Journal of Financial Economics* 80, 511–529.

Bernile, G., Bhagwat, V., and Rau, P. R. (2017): What doesn't kill you will only make you more risk-loving: Early-life disasters and CEO behavior, *Journal of Finance* 72, 167–206.

Bliss, B. A., Cheng, Y., and Denis, D. J. (2015): Corporate payout, cash retention, and the supply of credit: Evidence from the 2008–2009 credit crisis, *Journal of Financial Economics* 115, 521–540.

Brown, K. C., Harlow, W. V., and Starks, L. T. (1996): Of tournaments and temptations: An analysis of managerial incentives in the mutual fund industry, *Journal of Finance* 51, 85–110.

Brown, S., Lu, Y., Ray, S., and Teo, M. (2018): Sensation seeking and hedge funds, *Journal of Finance* 73, 2871–2914.

Brunnermeier, M. K. and Nagel, S. (2008): Do wealth fluctuations generate time-varying risk aversion? Micro-evidence on individuals, *American Economic Review* 98, 713–736.

Cain, M. D. and Mckeon, S. B. (2016): CEO personal risk-taking and corporate policies, *Journal of Financial and Quantitative Analysis* 51, 139–164.

Christoffersen, S. E. K. and Xu, H. (2017): Investor attrition and fund flows in mutual funds, *Journal of Financial and Quantitative Analysis* 52, 867–893.

Chuprinin, O. and Sosyura, D. (2018): Family descent as a signal of managerial quality: Evidence from mutual funds, *Review of Financial Studies* 31, 3756–3820.

Cline, B. N., Walkling, R. A., and Yore, A. S. (2018): The consequences of managerial indiscretions: Sex, lies, and firm value, *Journal of Financial Economics* 127, 389–415.

Cooper, M. J., Gulen, H., and Schill, M. J. (2008): Asset growth and the cross-section of stock returns, *Journal of Finance* 63, 1609–1651.

Coughlan, A. T. and Schmidt, R. M. (1985): Executive compensation, management turnover, and firm performance: An empirical investigation, *Journal of Accounting and Economics* 7, 43–66.

Cremers, K. M. and Petajisto, A. (2009): How active is your fund manager? A new measure that predicts performance, *Review of Financial Studies* 22, 3329–3365.

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

Cronqvist, H. and Yu, F. (2017): Shaped by their daughters: executives, female socialization, and corporate social responsibility, *Journal of Financial Economics* 126, 543–562.

Daniel, K., Grinblatt, M., Titman, S., and Wermers, R. (1997): Measuring mutual fund performance with characteristic-based benchmarks, *Journal of Finance* 52, 1035–1058.

Davidson, R., Dey, A., and Smith, A. (2015): Executives' "off-the-job" behavior, corporate culture, and financial reporting risk, *Journal of Financial Economics* 117, 5–28.

Dittmar, A. and Duchin, R. (2016): Looking in the rearview mirror: The effect of managers' professional experience on corporate financial policy, *Review of Financial Studies* 29, hhv051.

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

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

Fama, E. F. and French, K. R. (2010): Luck versus skill in the cross-section of mutual fund returns, *Journal of Finance* 65, 1915–1947.

Fama, E. F. and French, K. R. (2015): A five-factor asset pricing model, *Journal of Financial Economics* 116, 1–22.

Garrett, I., Kamstra, M. J., and Kramer, L. A. (2005): Winter blues and time variation in the price of risk, *Journal of Empirical Finance* 12, 291–316.

Goetzmann, W. N., Kim, D., Kumar, A., and Wang, Q. (2015): Weather-induced mood, institutional investors, and stock returns, *Review of Financial Studies* 28, 73–111.

Graham, J. R., Harvey, C. R., and Puri, M. (2013): Managerial attitudes and corporate actions, *Journal of Financial Economics* 109, 103–121.

Guiso, L., Sapienza, P., and Zingales, L. (2018): Time varying risk aversion, *Journal of Financial Economics* 128, 403–421.

Gulen, H. and Ion, M. (2016): Policy uncertainty and corporate investment, *Review of Financial Studies* 29, hhv050.

Hackbarth, D. (2008): Managerial traits and capital structure decisions, *Journal of Financial and Quantitative Analysis* 43, 843–881.

He, J. and Plumlee, M. A. (2020): Measuring disclosure using 8-K filings, *Review of Accounting Studies* 25, 903–962.

Hirshleifer, D. and Shumway, T. (2003): Good day sunshine: Stock returns and the weather, *Journal of Finance* 58, 1009–1032.

Ho, P. H., Huang, C. W., Lin, C. Y., and Yen, J. F. (2016): CEO overconfidence and financial crisis: Evidence from bank lending and leverage, *Journal of Financial Economics* 120, 194–209.

Hockey, G. R. J., Maule, A. J., Clough, P. J., and Bdzola, L. (2000): Effects of negative mood states on risk in everyday decision making, *Cognition and Emotion* 14, 823–855.

Huang, J., Sialm, C., and Zhang, H. (2011): Risk shifting and mutual fund performance, *Review of Financial Studies* 24, 2575–2616.

Huang, J., Wei, K. D., and Yan, H. (2007): Participation costs and the sensitivity of fund flows to past performance, *Journal of Finance* 62, 1273–1311.

Hubbard, R. G. (1998): Capital-market imperfections and investment, *Journal of Economic Literature* 36, 193–225.

Iacoviello, M. (2012) Housing wealth and consumption, International Encyclopedia of Housing and Home, 673–678.

Jensen, M. C. (1968): The performance of mutual funds in the period 1945–1964, *Journal of Finance* 23, 389–416.

Jensen, M. C. (1986): Agency costs of free cash flow, corporate finance, and takeovers, *American Economic Review* 76, 323–329.

Jenter, D. and Lewellen, K. (2015): CEO preferences and acquisitions, *Journal of Finance* 70, 2813–2852.

Jenter, D. and Kanaan, F. (2015): CEO turnover and relative performance evaluation, *Journal of Finance* 70, 2155–2184.

Jia, Y., Lent, L. V., and Zeng, Y. (2014): Masculinity, testosterone, and financial misreporting, *Journal of Accounting Research* 52, 1195–1246.

Kamstra, M. J., Kramer, L. A., and Levi, M. D. (2003): Winter blues: A SAD stock market cycle, *American Economic Review* 93, 324–343.

Kamstra, M. J., Kramer, L. A., and Levi, M. D. (2015): Seasonal variation in treasury returns, *Critical Finance Review* 4, 45–115.

Kamstra, M. J., Kramer, L. A., Levi, M. D., and Wermers, R. (2017): Seasonal asset allocation: Evidence from mutual fund flows, *Journal of Financial and Quantitative Analysis* 52, 71–109.

Kettlewell, N. (2019): Risk preference dynamics around life events, *Journal of Economic Behavior and Organization* 162, 66–84.

Koh, P., Reeb, D. M., and Zhao, W. (2018): CEO confidence and unreported R&D, *Management Science* 64, 5725–5747.

Kostovetsky, L. (2017): Brain drain: Are mutual funds losing their best minds? *Quarterly Journal of Finance* 7, 1750009–1750038.

Kuhnen, C. M. and Knutson, B. (2011): The influence of affect on beliefs, preferences, and financial decisions, *Journal of Financial and Quantitative Analysis* 46, 605–626.

Leith, K. P. and Baumeister, R. F. (1996): Why do bad moods increase self-defeating behavior? Emotion, risk taking, and self-regulation, *Journal of Personality and Social Psychology* 71, 1250–1267.

Leopold, T. and Lechner, C. M. (2015): Parents' death and adult well-being: Gender, age and adaptation to filial bereavement, *Journal of Marriage and Family* 77, 747–760.

Loewenstein, G. (2000): Emotions in economic theory and economic behavior, *American Economic Review* 90, 426–432.

Malmendier, U. and Tate, G. (2005): CEO overconfidence and corporate investment, *Journal of Finance* 60, 2661–2700.

Malmendier, U., Tate, G., and Yan, J. (2011): Overconfidence and early-life experiences: The effect of managerial traits on corporate financial policies, *Journal of Finance* 66, 1687–1733.

Malmendier, U. and Nagel, S. (2011): Depression babies: Do macroeconomic experiences affect risk taking? *Quarterly Journal of Economics* 126, 373–416.

Marks, N., Jun, H., and Song, J. (2007): Death of parents and adult psychological and physical well-being: A prospective U.S. national study, *Journal of Family Issues* 28, 1611–1638.

Nguyen, D. D., Hagendorff, J., and Eshraghi, A. (2018): Does a CEO's cultural heritage affect performance under competitive pressure? *Review of Financial Studies* 31, 97–141.

Pástor, L. and Stambaugh, R. F. (2003): Liquidity risk and expected stock returns, *Journal of Political Economy* 111, 642–685.

Pham, M. (2007): Emotion and rationality: A critical review and interpretation of empirical evidence, *Review of General Psychology* 11, 155–178.

Phua, K., Tham, T. M., and Wei, C. (2018): Are overconfident CEOs better leaders? Evidence from stakeholder commitments, *Journal of Financial Economics* 127, 519–545.

Pool, V. K., Stoffman, N., and Yonker, S. E. (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., and Zhang, H. (2019): Do shocks to personal wealth affect risk-taking in delegated portfolios? *Review of Financial Studies* 32, 1457–1493.

Raghunathan, R. and Pham, M. T. (1999): All negative moods are not equal: Motivational influences of anxiety and sadness on decision making, *Organizational Behavior and Human Decision Processes* 79, 56–77.

Raghunathan, R., Pham, M. T., and Corfman, K. P. (2006): Informational properties of anxiety and sadness, and displaced coping, *Journal of Consumer Research* 32, 596–601.

Schoar, A. and Zuo, L. (2017): Shaped by booms and busts: How the economy impacts CEO careers and management styles, *Review of Financial Studies* 30, 1425–1456.

Singer, A. E., Meeker, D., Teno, J. M., Lynn, J., Lunney, J. R., and Lorenz, K. A. (2015): Symptom trends in the last year of life, 1998–2010: A cohort study, *Annals of Internal Medicine* 162, 175–183.

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

Sunder, J., Sunder, S. V., and Zhang, J. (2017): Pilot CEOs and corporate innovation, *Journal of Financial Economics* 123, 209–224.

Teno, J. M., Gozalo, P. L., Bynum, J. P. W., Leland, N. E., Miller, S. C., Morden, N. E., Scupp, T., Goodman, D. C., and Mor, V. (2013): Change in end-of-life care for medicare beneficiaries: Site of death, place of care, and health care transitions in 2000, 2005, and 2009, *Journal of American Medical Association* 309, 470–477.

Titman, S., Wei, K. C. J., and Xie, F. (2004): Capital investments and stock returns, *Journal of Financial and Quantitative Analysis* 39, 677–700.

Umberson, D. and Chen, M. D. (1994): Effects of a parent's death on adult children: Relationship salience and reaction to loss, *American Sociological Review* 59, 152–168.

Warner, J., Watts, R. L., and Wruck, K. H. (1988): Stock prices and top management changes, *Journal of Financial Economics* 20, 461–492.

Wermers, R. (2000): Mutual fund performance: An empirical decomposition into stock-picking talent, style, transactions costs, and expenses, *Journal of Finance* 55, 1655–1695.

Wermers, R. (2004) Is money really ‘‘smart’’? New evidence on the relation between mutual fund flows, manager behavior, and performance persistence, Working Paper, University of Maryland.