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Are generalists beneficial to corporate shareholders? Evidence from sudden deaths

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SCHUMPETER DISCUSSION PAPERS

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BERGISCHE UNIVERSITÄT WUPPERTAL

Are Generalists Beneficial to Corporate Shareholders? Evidence from Sudden Deaths†

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Peter Limbach, and Jesus M. Salas

March 2017

Abstract

This study documents a positive, economically meaningful impact of executives' general managerial skills on shareholder value. Examining 171 sudden executive deaths over thirty years, we find that a one-standard-deviation increase in the general ability index corresponds to at least a 1.5 percentage point decrease in abnormal stock returns to death announcements. Generalists are found to be significantly more valuable for firms with fewer growth prospects where difficult tasks (e.g., restructurings) need to be performed and adaptations to changing business environments become necessary. Our results provide a market-based explanation for the documented generalist hiring premium and the increasing share of generalists.

JEL: G30, G34, J24

Keywords: executive heterogeneity, managerial work experience, firm value

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1. Introduction

Much attention has been paid to corporate executives, particularly CEOs, given their impact on firm policies and performance (e.g., Bertrand and Schoar, 2003; Adams, Almeida, and Ferreira, 2005). Recently, the question which skills and traits enable executives to successfully manage their firms and whether these skills and traits explain differences in executive pay has drawn particular attention (see, e.g., Chang, Dasgupta, and Hilary, 2010; Falato, Li, and Milbourn, 2015; Graham, Harvey, and Puri, 2013, 2016).

Among executives, generalists – who possess broad managerial work experience – have been shown to account for a growing share of management and to receive significant hiring and pay premia (Custódio, Ferreira, and Matos, 2013), presumably due to an increasing demand for general managerial ability (Murphy and Zabojnik, 2004). These trends indicate that generalist executives are important to modern corporations and that they can be expected to benefit corporate shareholders.[1] Against this background, we test the hypothesis that executives' general managerial ability has a positive impact on shareholder value.

We find strong support for our hypothesis using a sample of 171 sudden executive (CEOs, chairmen, and presidents) deaths. The stock price reaction to announcements of these deaths equals a deceased executive's expected contribution to shareholder value net of the expected replacement. Thus, the approach allows to measure the value of general managerial skills as long as they are costly (difficult) to replace. This assumption appears reasonable given the increasing demand for

[1] This expectation is based on the theoretical assumption of a competitive assignment of executives to firms (see, e.g., Eisfeldt and Kuhnen, 2013, Gabaix and Landier, 2008; Terviö, 2008) which suggests that executives with general managerial skills receive a hiring premium because these skills are expected to have a positive effect on firm value. Anecdotal evidence supports the view that generalists are valuable and have become increasingly important. See, for example, "New Problems, New Approaches: The Rise of the Generalist" (*Forbes.com* on 12/28/2013): "[…] companies are in need of Generalists with new, agile skills that can see the big picture, listen, synthesize ideas and connect the dots. […] They bring expertise and experience in several areas, fueled by insatiable curiosity and the ability to "hyper-learn" new concepts and ideas".

generalists and the hiring premium they receive, consistent with the increasing competition for managerial talent (see, e.g., Frydman, 2014, Terviö, 2008). As sudden deaths occur randomly, the approach mitigates endogeneity concerns. It particularly addresses the endogenous executive-firm match which typically distorts inferences about the value of executives.

Regarding the value and growing importance of generalists for modern corporations, several studies (e.g., Murphy and Zabojnik, 2004, 2007; Bertrand, 2009; Ferreira and Sah, 2012) propose that the need for executives with general managerial ability has increased due to severe organizational and technological changes and growing competition. Specifically, while firms have become more complex (Garicano and Rossi-Hansberg, 2006), their organizational structures have considerably flattened (Rajan and Wulf, 2006; Guadalupe, Li, and Wulf, 2014). This has led to more problem solving at the top, more interactions of executives with people inside and outside the firm, and to a higher impact of corporate leaders on firm value. As a consequence, work experience in different industries, firms and positions, including knowledge of accounting, finance, investor relations, marketing and sales, has become increasingly important. The incorporation of computers and the internet into everyday business has augmented this need for general managerial skills as it reduced the costs of acquiring knowledge and communication and reinforced the growing scope of control for top executives (Rajan and Wulf, 2006; Garicano, 2000). Furthermore, Custódio, Ferreira, and Matos (2015) provide recent evidence that firms managed by generalists are more innovative (i.e., produce more cited patents). In all, based on the literature generalists can be expected to have a positive impact on shareholder value.

Consistent with this expectation, we find that the stock market attributes a significantly higher contribution to shareholder value to deceased executives with more general managerial skills as reflected by a larger stock price decline around announcements of sudden executive deaths. In particular, we find that a one-standard-deviation increase in the general ability index, proposed by

Custódio, Ferreira, and Matos (2013), is associated with an economically meaningful and statistically significant average decrease in abnormal stock returns of at least 1.5 percentage points.[2] This result is robust to controls for executive, firm and governance characteristics and does not hinge on how we calculate abnormal stock returns or the managerial ability index.

Although our approach mitigates endogeneity concerns, we perform a large set of additional tests to validate our results. First, we separately analyze the components of the general ability index. The results complement our findings as they suggest which type of managerial work experience shareholders consider to be particularly valuable (and costly to replace). We find that work experience in different positions, firms and industries have a statistically significant, negative effect on abnormal stock returns to sudden executive deaths. Among these components, industry experience is found to have the largest economic effect. This analysis provides further support for our hypothesis that generalists are beneficial to corporate shareholders.

Second, an important concern in the context of our study is that our results are driven by outliers given that the number of sudden executive deaths is limited, while the stock market reaction to these events is typically volatile with large negative and large positive stock returns (see Nguyen and Nielsen, 2014). We address this concern in two ways. First, we perform median regressions which minimize the sum of absolute (instead of squared) residuals. Further, we reestimate our regressions and simultaneously exclude outliers in the managerial ability index and outliers in abnormal stock returns. Both tests confirm our previous results. Moreover, when we standardize abnormal stock returns with their pre-event volatility, our results remain qualitatively similar.

[2] Most of our analyses focus on deceased CEOs and deceased presidents (i.e., the designated CEOs or "heir apparents", see Adams, Almeida, and Ferreira, 2005) who are most likely to need general managerial skills in their day-to-day work life. Results remain qualitatively similar, but smaller in terms of economic magnitude, when we include deceased chairmen who were neither CEOs nor presidents. We find no statistically significant effect of general managerial skills for these chairmen.

Third, another important concern is that the effect of general managerial skills actually is the outcome of alternative explanations. For example, the managerial ability index might capture executives' innate talent, which could be both costly to replace and beneficial for shareholders, and which might thus explain the negative stock market reaction to unexpected deaths of generalists. To address this concern, we use several established measures of executive talent as additional control variables. Specifically, we use an executive's education and age of first appointment to CEO (similar to Custódio, Ferreira, and Matos, 2013) as well as the ratio of an executive's tenure to her age (as in Bhagat and Bolton, 2013). Another explanation for our results is that general managerial ability correlates with executives' valuable networks which are lost when executives die. Thus, we use an executive's number of outside directorships and an indicator whether she attended an elite (Ivy League) school to control for networks valuable to corporate shareholders. We further control for time and industry effects which might drive our results. None of the aforementioned alternative explanations seem to explain our finding of a positive impact of general managerial skills on shareholder value.

We perform several additional robustness tests to validate our findings. Particularly, we exclude small and young firms, which tend to be less able to attract corporate talent, from our sample to address the concern that our results might be driven by firms that find it hard to replace valuable executives. We also restrict our sample to those firms that replace a suddenly deceased executive from inside the firm. These cases account for more than 80% of all sudden death events, consistent with the high fraction of inside CEO replacements documented in the literature (see, e.g., Bebchuk, Cremers, and Peyer, 2011). Further, we exclude cases of sudden deaths for which the cause of death is a heart attack or is unspecified as these cases might be related to firm performance. Finally, we use additional controls for executive (inside) succession and ownership, firm diversification,

leverage and R&D expenses. The positive impact of general managerial skills on shareholder value is robust to all of the aforementioned tests.

In an additional analysis, we attempt to provide some insights with regard to the question for which firms generalist executives are particularly valuable. Custódio, Ferreira, and Matos (2013) find that the generalist pay premium is higher when CEOs are hired to perform difficult corporate tasks (e.g., restructurings) which necessitate adapting to changing business environments, coordinating with several people inside and outside the firm, and seeking new investments. This finding indicates that generalists can be expected to be particularly valuable in difficult situations, for example, because their broad managerial experience is likely to facilitate communication, learning, identifying new growth prospects and adapting to changing environments (as found in Guay, Taylor, and Xiao, 2014). We thus hypothesize that the value of executives' general managerial skills is higher when firms have fewer growth prospects and, consequently, are more likely to be in need to perform difficult tasks, identify new investments, and adapt to changes. Using several measures of firms' growth opportunities, we find strong support for our hypothesis. The lower firms' growth prospects, and hence the more likely the need to perform difficult tasks, the more valuable are generalists to corporate shareholders.

Our study contributes to the literature in at least two ways. First, the insights we present in this paper extend the recent literature concerned with the role of managerial work experience in corporate finance (e.g., Benmelech and Frydman, 2015; Custódio and Metzger, 2013, 2014; Dittmar and Duchin, 2015; Schoar and Zuo, 2016), particularly the literature on general managerial skills. In this regard, our results provide a market-based explanation for Custódio, Ferreira, and Matos' (2013) finding that generalist CEOs receive considerable hiring and pay premia (19% relative to specialists). Specifically, our evidence that executives' general managerial skills, which are transferable across companies, are associated with higher shareholder value can explain why

firms seem to compete for generalists in the executive labor market (e.g., in a competitive assignment framework) and why they are willing to pay a hiring premium to attract these valuable executives. In terms of the value of generalists, Custódio, Ferreira, and Matos (2013) cannot detect a relation between their general ability index and performance in multivariate regressions. However, the authors remark that both firm performance and the CEO-firm match can be endogenous and that their tests may lack power. The problem of endogeneity in research on board structures and firm performance has been highlighted in the literature (see, e.g., Adams, Hermalin, and Weisbach, 2010). Our study attempts to overcome these problems by using sudden deaths as shocks that exogenously alter executives' general managerial skills in affected firms.

Second, the evidence we provide generally contributes to the literature on CEO heterogeneity and its relation to firm performance and shareholder value (e.g., Bennedsen, Pérez-González, and Wolfenzon, 2010, 2012; Fee, Hadlock, and Pierce, 2013; Jenter, Matveyev, and Roth, 2016; Johnson et al., 1985; Nguyen and Nielsen, 2014; Salas, 2010). Our findings indicate that generalist executives are beneficial to corporate shareholders and the value of generalists varies with firms' growth prospects. Our study, hence, has practical implications as it suggests that corporate boards and executive search firms should take general managerial skills and prevailing economic circumstances into account when they seek new executives or plan executive succession.

The remainder of this paper is organized as follows. We describe our sample and data in Section 2. Section 3 presents our main empirical results, while Section 4 provides various additional robustness tests. In Section 5, we analyze how generalists matter when firms have to perform difficult tasks. Conclusions follow.

2. Data and variables

2.1. Sample selection and data

To compile our sample of sudden executive (CEOs, chairmen and presidents) deaths for the period 1980 to 2012, we use the data from Salas (2010), who identifies suddenly deceased CEOs, chairmen and presidents, and complement it with data on sudden CEO deaths from Quigley, Crossland, and Campbell (2016). The sample period in the two aforementioned studies ends in 2008 and 2009, respectively. Thus, for the years 2009 to 2012, we additionally hand-collect data on sudden executive deaths to increase sample size. We follow the existing literature (e.g., Johnson et al., 1985; Slovin and Sushka, 1993; Salas, 2010; Nguyen and Nielsen, 2014) in terms of sample selection criteria. We search major news sources – in particular Google, LexisNexis, the Wall Street Journal, the New York Times, and the Washington Post – for articles disclosing unexpected deaths of CEOs, presidents and chairmen of the board. We use keyword search terms such as "chief executive officer", "CEO", "president", "chairman", and "accident", "deceased", "heart attack", "stroke", "sudden(ly)" and "unexpected" to identify unexpected deaths. We exclude murders and suicides (which might be related to firm performance) and cases of deaths if they cannot be identified as sudden or unexpected.[3]

Figure 1 shows the distribution of causes of sudden deaths in our sample. 47% of all deaths are due to heart attacks, 28% are due to accidents and strokes, and the remaining 25% are cases of unspecified, but sudden and unexpected deaths. These numbers are almost identical to those reported in Nguyen and Nielsen (2014).

Because we examine the stock price reaction to the announcements of executives' sudden deaths, we require stock return data from the Center for Research in Security Prices (CRSP) for all

[3] For a more detailed description of the sample selection process, we refer the reader to Salas (2010).

companies in our sample. We further require data on executives' work experience (to measure general managerial skills). Our final sample consists of 171 sudden executive deaths with available data on stock prices and executives' work experience. Deceased CEOs or presidents account for 134 (or 78%) of the deaths in our sample. *Appendix A* shows the distribution of sudden deaths over the sample period. 25% of all sudden deaths occurred during the 1980s, almost 39% during the 1990s, and the remaining 36% occurred between 2000 and 2012.

We complement our sample with accounting data (for the previous fiscal year) from Compustat as well as data on corporate governance and executives' characteristics and work experience. This data comes from proxy statements (in microfiche format for early years, if available), executive biographies from Capital IQ, LexisNexis as well as obituaries and other media announcements around sudden deaths.[4] Unfortunately, we are not able to gather all relevant data for all firms in our sample. Accordingly, multivariate regression results are based on fewer observations.

2.2. Measuring general managerial skills

To measure general managerial skills, we use the general ability index (GAI) proposed by Custódio, Ferreira, and Matos (2013). We follow the authors and calculate the variable *GAI index* based on equation (1):

$$\textit{GAI index}_i = 0.268\ X1_i + 0.312\ X2_i + 0.309\ X3_i + 0.218\ X4_i + 0.153\ X5_i \qquad (1)$$

where i stands for the deceased executive i, X1 is the number of positions that the deceased has held (until the year of his or her death); X2 is the number of firms where the deceased has worked;

[4] To facilitate the collection of executive data (particularly data on work experience), we partly automatized the data collection process using a web crawler for Google and different keywords. We started by using simply the name of the executive along with the company name as well as "DEF 14A" to get the relevant SEC filing. If the DEF 14A was not available on page 1 of the Google results, we simply crawled all results from Google's pages 1 to 10 by using the executive's name along with the company name. Usually, filings were available via SEC's EDGAR. In case no relevant results turned up, we crawled results of the executives together with the keywords "death", "dies" and "died". In several cases, press releases and obituaries provided the necessary information. We opened all results and again searched automatically for the keywords. After filtering irrelevant results, we browsed each document manually to obtain the data needed to construct the general ability index.

X3 is the number of industries in which the deceased has worked; X4 is a dummy variable equal to one if the deceased held a CEO position in another firm (zero otherwise); and X5 is a dummy variable equal to one if the deceased has worked in a multi-division conglomerate (zero otherwise). The variable *GAI index* is only constructed if data on executives' work experience is available. Larger *GAI index* values correspond to more general managerial skills. We standardize *GAI index* to have a mean of zero and a standard deviation of one (to facilitate the interpretation of our results).

For robustness purposes, we use three alternative measures of the GAI index. First, we use an indicator variable *Generalist*, which equals one if the GAI index of an executive is larger than the median of the variable *GAI index*. Second, we use the variable *GAI unweighted* which is the unweighted GAI index defined as the sum of the unweighted components of the GAI index as shown in equation (1). It is used to address the concern that the weights proposed by Custódio, Ferreira, and Matos (2013), which are derived from a principal components analysis, might not be appropriate in the context of our study. As a third variable, we use *Residual GAI index* which is the residual from a regression of *GAI index* on the following executive characteristics which tend to correlate with the GAI index: age, CEO status, founder status, tenure, and a dummy indicating whether the executive had work experience with either a consulting or a law firm.

2.3. Event study methodology and abnormal stock returns

To calculate abnormal stock returns, we obtain daily stock return data from CRSP for each of our 171 events for a 255-day pre-event estimation period (from trading day -274 to -20). We use the standard event study methodology with i) a single-factor (market model), ii) a three-factor model, and iii) a four-factor model and the value-weighted CRSP index as the market index, where beta is estimated using data from the pre-event window. We define the event date as the trading day on which the announcement of an executive's unexpected death first became public information, i.e., the day of the first public news of the sudden death. In case this day is a non-

trading day, the event date is defined as the next trading day following the first public announcement of the sudden death.

As our main dependent variable, we use the cumulative abnormal return for the three days surrounding the event date (i.e., from *t* -1 to *t* +1, with *t* indicating the event date), denoted CAR (-1,1), similar to Nguyen and Nielsen (2014). Specifically, we use the variables *CAR (-1,1)_FF3* and *CAR (-1,1)_MM*, where FF3 and MM indicate that the three-factor model (Fama and French, 1993) and the market model were used to calculate abnormal returns, respectively. For robustness purposes, we use three alternative measures of the stock market reaction to sudden deaths. *CAR (-1,1)_4F*, i.e., the four-factor model abnormal return (Carhart, 1997), S*CAR (-1,1)*, which is defined as *CAR (-1,1)_MM* divided by a firm's standard deviation of abnormal stock returns from the estimation window, and *CAR (-1,1)_MM < 0 (dummy)*, which is a dummy variable set to one if *CAR (-1,1)_MM* is below zero.

2.4. Summary statistics

Summary statistics of our sample are presented in *Table 1*. While Panel A presents summary statistics for all observations, Panel B is restricted to sudden deaths of CEOs and presidents, i.e., chairmen who are neither CEOs nor presidents are excluded. We focus on the summary statistics for the sample in Panel B, which is used in the majority of our later analyses. The numbers, however, are comparable across the two samples. All variables discussed in the following are defined in *Appendix B*.

We start with the stock price reaction to sudden deaths of CEOs or presidents. Average and median abnormal returns are found to be negative, close to zero, and volatile. Median (mean) *CAR (-1,1)_FF3* is -0.5% (-0.4%), with a standard deviation of 10%. While some sudden deaths are associated with large declines in stock prices (as suggested by the 25th percentile which amounts to -4.2%), others are associated with large increases (the 75th percentile is +2.6%). Abnormal

returns calculated with the single-factor or four-factor model reveal a similar picture. This heterogeneity of abnormal stock returns is consistent with the literature (see Johnson et al., 1985; Nguyen and Nielsen, 2014; Jenter, Matveyev, and Roth, 2016) and suggests that executive characteristics as well as labor market and corporate governance frictions (consistent with increasing stock prices) have potential explanatory power for the stock price reaction to sudden executive deaths.

With regard to the characteristics of suddenly deceased CEOs and presidents, Panel B of Table 1 reports a median general ability index (*GAI index*) of -0.16. Custódio, Ferreira, and Matos (2013) report a median GAI index of -0.18. The small difference to the median we report for our sample can be explained by the authors' focus on later years (their sample starts in 1993) and on companies covered by BoardEx. Median (mean) executive age is 60 (59) years. 80% of the suddenly deceased executives are CEOs and 4% have work experience with a consulting or law firm. 29% of the executives are the founders of our sample firms or the founder's offspring, consistent with Johnson et al. (1985) who report a fraction of 28%. Median (mean) tenure is 10 (13) years. 88% (86%) of deceased executives (CEOs) are permanently replaced by firm insiders as suggested by the variable *Successor is firm insider*.[5] The high fraction of CEO successions from inside the firm is consistent with the literature. Bebchuk, Cremers, and Peyer (2011), for example, report that about 15% of CEOs are replaced by firm outsiders, while Borokhovich, Parrino, and Trapani (1996) report a fraction of 19%.

Turning to firm and corporate governance characteristics, the average firm in our sample went public 21 years prior to the sudden death event (based on the CRSP inclusion date), has a firm size

[5] To construct the variable *Successor is firm insider*, we read articles describing the replacement executive for up to a year after the sudden death of the incumbent executive to make sure the replacement was not simply an interim successor while the firm continued to search for another more permanent replacement.

in terms of total assets of $2,518 million (median $220 million), and a market-to-book ratio of 2.4. Return on assets, defined as income before extraordinary items to total assets, has a mean (median) of -3% (4%). Mean (median) ROA based on EBITDA is 4% (10%) (not reported for brevity). On average, board size is 8.5 directors, with 45% of the directors being neither insiders nor grey directors (63% post SOX). 36% of all firms have boards with staggered election terms and 69% of all CEOs also hold the title of the chairman of the board (*Duality*).

2.5. Determinants and development of the GAI index

We now present a more detailed analysis of the GAI index to provide the reader with a better understanding of our measure of general managerial skills. We first consider the development of general managerial skills over time. As can be seen from *Figure 2*, we find an increasing trend of the mean GAI index per year over our sample period 1980-2012. This result supports Custódio, Ferreira, and Matos (2013), who also report an increase of the GAI index over time, and Murphy and Zabojnik (2004, 2007) who state that the demand for general managerial skills has increased over the last decades.

Next, we analyze the determinants of the GAI index. *Table 2* shows the results of multivariate regressions of the variable *GAI index* on the variables *Age* and *Tenure* in regression specification (1). Specification (2) uses *Age*, *CEO*, *Consult or Law Exp.* and *Founder* as independent variables. In specification (3), we repeat the regression from specification (2) and additionally include *Tenure*. Specification (4) further includes the variables *Board size*, *Duality*, *Independent board* and *Staggered board* as controls for corporate governance quality and CEO power. Finally, specifications (5) and (6) use *GAI unweighted* and *Generalist* as dependent variables, respectively.

Consistent with the way the GAI index is constructed and with the results in Custódio, Ferreira, and Matos (2013), we find a significantly positive (negative) relation between an executive's age (tenure) and the variable *GAI index*. In specification (2), where we omit the variable *Tenure*, we

also find that founders (or their offspring) are associated with lower GAI index values, as expected. Further, both CEOs (as compared to other executives) and executives with prior work experience in consulting or law firms are associated with significantly higher *GAI* values. The latter result is in line with the career paths of many consultants and business lawyers who, after some years on the job, start working for one of their previous clients. Regarding firm and governance characteristics, our results provide some evidence that executives with higher general managerial skills are (weakly) associated with larger, less profitable, and better governed firms.

3. General managerial skills and shareholder value

In this section, we examine the impact of general managerial skills on shareholder value. We regress measures of the abnormal stock price reaction to announcements of sudden deaths, i.e., *CAR (-1,1)_MM* and *CAR (-1,1)_FF3*, on measures of general managerial skills (the GAI index and its components) and additional control variables. We hypothesize that executives' general managerial skills have a positive effect on shareholder value as they facilitate management and leadership. If general managerial skills are indeed beneficial for shareholders, we expect to find a statistically significant, negative regression coefficient of the variable *GAI index*, which reflects a reduction in shareholder value resulting from the unexpected loss of an executive with valuable and costly-to-replace skills.

3.1. General ability index

In *Table 3* we present a first attempt to test the above hypothesis. We regress abnormal stock returns on *Firm size* and either the *GAI index* (in Panel A and C) or the indicator variable *Generalist* (in Panel B). We run these regressions using the sample of all deceased executives and subsamples of i) CEOs and presidents, ii) CEOs, and iii) chairmen who were neither CEOs nor presidents.[6] We

[6] We initially include chairmen who are neither CEOs nor presidents for two reasons. First, chairmen with general

control for firm size to take into account that the loss of corporate talent likely has a stronger impact on stock prices of smaller companies as they may find it harder to attract new (skilled) executives.

Supporting our hypothesis, the coefficients of both *GAI index* and *Generalist* have the expected negative sign and are statistically significant (at least at the 10% level) throughout all regression specifications, except for the subsamples of chairmen. This finding suggests that general managerial skills are particularly valuable for CEOs and presidents who need these skills in their day-to-day business and who have a more direct impact on shareholder value than chairmen. Accordingly, we focus on CEOs and presidents in most of the following analyses. The results in Table 3 further suggest that the effect of general managerial skills on shareholder value is economically meaningful and is strongest for CEOs, who have the most direct impact on firms. Particularly, a one-standard-deviation increase in the *GAI index* is associated with an average decline in abnormal stock returns of about 1.1 percentage points for the full sample, whereas the stock price decline amounts to at least 1.7 percentage points for CEOs.

As a next step, we incorporate additional executive, firm, and corporate governance characteristics into our analyses to account for potential covariates of our measures of general managerial skills. The results presented in Section 2.5 suggest that the general ability index particularly correlates with executive characteristics, such as age and tenure, which are likely to affect how the stock market reacts to an executive's unexpected death (see, e.g., Jenter, Matveyev, and Roth, 2016). Not accounting for value-relevant covariates of the *GAI index* may thus lead us to draw biased or even wrong inferences about both the statistical and economic significance of general managerial skills. Consequently, in *Table 4* we show results from regressions of *CAR (-*

managerial skills could benefit shareholders as they may provide valuable advice and monitoring due to their diverse backgrounds in managerial work experience and as they may step in as CEOs when incumbent CEOs leave the firm. The second reason is that many studies on sudden executive deaths include chairmen (see, e.g., Worrell et al., 1986; Borokhovich et al., 2006; Salas, 2010; Nguyen and Nielsen, 2014).

1,1)_FF3 on measures of general managerial skills and the variables *Age*, *CEO*, *Consult or Law Exp.*, *Founder*, *Tenure*, *Firm size*, *MTB*, and *ROA*. Regression specifications (1) and (2) omit the variable *Tenure* due to its high correlation with *Age* and *Founder*. Specification (7) additionally includes the variables *Board size*, *Duality*, *Independent board* and *Staggered board* to account for corporate governance quality.

As can be seen from Table 4, the results of all seven regressions corroborate our hypothesis that executives' general managerial skills have a positive impact on shareholder value. This conclusion is supported by all four measures of general managerial ability, i.e., our primary measure *GAI index*, used in regression specifications (1), (2), (3) and (7), *Generalist* (in specification 4), *GAI unweighted* (in specification 5), and the variable *Residual GAI index* (in specification 6) which takes the value effects of executive characteristics into account. The regression coefficients of all general ability measures are significant at the 5% level or better. Accounting for additional control variables, a one-standard-deviation increase in the *GAI index* is associated with an average decline in abnormal stock returns of at least 1.9 percentage points for the sample of CEOs and presidents. Results remain significant, both statistically and economically, when we use the full sample or the sample of CEOs in unreported regressions.

In terms of the employed control variables, we find that the regression coefficients of *Age*, *Consult or Law Exp.* and *Firm size* are significantly positive, while the *intercept* is significantly negative. The positive coefficient for *Firm size* is consistent with larger firms finding it less difficult to hire a qualified successor for the suddenly deceased executive (as argued earlier), while the positive coefficient for *Age* may reflect that firms run by older executives are more likely to have succession plans in place (age itself should have little impact as it is replaceable at no or low costs). Further, the positive coefficient for *Consult or Law Exp.* either suggests that executives who are former consultants or lawyers are associated with shareholder value destruction or it is simply the

outcome of a few outliers. Corporate governance characteristics are not found to have considerable explanatory power for abnormal stock returns (similar to Nguyen and Nielsen, 2014).

Our results further indicate that general managerial ability is not only an economically meaningful, but also a statistically meaningful explanator of abnormal stock returns to sudden executive deaths. For example, the inclusion of the variable *GAI index* leads to a relative increase in adjusted R-squared of 23% and 15% when we compare regression specifications (1) and (2) in Panel A and in Panel C of Table 3, respectively. Regarding Table 4 where we account for covariates of the GAI index, the relative increase in the adjusted R-squared for specification (1), which uses the full sample, estimated with and without the *GAI index* amounts to 9%, while it amounts to 15% for specification (2) which is based on the restricted sample of CEOs and presidents (not reported for brevity).

Overall, the analyses shown in this section suggest that generalist executives are beneficial for corporate shareholders and that the effect of general managerial skills on shareholder value is both economically and statistically meaningful.

3.2. GAI index components

We complement our results on the value of executives' general managerial skills by a separate examination of the components of the general ability index (described in Section 2.2). To this end, we reestimate regression specification (3) of Table 4 and use the following five variables instead of the GAI index: (1) *Number of positions*, (2) *Number of firms*, (3) *Number of industries*, (4) *CEO experience*, (5) *Conglomerate experience*. The regression results are shown in *Table 5*. In Panel A we use *CAR (-1,1)_MM* as the dependent variable and in Panel B we use *CAR (-1,1)_FF3*. Results provide evidence on the question which GAI index components are particularly valuable and constitute a first robustness test for our main results from Section 3.1.

We find that the regression coefficients for all five index components are negative, as expected. The coefficients for *Number of positions*, *Number of firms* and *Number of industries* are also statistically significant (at the 10% level or better) in both panels. In unreported regressions, we find comparable results when we use three dummy variables indicating whether a deceased executive had work experience in different positions, firms and industries, respectively. We further find the coefficient for *CEO experience* to be significant at the 10% level in Panel B. While past work experience with different firms (*Number of firms*) is the statistically most significant effect, industry experience (*Number of industries*) is the economically most significant effect. Overall, the finding that at least three of the five index components are statistically significant and that all regression coefficients have the expected sign corroborates our results from the previous section and thereby provides additional support for our hypothesis that general managerial skills have a positive impact on shareholder value.

4. Robustness

Although an examination of the stock market reaction to sudden executive deaths mitigates endogeneity concerns already to a large extent, in this section we perform several additional tests to check the robustness of our results beyond the inclusion of basic control variables. These tests are motivated and presented in the following.

4.1. Addressing outliers

One important concern with most sudden death event studies is that the results might be driven by outliers due to the limited number of executives who die unexpectedly (small samples) and, in particular, the large variation in abnormal stock returns (see Section 2.4). We address this concern in two ways. The respective results are shown in *Table 6*. First, in regression specifications (1) and (2) we run median regressions which minimize the sum of absolute (instead of squared) residuals.

In specifications (3) and (4), we simultaneously exclude outliers, i.e., values smaller (larger) than or equal to the 5th (95th) percentiles, of both *CAR (-1,1)_FF3* and our measures of general managerial skills. The coefficients of *GAI index* and *GAI unweighted* remain statistically significant throughout all regressions. In additional unreported regressions, we find that the coefficient of *Generalist* remains significant at the 10% level when we use a median regression or when we exclude outliers of *CAR (-1,1)_FF3*. In sum, the outlier tests support our main findings from Section 3.1.

4.2. Alternative explanations

Another important concern is that general managerial skills might correlate with other (confounding) variables relevant for shareholder value, for example, other managerial attributes. That means, we might falsely attribute the previous results on shareholder value to generalists although they are actually just the outcome of attributes that many generalists share or the result of other potential spurious regressions. Hence, in Table 7 and Table 8 we show results of regressions where we reestimate specification (3) of Table 4 and include additional controls to account for alternative explanations.

In *Table 7*, we start with the probably most obvious alternative explanation: the general ability index might capture executives' innate talent which may be both beneficial for shareholders and costly to replace. To address this concern, we use two established measures of executive talent. In specification (1), we restrict the sample to suddenly deceased CEOs and control for the variable *First CEO age* which measures the age at which a CEO became CEO for the first time. We report a median *First CEO age* of 48 years similar to Custódio, Ferreira, and Matos (2013) who propose to use this variable as a control for CEOs' innate talent.[7] Because the age at which an executive

[7] Custódio, Ferreira, and Matos (2013) address CEO talent as an alternative explanation for their finding of a generalist pay premium. Their results suggest that the GAI index does not significantly capture talent.

became CEO for the first time is not available for all observations in our sample and because it is not an optimal measure of innate talent for executives other than the CEO, in specification (2) we use the variable *Tenure/age*, proposed by Bhagat and Bolton (2013). It is defined as the ratio of a deceased executive's tenure to its age (both at the time of his or her death). The longer an executive has been in a top position relative to his or her age, the more talented the executive is likely to be.

In specifications (3) and (4), we address time trends as another alternative explanation. Using a sample of executive sudden deaths between 1950 and 2009, Quigley, Crossland, and Campbell (2016) provide evidence that the value of executives and/or their impact on the firms they run has increased over time. Given the positive time trend of the general ability index we report in Figure 2, our evidence of a positive valuation effect of general managerial skills might just reflect the generally increasing value (and impact) of executives over time. Therefore, in specification (3) we control for the variable *Year*, which is a count variable that takes on values between 1980 and 2012, while in specification (4) we control for time fixed effects using four dummy variables, one for each decade of our sample period (i.e., 1980s, 1990s, 2000s, and 2010s). Finally, in specification (5) we simultaneously control for CEO talent, the time trend as well as for industry fixed effects based on the Fama and French 10 industry classification.

As can be seen from Table 7, the coefficient for *GAI index* remains negative and significant at the 5% level or better throughout all five regression specifications. The economic magnitude of general managerial skills also remains significant. An increase in the *GAI index* by one standard deviation is associated with a decrease in abnormal stock returns of 1.8 to 2.1 percentage points. Even when we additionally include industry fixed effects in specification (5), the economic effect still amounts to 1.5 percentage points. In unreported regressions, we find that the regression coefficient of *GAI index* remains statistically and economically significant when we use industry fixed effects based on the Fama and French 48 industry classification.

We now turn to *Table 8* for further alternative explanations related to executives' education and network.[8] Executives with higher education and better networks might be costly to replace and particularly valuable to shareholders, for example, because better educated and connected executives may more accurately assess firm and industry prospects and ultimately make better investment decisions. Thus, in specification (1) we use the variable *Uni degree* – which takes the values 0 (no degree), 1 (Bachelor), 2 (Master), 3 (PhD) – as an education-based measure of executive talent. In specification (2), we use *Ivy League*, an indicator variable which equals one if an executive graduated from an Ivy League school (i.e., Brown, Columbia, Cornell, Dartmouth, Harvard, UPenn, Princeton and Yale). The fraction of CEOs and presidents in our sample who graduated from an Ivy League school is 21%, identical to the fraction reported in Custódio, Ferreira, and Matos (2013) who use this variable as another control for executive talent. While *Ivy League* may serve as a measure for talent, it can also be used as an executive network measure given that Ivy League schools, both historically and geographically, have formed a network and given the huge relative fraction of CEOs who attended one of these eight schools. In specification (3), we use both variables *Uni degree* and *Ivy League*. Finally, in specification (4) we use the number of external board seats held by an executive, denoted *Outside directorships*, as an alternative variable to control for executives' networks. As Table 8 shows, in all four regression specifications the coefficient for *GAI index* remains significant, both statistically and economically.

Overall, from the results presented in this section we conclude that the positive impact of general managerial skills on shareholder value is unlikely to be attributed to the aforementioned alternative explanations.

[8] The regression results shown in Table 8 are based on fewer observations as the necessary data is not available for all CEOs and presidents in our sample.

4.3. Further robustness tests

In the following, we consider several additional robustness tests. As a first test, we examine the role of executive succession and the impact of different causes of sudden deaths. To this end, we reestimate regression specification (3) of Table 4 for different subsamples. The regression results are shown in *Table 9*. For brevity, we only report the coefficient for the variable *GAI index*, the respective t-statistic and the number of observations.

As an intuitive test of our hypothesis that generalist executives benefit shareholder value, we exclude all cases of sudden deaths in which a deceased executive is permanently replaced by an outsider (i.e., the variable *Successor is firm insider* equals one for all remaining observations). Given that insiders tend to have less general managerial ability (see Custódio, Ferreira, and Matos, 2013) and given that the stock market reaction to announcements of executives' unexpected deaths incorporates the expected likelihood that the deceased executive will be replaced by an insider, we should find a more negative average abnormal stock return for the subsample of inside replacements if generalists matter for shareholder value. The results in specification (1) confirm our expectation. The stock market reaction is indeed more negative (the coefficient amounts to -0.0256) and also statistically more significant (1% level) than the results shown in specification (3) of Table 4. Specifically, the economic effect is 28% larger on a relative basis.

The above finding implies that our results might be driven by firms which find it hard to replace valuable executive talent. If this was the case, the results of our study would not be generalizable. We address this concern in regression specifications (2), (3) and (4) where we exclude small firms (with below median firm size by total assets or market value) and young firms (with below median age), respectively. Smaller and younger firms should find it particularly difficult to replace executive talent. The regression coefficient for *GAI index* remains statistically significant in all

three regressions, suggesting that our results are unlikely to be driven by firms that find it hard to recruit valuable executives.[9]

Finally, in regression specification (5) of Table 9, we exclude cases of sudden deaths if the cause of death is a heart attack or if it is unknown (i.e., it could be a heart attack or heart failure). One might argue that heart attacks can be related to previous firm performance, which would render these deaths 'less exogenous' events. The regression coefficient for *GAI index* remains significant (at the 10% level) when we restrict the sample to sudden deaths caused by accidents and strokes, which are probably the most unexpected and sudden death events. In unreported regressions, we exclude only those cases of sudden deaths for which i) the cause of death is unknown or ii) the cause of death is a heart attack, separately. Results remain statistically significant.

As a second robustness test, shown in *Table 10*, we reestimate regression specifications from Table 4 and include additional control variables. We use *Successor is firm insider* to account for the fact that the stock market reaction to unexpected executive deaths incorporates information about the expected successor of a suddenly deceased executive. In this regard, we argue that if the permanent successor was a firm insider, it is more likely that a succession plan existed at the time the sudden executive death took place. To further control for succession, we include the dummy *President* to account for cases where the deceased CEO held the president title, i.e., succession was unlikely to be planned as "the baton had not yet been passed" to the heir apparent (see Adams, Almeida, and Ferreira, 2005, p.1409). We also control for the variable *Ownership20%* (following Bebchuk, Cremers, and Peyer, 2011) which equals one if a deceased executive owned more than

[9] We note that the coefficient for *GAI index* is considerably larger when we restrict the sample to larger firms in specifications (2) and (3). This results is consistent with a competitive sorting model of the executive labor market where better executives with more skills tend to run bigger companies because the marginal impact of executive talent can be expected to increase in firm size (see Falato, Li, and Milbourn, 2015, and the literature therein). In this regard, we provide multivariate evidence for a positive relation between general managerial skills and firm size in Table 2.

20 percent of the firm's stock. This variable is likely to correlate negatively with general managerial skills, while it may have a positive or negative effect on shareholder value depending on the trade-off between incentives and entrenchment/power that come with executive ownership. As additional firm controls, we include *Firm age (CRSP)*, *CapEx/NetPPE*, *Leverage*, *R&D*, and *Business segments* (as reported in Compustat) because Custódio, Ferreira, and Matos (2013) show that these variables significantly differ between generalists and specialists. The regression results with the aforementioned additional controls reveal that the coefficients for *GAI index*, *Generalist* and *GAI unweighted* all remain significant at the 5% level, while only the variables *Ownership20%* and *Successor is firm insider* seem to add additional explanatory power for abnormal stock returns. The positive coefficient of the latter variable is consistent with a less negative stock price reaction to sudden deaths when executive succession plans (are more likely to) exist.

Finally, *Appendix C* shows regression results of reestimations of regression specification (3) of Table 4 with alternative measures of abnormal stock returns, i.e., alternative dependent variables. In particular, we use *SCAR (-1,1)* and *CAR (-1,1)_4F* in specifications (1) and (2), respectively, while we use *CAR (-1,1)_FF3 winsorized* and *CAR (-1,1)_MM winsorized* in specification (3) and specification (4). We winsorize all variables at the 5th and 95th percentiles. Finally, in specification (5), which is estimated using a probit model, we use *CAR (-1,1)_MM < 0 (dummy)*, an indicator variable that equals one if the market-model abnormal return is below zero. Again, throughout all regressions the coefficient for *GAI index* remains statistically significant.

5. Difficult corporate tasks and the value of general managerial skills

Sections 3 and 4 have provided robust evidence that general managerial skills, on average, have a positive effect on shareholder value. In this section, we present additional evidence on the relation between general managerial skills, the management of difficult corporate tasks, and shareholder

value. We thereby provide some insights with regard to the question for which firms generalist executives are particularly valuable.

We build our analysis on Custódio, Ferreira, and Matos' (2013) finding (and reasoning) that the pay premium for generalists is higher when CEOs are hired to perform difficult tasks, such as restructurings, which often necessitate adapting to changing business environments. This finding suggests that generalist executives can be expected to be particularly valuable (and thus firms are willing to pay them a premium) when firms have to undergo drastic changes, like necessary disinvestments (e.g., asset sales and plant closures), and when they need to seek new investment opportunities. General managerial skills can facilitate corporate management and leadership in such situations as generalists tend to be better able to adapt to changing business environments (see Guay, Taylor, and Xiao, 2014) and as generalists may find it easier to identify new growth prospects (in line with the anecdotal evidence in footnote 1). Furthermore, broad managerial work experience likely fosters necessary problem solving at the top and coordination with several people inside and outside the firm when situations become difficult and corporate circumstances change. Because firms with more growth prospects are less likely to be in need of performing difficult tasks and because they less likely have to seek for new investments , we hypothesize that the value of general managerial skills is higher (lower) when firms have fewer (more) growth opportunities.

To test the aforementioned hypothesis, we use several measures of firms' growth opportunities proposed by the existing literature (see, e.g., Adam and Goyal, 2008): the market-to-book ratio (*MTB*), *Tobin's Q*, and capital expenditures to net property plant and equipment (*CapEx/NetPPE*). We further use return on assets (*ROA*) as an alternative (however more biased and indirect) measure for a firm's need to undergo changes and adapt to new business environments. To identify whether general managerial skills matter more when firms have fewer growth opportunities, we use interaction terms of our growth measures (and *ROA*) with the variable *GAI index*. If our hypothesis

is true, we have to find significantly positive interaction terms in addition to the negative coefficient for *GAI index*, indicating that general managerial skills are less valuable when firms have more growth opportunities.

The results of our tests are shown in *Table 11*. We reestimate regression specification (3) of Table 4 and include the proposed interaction terms. While the coefficient for *GAI index* is negative and statistically significant at the 1% level in all four regression specifications, the coefficients for *GAI index*MTB*, *GAI index*Tobin's Q* and *GAI index*CapEx/NetPPE* are all positive, as expected, and significant at the 5% level. Only the coefficient for *GAI index*ROA* is not significant. The coefficients of the interactions terms suggest that only for firms with very high growth opportunities (e.g., *MTB* > 6) generalists do not benefit shareholder value, i.e., the overall effect becomes positive. In unreported regressions, we repeat the analysis with the variable *GAI unweighted* instead of *GAI index* and find similar results. In sum, we provide evidence for our hypothesis that general managerial skills are particularly valuable when firms have low growth opportunities, i.e., when executives have to perform difficult corporate tasks. This result supports Custódio, Ferreira, and Matos' (2013) finding of a higher pay premium for generalist CEOs who are hired to perform such tasks.

6. Conclusion

In this study, we test the hypothesis that executives' general managerial skills benefit shareholder value as they facilitate management and leadership of modern corporations. Supporting the above hypothesis, we document a significantly positive and economically meaningful effect of general managerial skills on shareholder value using 171 sudden executive deaths between 1980 and 2012. In particular, we find that a one-standard-deviation increase in the general ability index is found to correspond to at least a 1.5 percentage point decrease in abnormal

stock returns to announcements of sudden deaths. Our findings further suggest that generalist executives are particularly valuable for firms with fewer growth prospects where the need to perform difficult tasks (e.g., restructurings) and to adapt to new business environments is considerably higher.

The positive impact of executives' general managerial skills on shareholder value found in this paper provides a market-based explanation for the documented hiring and pay premium that generalists receive and the increase of general managerial skills over the last decades (Custódio, Ferreira, and Matos, 2013; Murphy and Zabojnik, 2004). Corporate boards and executive search firms should take general managerial ability into account when they seek new executives.

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Figure 1 – Causes of sudden deaths

This figure shows the causes of deaths for the sample of sudden deaths between 1980 and 2012 used in this study. The sample does not include sudden deaths for which the cause of death is either murder or suicide.

Figure 2 – General managerial skills over time

This figure shows the mean GAI index per year for the sample period 1980-2012. The GAI index is defined as in Custódio, Ferreira, and Matos (2013). It is standardized to have a mean of zero and a standard deviation of one.

Table 1 – Summary statistics

This table presents summary statistics for the full sample of all sudden death events (Panel A) and for the sample of sudden deaths excluding events of deceased chairmen who were neither CEOs nor presidents (Panel B). All variables are defined in Appendix B.

Variable	N	Median	P25	P75	Mean	Std. Dev.
Panel A: All observations						
CAR (-1,1)_FF3	171	-0.001	-0.037	0.038	0.002	0.09
CAR (-1,1)_4F	171	-0.001	-0.037	0.038	0.002	0.09
CAR (-1,1)_MM	171	-0.0003	-0.037	0.032	0.003	0.09
GAI index	171	-0.10	-0.58	0.48	0.00	1.00
Age	170	61.50	54.00	69.00	61.78	11.50
CEO	171				0.63	0.49
Chairman	171				0.68	0.47
Consult or Law Experience	171				0.05	0.21
Founder	171				0.29	0.46
President	171				0.46	0.50
Tenure	171	11.00	4.00	23.00	14.84	13.34
Firm age (CRSP)	171	15.00	6.00	26.00	20.29	18.14
Firm size (ln total assets)	168	5.42	3.76	7.31	5.53	2.35
MTB	167	1.68	1.12	2.94	2.36	1.86
ROA	166	0.04	-0.01	0.07	-0.02	0.20
Board size	167	8.00	6.00	11.00	8.54	3.22
Independent board	167				0.32	0.47
Staggered board	166				0.37	0.49
Panel B: Sample w/o chairmen who were neither CEOs nor presidents						
CAR (-1,1)_FF3	134	-0.005	-0.042	0.026	-0.004	0.10
CAR (-1,1)_4F	134	-0.004	-0.042	0.027	-0.004	0.10
CAR (-1,1)_MM	134	-0.006	-0.048	0.028	-0.002	0.10
GAI index	134	-0.16	-0.60	0.64	0.00	1.00
Age	133	60.00	53.00	64.00	59.36	10.62
CEO	134				0.80	0.40
Consult or Law Experience	134				0.04	0.19
First CEO age (CEOs only)	106	48.00	37.00	56.00	46.04	11.56
Founder	134				0.29	0.46
President	134				0.59	0.49
Successor is firm insider	134				0.88	0.33
Tenure	134	10.00	3.00	20.00	13.01	12.02
Firm age (CRSP)	134	14.00	6.00	28.00	20.28	18.14
Firm size (ln total assets)	131	5.39	3.58	7.36	5.47	2.46
MTB	130	1.70	1.14	3.05	2.42	1.90
ROA	129	0.04	-0.01	0.07	-0.03	0.21
Board size	131	8.00	6.00	11.00	8.51	3.26
Duality (CEOs only)	107				0.69	0.46
Independent board	131				0.35	0.48
Staggered board	130				0.36	0.48

Table 2 – Determinants of the GAI index

This table reports results from regressions of the variable *GAI index* (in regression specifications 1-4) or *GAI unweighted* (in specification 5) or *Generalist* (in specification 6) on characteristics of the deceased executives, firm and governance characteristics. All variables are defined in Appendix B. Regression specifications (1) – (5) are estimated using OLS, while specification (6) is estimated using a probit regression model. *Consult or Law Exp.* is omitted in specification (6) as it perfectly predicts the dependent indicator variable *Generalist*. t-statistics are estimated using robust standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level.

Dep. Variable:	***GAI index***				***GAI unweighted***	***Generalist*** *(dummy)*
	(1)	(2)	(3)	(4)	(5)	(6)
Executive characteristics:						
Age	0.0257***	0.0129*	0.0314***	0.0349***	0.0812***	0.0481***
	(3.071)	(1.909)	(3.780)	(4.261)	(4.306)	(3.493)
CEO		0.5005***	0.4677***	0.7991***	1.8971***	1.1227***
		(3.511)	(3.475)	(3.724)	(3.807)	(3.073)
Consult or Law Exp.		1.6732**	1.6448***	1.3879**	3.1979**	
		(2.536)	(2.785)	(2.347)	(2.338)	
Founder		-0.5239***	-0.1658	-0.1880	-0.3999	-0.0775
		(-3.383)	(-1.027)	(-1.163)	(-1.062)	(-0.256)
Tenure	-0.0388***		-0.0319***	-0.0305***	-0.0727***	-0.0590***
	(-6.398)		(-4.862)	(-4.787)	(-4.881)	(-4.841)
Firm characteristics:						
Firm size		0.0419	0.0262	0.0589	0.1606*	0.1170*
		(1.142)	(0.732)	(1.618)	(1.896)	(1.788)
MTB		0.0346	0.0183	0.0308	0.0603	-0.0245
		(1.015)	(0.553)	(0.896)	(0.769)	(-0.404)
ROA		-0.9900**	-0.6759	-0.6175	-1.6229*	-0.8371
		(-2.259)	(-1.492)	(-1.497)	(-1.707)	(-1.206)
Governance characteristics:						
Board size				-0.0378	-0.0916	-0.1276***
				(-1.335)	(-1.383)	(-2.588)
Duality				-0.5050**	-1.1877**	-1.1391***
				(-2.519)	(-2.527)	(-3.328)
Independent board				0.2823*	0.7001*	0.1137
				(1.814)	(1.933)	(0.470)
Staggered				-0.0885	-0.1975	0.2066
				(-0.633)	(-0.603)	(0.836)
Constant	-1.0062**	-1.3493***	-1.9691***	-2.1127***	1.1883	-2.1475**
	(-2.233)	(-3.065)	(-4.446)	(-4.533)	(1.113)	(-2.532)
Observations	170	164	164	159	159	159
Adj./Pseudo R-squared	0.170	0.226	0.314	0.376	0.430	0.256

Table 3 – General managerial skills and shareholder value (I)

This table reports results from OLS regressions of the abnormal stock price reaction around executive (CEOs, presidents and chairmen) sudden deaths, measured by the variables *CAR (-1,1)_MM* (in Panel A and Panel B) and *CAR (-1,1)_FF3* (in Panel C), on the variables *GAI index* (in Panel A and C) or *Generalist* (in Panel B), *Firm size* and a constant. Chairmen denotes deceased chairmen of the board who were neither CEOs nor presidents. Variables are defined in Appendix B. t-statistics are estimated using robust standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level.

Panel A: Market model (MM) abnormal returns

Dep. Variable:			***CAR (-1,1)_MM***		
	All	All	CEOs and presidents	CEOs	Chairmen
	(1)	(2)	(3)	(4)	(5)
GAI index		**-0.0116****	**-0.0136***	**-0.0186****	**-0.0037**
		(-2.009)	**(-1.887)**	**(-2.274)**	**(-0.486)**
Firm size	0.0091***	0.0095***	0.0095***	0.0097***	0.0095
	(3.458)	(3.630)	(3.727)	(3.314)	(0.899)
Constant	-0.0489***	-0.0510***	-0.0558***	-0.0525***	-0.0336
	(-2.665)	(-2.801)	(-3.109)	(-2.638)	(-0.486)
Observations	168	168	131	105	37
Adj. R-squared	0.048	0.059	0.057	0.068	0.005

Panel A: Market model (MM) abnormal returns

Dep. Variable:			***CAR (-1,1)_MM***		
	All	All	CEOs and presidents	CEOs	Chairmen
	(1)	(2)	(3)	(4)	(5)
Generalist		**-0.0354*****	**-0.0378****	**-0.0467****	**-0.0091**
		(-2.714)	**(-2.128)**	**(-2.272)**	**(-0.372)**
Firm size	0.0091***	0.0094***	0.0106***	0.0110***	0.0096
	(3.458)	(3.702)	(4.130)	(3.653)	(0.909)
Constant	-0.0489***	-0.0358*	-0.0412**	-0.0324	-0.0290
	(-2.665)	(-1.893)	(-2.032)	(-1.411)	(-0.451)
Observations	168	168	131	105	37
Adj. R-squared	0.048	0.079	0.074	0.087	0.007

Panel C: Fama-French three-factor (FF3) abnormal returns

Dep. Variable:			***CAR (-1,1)_FF3***		
	All	All	CEOs and presidents	CEOs	Chairmen
	(1)	(2)	(3)	(4)	(5)
GAI index		**-0.0112***	**-0.0126***	**-0.0170****	**-0.0047**
		(-1.916)	**(-1.721)**	**(-2.048)**	**(-0.583)**
Firm size	0.0102***	0.0106***	0.0106***	0.0105***	0.0100
	(3.749)	(3.906)	(3.995)	(3.374)	(0.920)
Constant	-0.0559***	-0.0579***	-0.0638***	-0.0607***	-0.0337
	(-2.975)	(-3.102)	(-3.450)	(-2.927)	(-0.480)
Observations	168	168	131	105	37
Adj. R-squared	0.061	0.070	0.069	0.073	0.009

Table 4 – General managerial skills and shareholder value (II)

This table reports results from OLS regressions of the abnormal stock price reaction around executive (CEOs, presidents and chairmen) sudden deaths, measured by the variable *CAR (-1,1)_FF3*, on the variable *GAI index* (specifications 1-3 and 7) or *Generalist* (specification 4) or *GAI Unweighted* (specification 5) or *Residual GAI index* (specification 6), controls for executive and firm characteristics and a constant. Specification (7) additionally includes controls for governance characteristics. *Residual GAI index* is the residual from a regression of *GAI index* on *Age*, *CEO*, *Consult or Law Exp.*, *Founder*, *Tenure*, and a constant. All other variables are defined in Appendix B. t-statistics are estimated using robust standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level.

Dep. Variable:				***CAR (-1,1)_FF3***			
	All			CEOs and presidents			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GAI index	**-0.0170*** **	**-0.0216*** **	**-0.0200** **				**-0.0189** **
	(-2.651)	**(-2.942)**	**(-2.578)**				**(-2.343)**
Generalist				**-0.0390** **			
				(-2.475)			
GAI unweighted					**-0.0092** **		
					(-2.609)		
Residual GAI index						**-0.0157** **	
						(-2.014)	
Executive controls:							
Age	0.0030***	0.0035***	0.0032**	0.0029**	0.0032**		0.0033**
	(3.584)	(3.287)	(2.599)	(2.432)	(2.595)		(2.298)
CEO	0.0193	0.0234	0.0227	0.0198	0.0227		0.0192
	(1.225)	(1.315)	(1.242)	(1.099)	(1.239)		(0.906)
Consult or Law Exp.	0.0444*	0.0646***	0.0618***	0.0552**	0.0618***		0.0640**
	(1.820)	(2.853)	(2.672)	(2.091)	(2.681)		(2.599)
Founder	0.0059	0.0101	0.0058	0.0049	0.0064		0.0035
	(0.353)	(0.487)	(0.284)	(0.243)	(0.311)		(0.175)
Tenure			0.0006	0.0006	0.0005		0.0003
			(0.634)	(0.633)	(0.620)		(0.360)
Firm controls:							
Firm size	0.0098***	0.0112***	0.0115***	0.0123***	0.0117***	0.0094***	0.0119**
	(2.739)	(3.231)	(3.219)	(3.359)	(3.270)	(2.699)	(2.521)
MTB	-0.0024	0.0001	0.0003	-0.0005	0.0000	-0.0022	0.0003
	(-0.849)	(0.042)	(0.097)	(-0.182)	(0.017)	(-0.772)	(0.077)
ROA	-0.0182	-0.0179	-0.0218	-0.0197	-0.0233	0.0305	-0.0214
	(-0.610)	(-0.597)	(-0.702)	(-0.629)	(-0.746)	(0.873)	(-0.648)
Governance controls:							
Duality							0.0077
							(0.557)
Board size							-0.0003
							(-0.067)
Independent board							-0.0109
							(-0.739)
Staggered board							-0.0057
							(-0.420)
Constant	-0.2463***	-0.2966***	-0.2857***	-0.2461***	-0.2272***	-0.0485*	-0.2838***
	(-4.184)	(-4.254)	(-3.872)	(-3.445)	(-3.270)	(-1.872)	(-3.680)
Observations	164	127	127	127	127	127	123
Adj. R-squared	0.199	0.236	0.232	0.229	0.232	0.088	0.207

Table 5 – GAI index components

This table reports results from OLS regressions of the abnormal stock price reaction around executive (CEOs and presidents) sudden deaths, measured by the variables *CAR (-1,1)_MM* (Panel A) and *CAR (-1,1)_FF3* (Panel B), on the components of the GAI index, controls for executive and firm characteristics and a constant. The control variables equal those used in regression specification (3) of Table 4. Variables are defined in Appendix B. t-statistics are estimated using robust standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level.

Panel A: Market model (MM) abnormal returns

Dep. Variable:	***CAR (-1,1)_MM***				
	(1)	(2)	(3)	(4)	(5)
	Number of positions	Number of firms	Number of industries	CEO experience	Conglomerate experience
GAI component	**-0.0106***	**-0.0175****	**-0.0401****	**-0.0222**	**-0.0197**
	(-1.702)	**(-2.089)**	**(-2.260)**	**(-1.623)**	**(-1.445)**
Controls	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes
Observations	127	127	127	127	127
Adj. R-squared	0.206	0.215	0.221	0.202	0.199

Panel B: Fama-French three-factor (FF3) abnormal returns

Dep. Variable:	***CAR (-1,1)_FF3***				
	(1)	(2)	(3)	(4)	(5)
	Number of positions	Number of firms	Number of industries	CEO experience	Conglomerate experience
GAI component	**-0.0114***	**-0.0164****	**-0.0322***	**-0.0244***	**-0.0194**
	(-1.781)	**(-2.078)**	**(-1.890)**	**(-1.861)**	**(-1.441)**
Controls	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes
Observations	127	127	127	127	127
Adj. R-squared	0.211	0.216	0.214	0.207	0.202

Table 6 – Robustness Test (I):

Median regressions and simultaneous exclusion of outliers of CAR (-1,1) and GAI index

This table reports results from regressions of the abnormal stock price reaction around executive (CEOs and presidents) sudden deaths on the variable *GAI index*, controls for executive and firm characteristics and a constant. Regression specifications (1) and (2) are median regressions. Regression specifications (3) and (4) are basic OLS regressions. Specification (3) excludes observations if i) *CAR (-1,1)_FF3* is smaller than or equal to the 5th percentile, ii) *CAR (-1,1)_FF3* is larger than or equal to the 95th percentile, iii) *GAI index* is smaller than or equal to the 5th percentile, iv) *GAI index* is larger than or equal to the 95th percentile. Specification (4) excludes observations if i) *CAR (-1,1)_FF3* is smaller than or equal to the 5th percentile, ii) *CAR (-1,1)_FF3* is larger than or equal to the 95th percentile, iii) *GAI unweighted* is smaller than or equal to the 5th percentile, iv) *GAI unweighted* is larger than or equal to the 95th percentile. All variables are defined in Appendix B. t-statistics are estimated using robust standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level.

Dep. Variable:	***CAR (-1,1)_FF3***			
	Median regressions		Exclusion of outliers	
	(1)	(2)	(3)	(4)
GAI index	**-0.0158***		**-0.0228****	
	(-1.971)		**(-2.169)**	
GAI unweighted		**-0.0076****		**-0.0132*****
		(-2.080)		**(-2.890)**
Executive controls:				
Age	0.0027***	0.0027***	0.0027***	0.0027***
	(3.300)	(3.371)	(3.853)	(4.018)
CEO	0.0044	0.0031	0.0051	0.0060
	(0.250)	(0.175)	(0.377)	(0.444)
Consult or Law Exp.	0.0276	0.0272	0.0600**	0.0682***
	(0.683)	(0.676)	(2.320)	(2.829)
Founder	-0.0061	-0.0023	0.0047	0.0088
	(-0.335)	(-0.130)	(0.330)	(0.622)
Tenure	0.0001	-0.0000	0.0002	0.0002
	(0.120)	(-0.041)	(0.310)	(0.259)
Firm controls:				
Firm size	0.0058*	0.0068**	0.0114***	0.0131***
	(1.738)	(2.028)	(3.638)	(4.208)
MTB	0.0008	0.0003	0.0005	0.0000
	(0.201)	(0.090)	(0.176)	(0.003)
ROA	0.0045	-0.0040	-0.0333	-0.0484*
	(0.117)	(-0.105)	(-1.106)	(-1.670)
Constant	-0.2086***	-0.1665***	-0.2400***	-0.1682***
	(-3.991)	(-3.384)	(-4.984)	(-3.268)
Observations	127	127	91	90
% of sample excluded	-	-	28%	29%
Pseudo/Adj. R-squared	0.107	0.108	0.285	0.311

Table 7 – Robustness Test (II):

Alternative explanations: Innate talent, time and industry effects

This table reports results from OLS regressions of the abnormal stock price reaction around executive (CEOs and presidents) sudden deaths, measured by the variable *CAR (-1,1)_FF3*, on the variable *GAI index*, controls for executive and firm characteristics, additional controls which address alternative explanations, and a constant. *Year* is a continuous variable which takes on values between 1980 and 2012. Decade controls are binary variables for the 1980s, 1990s, 2000s and 2010s. Fama and French 10 industry controls are used. All other variables are defined in Appendix B. t-statistics are estimated using robust standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level.

Dep. Variable:	***CAR (-1,1)_FF3***				
	(1)	(2)	(3)	(4)	(5)
	CEOs only				
GAI index	**-0.0209****	**-0.0206*****	**-0.0183****	**-0.0181****	**-0.0151****
	(-2.452)	**(-2.677)**	**(-2.323)**	**(-2.259)**	**(-2.036)**
Additional controls:					
First CEO age	-0.0045**				
	(-2.009)				
Tenure/Age		-0.6982**			-0.6264*
		(-2.138)			(-1.976)
Year			-0.0014		-0.0010
			(-1.480)		(-1.036)
Executive controls:					
Age	0.0067**	0.0004	0.0030**	0.0029**	0.0003
	(2.445)	(0.311)	(2.470)	(2.368)	(0.268)
CEO		0.0224	0.0295	0.0270	0.0264
		(1.320)	(1.514)	(1.400)	(1.422)
Consult or Law Exp.	0.0487	0.0512**	0.0667***	0.0700***	0.0838***
	(1.274)	(2.001)	(3.075)	(2.993)	(3.628)
Founder	-0.0035	0.0107	0.0061	0.0080	0.0216
	(-0.190)	(0.538)	(0.300)	(0.379)	(1.090)
Tenure	-0.0028	0.0112**	0.0006	0.0006	0.0103**
	(-1.243)	(2.205)	(0.678)	(0.637)	(2.098)
Firm controls:					
Firm size	0.0106**	0.0119***	0.0123***	0.0127***	0.0125***
	(2.520)	(3.338)	(3.318)	(3.417)	(3.098)
MTB	0.0013	-0.0008	0.0007	0.0007	-0.0002
	(0.404)	(-0.311)	(0.232)	(0.245)	(-0.073)
ROA	-0.0126	-0.0089	-0.0299	-0.0288	-0.0338
	(-0.361)	(-0.299)	(-0.930)	(-0.914)	(-1.097)
Constant	-0.2183***	-0.1151	2.5050	-0.3110***	1.9734
	(-3.280)	(-1.366)	(1.340)	(-4.052)	(0.999)
Decade controls	No	No	No	Yes	No
Industry controls	No	No	No	No	Yes
Observations	101	127	127	127	127
Adj. R-squared	0.305	0.271	0.240	0.230	0.306

Table 8 – Robustness Test (III):

Alternative explanations: Education and network

This table reports results from OLS regressions of the abnormal stock price reaction around executive (CEOs and presidents) sudden deaths, measured by the variable *CAR (-1,1)_FF3*, on the variable *GAI index*, controls for executive and firm characteristics, additional controls which address alternative explanations, and a constant. All other variables are defined in Appendix B. t-statistics are estimated using robust standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level.

Dep. Variable:	***CAR (-1,1)_FF3***			
	(1)	(2)	(3)	(4)
GAI index	**-0.0188****	**-0.0188***	**-0.0194****	**-0.0162***
	(-2.219)	**(-1.951)**	**(-2.257)**	**(-1.895)**
Additional controls:				
Uni degree	-0.0193*		-0.0207*	
	(-1.764)		(-1.806)	
Ivy League		0.0125	0.0117	
		(0.672)	(0.600)	
Outside directorships				0.0005
				(0.043)
Executive controls:				
Age	0.0026*	0.0022	0.0024*	0.0031***
	(1.961)	(1.663)	(1.915)	(2.991)
CEO	0.0196	0.0339	0.0207	0.0176
	(1.006)	(1.615)	(1.017)	(0.768)
Consult or Law Exp.	0.0817***	0.0831***	0.0821***	0.0546**
	(2.888)	(2.704)	(2.977)	(2.135)
Founder	-0.0043	-0.0082	-0.0028	-0.0148
	(-0.122)	(-0.249)	(-0.081)	(-0.843)
Tenure	0.0011	0.0006	0.0009	0.0000
	(0.878)	(0.597)	(0.765)	(0.015)
Firm controls:				
Firm size	0.0146***	0.0151***	0.0149***	0.0115***
	(3.125)	(3.515)	(3.188)	(3.357)
MTB	0.0057	0.0045	0.0055	0.0015
	(1.410)	(1.199)	(1.310)	(0.515)
ROA	-0.0722*	-0.0452	-0.0728*	-0.0344
	(-1.844)	(-1.361)	(-1.883)	(-1.170)
Constant	-0.2589***	-0.2756***	-0.2535***	-0.2761***
	(-3.061)	(-3.204)	(-3.031)	(-3.821)
Observations	72	77	72	93
Adj. R-squared	0.235	0.204	0.225	0.255

Table 9 – Robustness Test (IV):

Executive succession and causes of sudden deaths

This table reports results from OLS regressions of the following regression model: $CAR\ (-1,1)_FF3 = \alpha + \beta_1 * GAI\ index + \beta_2 * Age + \beta_3 * CEO + \beta_4 * Consult\ or\ Law\ Exp. + \beta_5 * Founder + \beta_6 * Tenure + \beta_7 * Firm\ size + \beta_8 * MTB + \beta_9 * ROA + \varepsilon$. The regression uses all cases of deceased CEOs or presidents, i.e., the regression model is similar to specification (3) of Table 4. For brevity, only the regression coefficient of the variable *GAI index* is reported. All variables are defined in Appendix B. t-statistics are estimated using robust standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level.

	Sample	**GAI coefficient**	**t-stat**	**Obs**
1	Successor is firm insider	-.0256	-3.04***	111
2	Firm size (total assets) > Median	-.0268	-2.40**	64
3	Firm size (market cap) > Median	-.0268	-2.41**	65
4	Firm age (CRSP) > Median	-.0220	-1.86*	65
5	w/o heart attacks and unknown deaths reasons	-.0391	-1.86*	33

Table 10 – Robustness Test (V): Including further control variables

This table reports results from OLS regressions of the abnormal stock price reaction around executive (CEOs and presidents) sudden deaths, measured by the variable *CAR (-1,1)_FF3*, on the variable *GAI index* (specifications 1, 2 and 5) or *Generalist* (specification 3) or *GAI unweighted* (specification 4), controls for executive and firm characteristics (both as in specification (3) of Table 4), additional controls, and a constant. Coefficients of the controls for executive and firm characteristics are not reported for brevity. *Ownership20%* is a dummy variable equaling one if the deceased executive owned more than 20% of the firm's stock (similar to Bebchuk, Cremers, and Peyer, 2011). Specifications (2) to (5) further include the variable *Business segments* which is the number of business segments as reported in Compustat (if available). All other variables are defined in Appendix B. The analysis in specification (5) is limited to deceased CEOs. t-statistics are estimated using robust standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level.

Dep. variable:			***CAR (-1,1)_FF3***		
	(1)	(2)	(3)	(4)	(5)
					CEOs only
GAI index	**-0.0193****	**-0.0164****			**-0.0196****
	(-2.507)	**(-2.113)**			**(-2.217)**
Generalist			**-0.0316****		
			(-2.160)		
GAI unweighted				**-0.0076****	
				(-2.128)	
Additional controls:					
Ownership20%	0.0662**	0.0703**	0.0660**	0.0702**	0.0647**
	(2.200)	(2.188)	(2.088)	(2.190)	(1.995)
President	0.0257	0.0201	0.0229	0.0204	0.0259
	(1.098)	(0.828)	(0.970)	(0.843)	(1.036)
Successor is firm insider	0.0434**	0.0371*	0.0399**	0.0371*	0.0394**
	(2.284)	(1.801)	(1.997)	(1.801)	(1.996)
CapEx/NetPPE	-0.0196	-0.0246	-0.0348	-0.0248	-0.0230
	(-0.424)	(-0.501)	(-0.697)	(-0.504)	(-0.351)
Firm age (CRSP)	0.0004	0.0006	0.0007	0.0006	0.0006
	(0.985)	(1.426)	(1.549)	(1.436)	(1.144)
Leverage	-0.0327	-0.0409	-0.0346	-0.0409	-0.0355
	(-0.927)	(-1.042)	(-0.916)	(-1.046)	(-0.890)
R&D	-0.0572	-0.0980	-0.1110	-0.0963	-0.0066
	(-0.608)	(-1.089)	(-1.243)	(-1.070)	(-0.059)
Business Segments		-0.0013	-0.0015	-0.0012	
		(-0.843)	(-1.014)	(-0.823)	
Constant	-0.3727***	-0.3412***	-0.3086***	-0.2934***	-0.3172***
	(-4.138)	(-3.552)	(-3.269)	(-3.069)	(-3.606)
Executive characteristics	Yes	Yes	Yes	Yes	Yes
Firm characteristics	Yes	Yes	Yes	Yes	Yes
Observations	120	113	113	113	95
Adj. R-squared	0.287	0.278	0.277	0.278	0.263

Table 11 – Difficult corporate tasks and the value of general managerial skills

This table reports results from OLS regressions of the abnormal stock price reaction around executive (CEOs and presidents) sudden deaths, measured by the variable *CAR (-1,1)_FF3*, on the variable *GAI index*, interaction terms of the variable *GAI index* with the variables *MTB*, *CapEx/NetPPE*, *Tobin's Q*, and *ROA* as well as controls for executive and firm characteristics and a constant. All variables are defined in Appendix B. t-statistics are estimated using robust standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level.

Dep. variable:	***CAR (-1,1)_FF3***			
	(1)	(2)	(3)	(4)
GAI index	**-0.0352*** **	**-0.0401*** **	**-0.0393*** **	**-0.0218*** **
	(-3.046)	**(-2.952)**	**(-2.946)**	**(-2.651)**
Interaction terms:				
GAI index * MTB	0.0059**			
	(2.061)			
GAI index * Tobin's Q		0.0107**		
		(2.036)		
GAI index * CapEx/NetPPE			0.0697**	
			(2.234)	
GAI index * ROA				-0.0304
				(-1.245)
Executive controls:				
Age	0.0031**	0.0032***	0.0034***	0.0033***
	(2.577)	(2.634)	(2.757)	(2.673)
CEO	0.0188	0.0187	0.0184	0.0219
	(1.051)	(1.041)	(0.968)	(1.200)
Consult or Law Exp.	0.0656***	0.0659***	0.0653**	0.0640***
	(2.674)	(2.699)	(2.547)	(2.857)
Founder	0.0077	0.0094	0.0061	0.0050
	(0.378)	(0.447)	(0.286)	(0.244)
Tenure	0.0005	0.0005	0.0003	0.0004
	(0.586)	(0.536)	(0.311)	(0.497)
Firm controls:				
Firm size	0.0119***	0.0116***	0.0118***	0.0112***
	(3.364)	(3.299)	(2.728)	(3.073)
MTB	-0.0004		0.0011	-0.0005
	(-0.157)		(0.370)	(-0.178)
ROA	-0.0055	-0.0080	-0.0161	-0.0060
	(-0.176)	(-0.259)	(-0.422)	(-0.182)
CapEx/NetPPE			-0.0025	
			(-0.056)	
Tobin's Q		-0.0012		
		(-0.184)		
Constant	-0.2791***	-0.2793***	-0.2944***	-0.2850***
	(-3.866)	(-3.829)	(-4.099)	(-3.921)
Observations	127	127	120	127
Adj. R-squared	0.242	0.242	0.233	0.232

Appendices

Appendix A – Distribution of sudden deaths over time

This table shows the distribution of sudden deaths over time for the sample period 1980-2012.

Period	N	Share of total
1980s	43	25.2%
1990s	66	38.6%
2000s	56	32.7%
2010s	6	3.5%

Appendix B – Variable definitions

This table provides an overview and detailed definitions of the variables used in this study. Accounting data refers to the previous fiscal year and is winsorized at the 5th and 95th percentiles.

Variable	Definition
Abnormal returns:	
CAR (-1,1)	Cumulative abnormal return between t-1 and t+1 where t is the date of death or the next trading day in case death took place on a non-trading day. Estimated using either the market model (denoted as *CAR (-1,1)_MM*) or multi-factor models (*CAR (-1,1)_FF3* or *CAR (-1,1)_4F*).
SCAR (-1,1)	CAR (-1,1) divided by a firm's standard deviation of abnormal stock returns from the event study estimation window. Estimated using the market model.
Executive characteristics:	
Age	Age of the deceased executive at the time of his or her death.
CEO	Dummy equaling 1 if the deceased executive was the firm's CEO, 0 otherwise.
Chairman	Dummy equaling 1 if the deceased executive was the firm's chairman, 0 otherwise.
Consult or Law Exp.	Dummy equaling 1 if the deceased executive had work experience with either a consulting or a law firm, 0 otherwise.
First CEO Age	Age at which the deceased executive first became CEO (for CEOs only).
Founder	Dummy equaling 1 if the deceased executive was the firm's founder or the founder's offspring, 0 otherwise.
GAI index	General ability index, defined as in Custódio, Ferreira, and Matos (2013). *GAI index* is standardized to have a mean of zero and a standard deviation of one. Larger GAI index values indicate higher general managerial skills.
GAI unweighted	Sum of the five unweighted GAI index components (i.e., # management positions, # firms, # industries, was CEO before, worked for conglomerate).
Generalist	Dummy equaling 1 if a deceased executive's GAI index is above the median of the variable *GAI index*, 0 otherwise.
Ivy League	Dummy equaling 1 if the deceased executive graduated from an Ivy League school at any level, 0 otherwise.
President	Dummy equaling 1 if the deceased executive was the firm's president, 0 otherwise.
Outside directorships	Natural logarithm of the number of external board seats a deceased executive held.
Successor is firm insider	Dummy equaling 1 if the deceased executive's permanent successor is a firm insider, 0 otherwise.
Tenure	Tenure of the deceased executive at the time of his or her death.
Uni degree	The deceased executive's education. The variable *Uni degree* takes the values 0 (no degree), 1 (Bachelor), 2 (Master), 3 (PhD).
Firm characteristics:	
CapEx/NetPPE	Capital expenditures divided by net property plant and equipment (PPE) (winsorized).
Firm age (CRSP)	Firm age since IPO (based on the CRSP inclusion date).
Firm size	Logarithm of a firm's total assets (ln(assets)).
Leverage	Total liabilities to total assets (winsorized).
MTB	Market-to-book ratio, constructed as the ratio of the market value of equity to the difference between assets and liabilities (winsorized).
ROA	Income before extraordinary items divided by total assets (winsorized).
R&D	Ratio of R&D expenses to total assets (winsorized).
Tobin's Q	(Market value of equity + preferred stock + total liabilities) / total assets (winsorized).
Governance characteristics:	
Board size	The number of directors on the firm's board of directors.
Duality	Dummy equaling 1 if the deceased was the firm's CEO and chairman, 0 otherwise.
Independent board	Dummy equaling 1 if the firm's board of directors is truly independent, i.e., the majority of directors are neither insiders, nor grey directors, 0 otherwise.
Staggered board	Dummy equaling 1 if the firm's board of directors has staggered election terms, 0 otherwise.

Appendix C – Robustness Test (VI): Alternative measures of abnormal returns

This table reports results from regressions of the abnormal stock price reaction around executive (CEOs and presidents) sudden deaths on the variable *GAI index*, controls for executive and firm characteristics and a constant. All variables are defined in Appendix B. In regression specifications (3) and (4), respectively, *CAR (-1,1)_MM* and *CAR (-1,1)_FF3* are winsorized at the 5th and 95th percentiles. Specification (5) is a probit regression. *CAR (-1,1)_MM < 0* is a dummy variable equaling 1 if *CAR (-1,1)_MM* is smaller than zero, 0 otherwise. t-statistics (z-statistics) are estimated using robust standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level.

Dep. variable:	***SCAR (-1,1)***	***CAR (-1,1)_4F***	***CAR (-1,1)_FF3 winsorized***	***CAR (-1,1)_MM winsorized***	***CAR (-1,1)_MM < 0*** *(dummy)*
	(1)	(2)	(3)	(4)	(5)
GAI index	**-0.8601****	**-0.0198****	**-0.0154****	**-0.0158****	**0.2669***
	(-2.488)	**(-2.468)**	**(-2.403)**	**(-2.517)**	**(1.774)**
Executive controls:					
Age	0.1351**	0.0031**	0.0023***	0.0022***	-0.0266*
	(2.366)	(2.553)	(3.099)	(3.106)	(-1.921)
CEO	0.4199	0.0228	0.0103	0.0178	-0.6955**
	(0.477)	(1.279)	(0.773)	(1.323)	(-2.078)
Consult or Law Exp.	5.4065	0.0627***	0.0534*	0.0472*	-0.8974
	(1.277)	(2.648)	(1.947)	(1.723)	(-1.482)
Founder	0.6392	0.0048	0.0005	0.0070	-0.1868
	(0.660)	(0.232)	(0.033)	(0.463)	(-0.574)
Tenure	0.0285	0.0006	0.0006	0.0006	-0.0082
	(0.766)	(0.653)	(0.918)	(0.951)	(-0.600)
Firm controls:					
Firm size	0.3303**	0.0120***	0.0108***	0.0106***	-0.1188*
	(2.059)	(3.338)	(3.860)	(3.868)	(-1.933)
MTB	-0.0321	0.0004	0.0005	-0.0006	-0.0204
	(-0.329)	(0.136)	(0.188)	(-0.274)	(-0.304)
ROA	-1.5581	-0.0280	-0.0134	-0.0267	-0.1598
	(-1.233)	(-0.878)	(-0.488)	(-0.885)	(-0.241)
Constant	-10.1756***	-0.2862***	-0.2196***	-0.2180***	3.2429***
	(-3.418)	(-3.899)	(-4.600)	(-4.905)	(3.254)
Observations	127	127	127	127	127
Adj./Pseudo R-sq.	0.159	0.229	0.278	0.262	0.129