Generalist CEOs and Corporate Employment Decisions

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This version: December 2024

Abstract

This paper examines the relationship between CEO general managerial skills and labor investment efficiency. If generalist CEOs with insufficient technical expertise may make suboptimal labor investment decisions, CEO general managerial skills should be positively correlated with abnormal net hiring, a proxy for labor investment inefficiency. However, if CEOs have wide breadth of past experience, they may convert it into better skills of identifying employees. Thus, CEO general managerial skills might be negatively correlated with abnormal net hiring. My empirical evidence shows that general managerial skills lead to lower labor investment inefficiency, consistent with the first view. The findings are robust to controlling for additional CEO characteristics, such as managerial ability, education, compensation, and wealth. Further, I find that the exacerbating impact of general managerial skills on inefficient labor investment is more pronounced for poorly governed firms. Future corporate operating performance can be boosted by efficient labor investment but hampered by CEO general ability.

Keywords: Managerial skills; Generalist CEO; Labor investment efficiency; Corporate governance

JEL Classifications: G12; G30

1. Introduction

Based on the research of Murphyand Zabojnik (2007), companies in modern society tend to be increasingly interested in appointing CEOs via external hiring. CEOs who have already had a wide prior experience in other companies or industries are particularly attractive to present companies, because in contrast to CEOs via internal promotions or with skills specific to the present industry, external CEOs with a broad experience are richer in general managerial skills which are greatly valued by present companies. Moreover, Lazear (2004, 2005) after studying these entrepreneurs' backgrounds in education and professional experience argues that an increasing number of CEOs in modern corporations are having broader experience and general abilities. Whether they are CEOs with higher general managerial skills or CEOs with managerial skills specific to a certain industry, their decisions regarding labor investment are highly subject to CEOs' personal judgments because it is a very subjective thing and it is hard to measure labor investment efficiency by clear cash inflows, as opposed to capital investments which are quite visible and can be easily measured (Schultz, 1961; Weisbrod, 1961; Ashton and Green, 1996; Wolf, 2002). Since it is difficult to clarify the relation between labor investment efficiency and relevant capital input, efficient investment in human resources depends heavily on CEOs' managerial abilities and relies on their right decisions in management. Since CEOs with more general managerial skills are more likely to obtain a broader network and wider experience in dealing with all kinds of business issues when compared with CEOs who only have experience in the same industry (Custódio, Ferreira, and Matos, 2013), I predict that generalist CEOs might outperform their specialist counterparts in enhancing labor investment efficiency. However, to the best of my knowledge prior research has studied the relation between CEO general managerial skills and labor investment efficiency theoretically or empirically. Previous research shows that agency issue is related to inefficient labor investment (Khedmatia, Sualihua, and Yawson, 2019). Managers may have the incentives

to build their empire by undertaking inefficient investment. Thus, firms with serious agency problem may exhibit more inefficient labor investment. This research will further test the role of agency issue and corporate governance in the relation between CEO general managerial skills and labor investment efficiency. Given that both CEO ability and human capital are of great importance to corporate development. I aim to investigate whether and how firms' future operating performance could be affected by CEO general managerial skills corporate labor investment efficiency.

In order to test my hypotheses, I will design a quantitative research by following existing literature on corporate governance and studies concerning how to measure CEO general managerial skills and corporate labor investment efficiency. The proxy for general managerial skills, GAI index, comes from the dataset used in Custódio, C., Ferreira, M. A. and Matos, P. (2013). The GAI index measures a CEO's work experiences before joining the present company, which encompass how many positions he or she used to hold, the number of companies he or she has served for, the number of industries he or she has worked in his or her career, and whether he or she has work experience in a conglomerate firm or serving at a different kind of company (Custódio, C., Ferreira, M. A. and Matos, P., 2013). Firms' net hiring will be used to proxy for labor investment. It is defined by Pinnuck, M. and Lillis, A. (2007) and Jung, B., Lee, W. and Weber, D. P. (2014) as the change in the number of labors hired by the company. The labor investment efficiency is defined as the abnormal net hiring which can be estimated from a model containing net hiring and its determinants.

To examine the mechanism of corporate governance, I use accounting quality and institutional ownership proxy for corporate governance levels. I will do regression tests and check its impact on the relation between CEO general managerial skills and labor investment efficiency.

This research have at least three contributions. First, this study adds to the literature on human resource management. The labor hiring decision, as a critical part of human resource management, is fundamentally important to the development of a company. Suboptimal labor investment is harmful to a firm's operation efficiency as well as shareholders' interest. This study investigates whether labor investment efficiency can be determined by CEO general managerial skills, which can provide guidance to practice in real business operations. To my best knowledge, this question has not yet been examined. Thus, this research fills the gap in human resource management study.

Second, this study adds to the literature on executive research. A rich body of existing literature documents whether and how executive characteristics can influence firm performance and value. However, few studies focus on the impact of executive characteristics on labor investment efficiency. Khedmatia, Sualihua, and Yawson (2019) find that CEO-director ties can affect labor investment efficiency. Specifically, they show that CEOs with strong ties with independent board members are associated with inefficient labor investment. This paper shows that general managerial skills, a different executive characteristic, can also impact labor investment efficiency.

Third, this study has industrial implications for practitioners and investors. The main findings of this research show that general managerial ability leads to inefficient labor investment. The finding may be very helpful for managers, board members, and investors to choose the most appropriate CEO since they may take general managerial ability into consideration when making investment decisions.

2. Literature Review and Hypotheses Development

2.1 CEO effect

It has long been debated in academia on whether CEOs can shape organizational outcomes. Some theorists hold that top executives play a decisive role in changing the future of enterprises. For instance, Hambrick and Mason (1984), in their seminal research on the effect of CEOs, first come up with the upper echelons theory. This theory states that the values, personalities, and life experience of a CEO will tremendously influence their strategic choice and affect corporate performance accordingly. While recognizing the CEO effect, other scholars believe that the effect of CEO is realized with conditions and they propose the concept of managerial discretion. They argue that under certain circumstances CEOs might have a substantial impact on firm performance. Whereas under other conditions, minimal influence can be generated. For instance, Finkelsteinand Boyd (1998) in their study find that companies will have better performance when managerial discretion and CEO compensation are aligned, but the opposite result will be shown when there is no alignment between managerial discretion and CEO pay. Shen and Cho (2005) study the environmental and organizational contexts that top executives face. They find that when a company has a low latitude of objectives and actions, CEO impact over organization performance can be ignored. However, when there is a low latitude of objectives and high latitude of actions, top executives' involuntary turnover will positively influence the subsequent corporate performance (Shen and Cho, 2005). Mackey (2008) also confirms the effect of CEOs but from a different perspective. He proposes that CEOs have a larger impact at the corporate level than the segment level and their role matters more in diversified firms than in focused firms.

On the contrary, there is also a school of theorists who do not recognize the CEO effect. These scholars hold that organizations' path-dependence and organizational inertia which result from resource rigidity and routine rigidity will constrain the power of CEOs. Consequently, CEOs

are unable to make a big difference to their organizations' performance (DiMaggio and Powell, 1983; Hannan, and Freeman, 1977; Haveman, 1993). From another perspective, some scholars believe that CEOs are more symbolically rather than substantively important for an organization and argue that factors which are beyond the control of CEOs are the real driving force to the performance of organizations (Pfeffer, 1981; Podolny, Khurana, and Hill-Popper, 2005). Lieberson, and O'Connor, (1972) argue that only around 6.5% to 14.5% of the variation in firm performance could be explained by CEO ability. Comparatively, they believe that industry and firm factors have a greater say in the variation of firm performance.

This research is conducted confirming the CEO effect and acknowledging the vital role of CEO general managerial skills in shaping corporate performance, because abundant studies have proved that CEOs can influence corporate governance and business outcome as have discussed above. Besides, there are abundant studies about CEOs with different qualities and managerial features and these research show that managerial heterogeneity matters a lot to the business performance of an organization (Rosen, S., 1981; Murphy, K. J. and Zabojnik, J., 2004; Gabaix, X. and Landier, A., 2008; Bolton, P., Brunnermeier, M. and Veldkamp, L., 2008; Heaton, J. B., 2002). For instance, the research by Bamber, L. S., Jiang, J. and Wang, I. Y. (2010) proves that CEOs exert unique and economically significant influence on their firms' operations and their managing styles are associated with their personal traits and backgrounds. The following section will explore and go through literature that study the features of CEOs and the corresponding effect on firm performance.

2.2 CEO personal characteristics

There has been a growing stream of studies on topics concerning CEO personal characteristics, which all are conducted in light of the upper echelons theory. The theory professes that the executives' background, prior experience, personality, expertise, values, and ways to process

information affect their personal interpretation of the strategic situations they encounter, which will influence their decision-making process and translate into relevant firm performance (Hambrick, D. C. and Mason, P. A., 1984; Hambrick, D. C., 2007). Many studies have discussed that different CEO characteristics influence decision-making. Regarding demographic characteristics, many research proves that gender plays a role in firm performance. For instance, research by Byrnes, J. P., Miller, D. C., and Schafer, W. D. (1999) shows that gender differences affect executives' risk-taking. Their research indicates that male executives are prone to take higher risks in business than female executives. Similarly, Khan, W. A. and Vieito, J. P. (2013) suggest in their paper that firms with female CEOs have a lower risk level than those with male CEOs. Chen, G., Crossland, C. and Huang, S. (2016) argue that greater female board representation contributes to smaller number and size of acquisitions. Whereas, studies by Lee, I. H. and Marvel, M. R. (2014) show that gender difference does not affect domestic or international firm performance.

Some researchers investigate the link between CEO age and management decisions. Research by Bamber, L. S., Jiang, J. and Wang, I. Y. (2010) shows that CEOs born before 1939 and with a military background are more conservative. Serfling, M. A. (2012) documents that older CEOs tend to be less active in investment than younger CEOs. Besides, companies with older CEOs often perform badly in sales growth compared with firms with younger CEOs (Serfling, M. A., 2012). Amran, et al. (2014) study Malaysian companies and find that CEO age and professional qualification are negatively associated with return on assets. A similar research on Malaysian companies by Badru, B. O., Ahmad Zaluki, N. A. and Wan Hussin, W. N. (2017) suggests that CEO age negatively impacts the amount of capital raised in the Initial Public Offering market. So the general result of prior studies concerning CEO age is that older CEOs are more risk-averse and may lead to less desirable firm performance compared with younger CEOs.

A variety of CEO individual characteristics along with their impact on firm outcome have been studied. These characteristics include CEO experience (Hamori, M., and Koyuncu, B., 2015), education (Ng, T. W., and Feldman, D. C., 2009), networks (Bhandari, et al., 2018), personality (Chatterjee, A. and Hambrick, D. C., 2007; Tomak, S., 2013; Chen, G., Crossland, C. and Luo, S., 2015), and tenure (Michael, J. G. and Hambrick, D. C., 1992; Ali, A. and Zhang, W., 2015). To be specific, Hamori, M., and Koyuncu, B. (2015) compare the impact of CEOs who have prior experience in the same industry with those who have no CEO experience and find that CEOs having related experience are negatively influencing firm performance, but CEOs with no prior experience in the related industry do not pose such a kind of impact. In terms of education, Ng, T. W., and Feldman, D. C. (2009) hold that higher education level leads to better job performance. The study by Bhandari, et al. (2018) indicates that CEOs with wider networks bring economic benefits to their firms, rather than generating interests at the expense of shareholders. The research by Chatterjee, A. and Hambrick, D. C. (2007) on CEO personality shows that CEO narcissism is related to extreme fluctuations in firm performance. Tomak's (2013) study suggests that CEO overconfidence does not significantly influence the debt level of his or her company. Michael, J. G. and Hambrick, D. C. (1992) find that long tenure is associated with better performance in low-interdependence firms rather than in highinterdependence firms. Ali, A. and Zhang, W. (2015) argue that CEOs in their early years of service tend to overstate company earnings so as to leave a good impression on the market, while overstatement is less significant in their later years of service. So scholars in prior studies have checked various aspects by which top executives influence firm performance and they exhibit particular interests in CEOs' personal characteristics.

2.3 Link between CEO general managerial skills and labor investment efficiency

Literature studying CEO general managerial skills have classified CEOs into two types generalist CEOs and specialist CEOs. Generalist CEOs are those with abundant past experience in a wide range of companies or industries and high in general managerial skills. Whereas, specialist CEOs are top executives whose work experience is focused on a limited number of industries or very few companies with skills specific to the company or industry (Custódio, Ferreira, and Matos, 2019). Research comparing these two types of CEOs show that generalist CEOs are related to a better organizational outcome **as opposed to** specialist CEOs (Kaplan, Klebanov, and Sorensen, 2012). In addition, organizations with generalist CEOs have a larger chance to win more patents **than their** specialist counterpart (Custódio, Ferreira, and Matos, 2019).

There are three reasons for generalist CEOs' better performance. One reason is that they can take advantage of the knowledge and network they have obtained from their previous work and benefit their current company, as has indicated in the research by Custódio at al. (2019). Similarly, Lai and Liu (2018) study the relationship between firm investment efficiency and overall managerial abilities of the top management teams (TMTs). The overall managerial abilities include elements such as the size of the top management team, the ability level of the top executives, and prior executive experience of the top executives. Their research shows that when TMTs are larger in size, having a higher ability level, and with wider prior executive experience, investment efficiency will be higher. Though they are not studying any individual CEO, their research result highlights the essential role of general managerial abilities of top executives rather than specific skills specialists obtain when investment efficiency is concerned. Another explanation for generalist CEOs' outperformance is that generalist CEOs are less likely to be constrained by company inertia and tend to find synergy among different functional

departments in the current company, realising the concept of knowledge economy (Hirschhorn, and Gilmore, 1992). The third reason that generalist CEOs bring better outcome could be due to the complex network that they built in their past experience. With a wider and more complex network, generalist CEOs are able to have contacts that provide multiple resources such as potential investors, outside information, employees with special expertise, etc (Hoang and Antoncic, 2003). These resources could be critical when the company is under uncertain and dynamic situations that need a reliable outsider to help gauge the risk and find appropriate problem-solving methods. Generalist CEOs could be more efficient and effective in getting in touch with the right person through their own network and making the right decisions.

Under-investment or over-investment in human capital often leads to firms' low productivity and profitability (Rees, W. and Cao, Z., 2018). However, increasing labor investment efficiency not only contributes to better operating margins, but also affects a company's growth potential (Jung, B., Lee, W. and Weber, D. P., 2014). With regard to the factors that influence labor investment efficiency, different scholars have different ideas. Habib, A. and Hasan, M. M. (2019) believe that divergence in business strategies are the major determinant of labor investment efficiency. In particular, CEOs that emphasize exploring new market and product innovation, or the so-called prospector-type business strategy, are more likely to make inefficient labor investment. On the contrary, CEOs with a defending business strategy, such as concentrating on the existing market and endeavouring to upgrade its products or services, tend to be more efficient in labor investment (Habib, A. and Hasan, M. M., 2019). The study by Rees, W. and Cao, Z. (2018) shows that, among all the corporate social responsibilities, better employee treatment is positively related to higher labor investment efficiency as well as better company performance. Jung, B., Lee, W. and Weber, D. P. (2014) study the accounting quality and its impact on labor investment. Their research proves that high-quality accounting can significantly reduce abnormal net hiring. So the determinants of labor investment efficiency are varied and complex.

Among all the determinants, there is a stream of research about the relation between manager managerial characteristics and labor investment efficiency. For instance, in the research by Mo, K., Park, K. J. and Kim, Y. (2019), they argue that managerial overconfidence will lead to less effective labor investment. The research by Kong, D., Liu, S., and Xiang, J. (2018) indicates that labor investment inefficiency will increase significantly when CEOs are offered political promotion incentives. The study by Gan, H. (2018) shows that investment inefficiency can be greatly reduced when CEOs reveal higher managerial abilities, measured by the ability of more profit produced with less resource consumption. Though there are studies about CEO characteristics, managerial skills, investment efficiency, and labor investment, no research has ever linked CEOs general managerial skills with labor investment efficiency and this paper intends to fill this gap.

CEOs are responsible for the success of making corporate hiring decisions. Hiring the proper person can be beneficial to firm performance and future growth. Empirical research is needed to derive the knowledge of the relation between general managerial skills and labor investment efficiency. On one hand, generalist CEOs with wider general managerial skills can benefit from their wide past experience and network in making the right judgement in terms of labor investment. Thus, I state the following hypothesis.

Hypothesis 1a: CEO general managerial skills are negatively associated with corporate inefficient labor investments.

On the other hand, specialist CEOs with deep knowledge and skills specific to an industry might be better at making sound decisions on labor investment. This forms the following competing hypothesis.

Hypothesis 1b: CEO general managerial skills are positively associated with corporate inefficient labor investments.

3. Methodology

3.1 Data and sample

My sample consists of U.S. public firms from the period of 1993 to 2016. The proxy for CEO general managerial ability depends on the dataset developed by Custódio, C., Ferreira, M. A. and Matos, P. (2013).¹ I obtain firm financial data from Compustat and stock price data from Center for Research in Security Prices (CRSP) to compute labor investment and firm characteristics variables. I exclude firms with missing data for independent variables in the main multivariate regression analyses. I also drop observations with negative equity or assets. The continuous variables are winsorized at 1th and 99th percentile to mitigate the effect of outliers. The final sample has 16,976 firm-year observations for 1,951 firms.

3.2 Measure general managerial skills

I proxy for CEO general managerial skills using GEN-INDEX based on Custódio, C., Ferreira, M. A. and Matos, P. (2013). They consider a set of CEOs' professional experiences, including the number of previous positions, firms, and industries of his career, and whether he used to work in a conglomerate firm or be a CEO at a different company. Using principal component analysis, Custódio, C., Ferreira, M. A. and Matos, P. (2013) construct GAI score as the sum of

¹ I sincerely appreciate Cláudia Custódio's willingness to share the latest general managerial skills dataset with me.

the product of each component and its weight. Overall, if a CEO has working experience in different firms or industries, or previous CEO profession tends to have more general skills and a high GAI score.

3.3 Measure labor investment efficiency

Following Pinnuck, M. and Lillis, A. (2007) and Jung, B., Lee, W. and Weber, D. P. (2014), I use firms' net hiring to proxy for labor investment. Net hiring is defined as the change in the number of employees. In the first step, I compute the abnormal net hiring by estimating the model developed by Pinnuck, M. and Lillis, A. (2007). Specifically, I regress net hiring on a number of explanatory variables that can determine corporate normal hiring activities, including sales growth, liquidity, financial leverage, and profitability. The predicted values from the regression are expected net hiring. Next, abnormal net hiring is calculated as actual net hiring less expected net hiring. This is how I measure investment inefficiencies. Higher abnormal net hiring indicates greater difference between the actual and expected levels of net hiring.

The expected net hiring variable is estimated by the below model developed by Pinnuck, M. and Lillis, A. (2007):

$$\begin{split} NET_HIRE_{it} &= \beta_0 + \beta_1 SALE_GROWTH_{it-1} + \beta_2 SALE_GROWTH_{it} + \beta_3 \Delta ROA_{it-1} \\ &+ \beta_4 \Delta ROA_{it} + \beta_5 ROA_{it} + \beta_6 RETURN_{it-1} + \beta_7 SIZE_{it-1} + \beta_8 QUICK_{it-1} \\ &+ \beta_9 \Delta QUICK_{it} + \beta_{10} \Delta QUICK_{it} + \beta_{11} LEV_{it-1} + \beta_{12} LOSSBIN1_{it-1} \\ &+ \beta_{13} LOSSBIN2_{it} + \beta_{14} LOSSBIN3_{it-1} + \beta_{15} LOSSBIN4_{it-1} \\ &+ \beta_{16} LOSSBIN5_{it-1} + \varepsilon_{it} \end{split}$$

(1)

where NET_HIRE is the change in number of employees; SALES_GROWTH is the change in sales; ROA is the ratio of net income to total assets at the beginning of the year; RETURN is the stock return for year t; SIZE is the log of the market capitalization at the beginning of the year; QUICK is cash and short-term investments plus receivables divided by current liabilities; LEV is long-term debt over total assets at the beginning of the year; and the LOSSBIN variables are dummy variables for each 0.005 gap of prior year ROA from 0 to -0.025. Also consistent with Pinnuck, M. and Lillis, A. (2007), I control for industry fixed effects in this model.

[Insert Table 1 about here]

Table 1 reports the descriptive statistics for the variables included in equation (1). The mean and median values of change in the number of employees (NET_HIRE) are 0.062 and 0.028, respectively, which are close to the figures reported in Pinnuck, M. and Lillis, A. (2007) and Jung, B., Lee, W. and Weber, D. P. (2014). All variable definitions in this study are shown in Table 2.

[Insert Table 2 about here]

I present the regression results of estimating model (1) in Table 3. The positive coefficients on SALES_GROWTH indicate that the growth in sales gives rise to increase in net hiring. All the LOSSBIN variables show negative coefficients, suggesting that firms with small losses tend to have lower net hiring. Next, the abnormal net hiring (AB_NET_HIRE) is calculated as the absolute values of the residual estimated from equation (1).

3.4 Control variables and model specification

In the spirit of Biddle, G. and Hilary, G. (2006) and Jung, B., Lee, W. and Weber, D. P. (2014), I control for some firm characteristics that may be associated with firms' labor investment, such as growth options, firm size, liquidity, leverage, payout ratio, cash flow and sales volatilities, tangibility, and incidence of losses. I also control for variables that might determine labor investment efficiency, including corporate net hiring volatility and labor intensity. In addition, I follow Jung, B., Lee, W. and Weber, D. P. (2014) and Ben-Nasr, H. and Alshwer, A. A. (2016) and control for accounting quality. Jung, B., Lee, W. and Weber, D. P. (2014) document that firms with high-quality financial reporting tend to invest more efficiently in labor.

3.5 Research approach

In this study I examine the impact of CEO general ability on labor investment efficiency by empirical research method. Specifically, I explore the relation between two variables, GAI and AB_NET_HIRE, using the following model.

AB_NET_HIRE_{it}

$$= \beta_{0} + \beta_{1}GAI_{it-1} + \beta_{2}SIZE_{it-1} + \beta_{3}MTB_{it-1} + \beta_{4}QUICK_{it-1} + \beta_{5}LEV_{it-1}$$

$$+ \beta_{6}DIVDUM_{it-1} + \beta_{7}STD_{CFO}_{it-1} + \beta_{8}STD_{SALE}_{it-1}$$

$$+ \beta_{9}STD_{NET}HIRE_{it-1} + \beta_{10}TANGIBLE_{it-1} + \beta_{11}LOSS_{it-1}$$

$$+ \beta_{12}LABOR_{INTENSITY}_{it-1} + \beta_{13}INSTI_{it-1}$$

$$+ \beta_{14}AB_{INVEST}OTHER_{it-1} + \beta_{15}AQ_{it-1} + \varepsilon_{it}$$

(2)

where AB_NET_HIRE is abnormal net hiring estimated from model (1); GAI is general managerial ability index; SIZE is defined as log of market value of equity at the beginning of the year; MTB is defined as market to book value of common equity at the beginning of the year; DIVDUM is a dummy variable that takes one for firms that pay dividends in the last year, 0 otherwise; STD_CFO is defined as standard deviation of cash flow from operations in the past five years; STD_SALES is defined as standard deviation of sales revenue; TANGIBLE is

defined as property, plant, and equipment divided by total assets at the beginning of the year; LOSS is a dummy variable that takes 1 if the firm reported a loss in year t-1, and 0 otherwise; INSTI is defined as the ratio of outstanding common shares held by institutions to the number of total shares at the end of year t-1; STD_NET_HIRE is defined as the standard deviation of the percentage change in employees in the past five years; LABOR_INTENSITY is defined as the ratio of employees to total assets at the beginning of the year; and AB_INVEST_OTHER is defined as the absolute magnitude of the residual from the following model: INVEST_OTHER_{it} = $b_0 + b_1SALES_GROWTH_{it-1} + e_{it}$; and all other variables are as defined above.

Following prior studies, I include industry and year fixed effects in the model to account for time-invariant industry heterogeneity and time trends. The estimation method is Ordinary Least Squares (OLS) regression. The standard errors are clustered at firm-level.

4. Results

4.1 Descriptive statistics

I report descriptive statistics for the variables used in model (2) in Table 3. The labor investment efficiency variable AB_NET_HIRE has mean and median values of 0.103 and 0.067, respectively. Both figures are comparable to those reported in Jung, B., Lee, W. and Weber, D. P. (2014), namely 0.113 and 0.070, respectively. The average value of general managerial ability index (GAI) is -0.172 which is different from that in Custódio, C., Ferreira, M. A. and Matos, P. (2019). This might be due to the different sample period and size. The descriptive statistics for other control variables are generally consistent with prior literature.

[Insert Table 3 about here]

4.2 Baseline results

Table 4 presents the estimation results of the impact of general managerial ability on abnormal net labor hiring. The dependent variable in both columns is AB_NET_HIRE, a proxy for inefficient labor investment. The coefficients on GAI, the independent variable of interest, are positive and significant at 1% level (t-statistics are 3.94 in Column (1) and 3.99 in Column (2)). The positive association between GAI and AB_NET_HIRE indicates that CEOs' general managerial ability exacerbate inefficient labor investment. This is consistent with the view that a generalist CEO that might lack of the specific knowledge of the industry tends to undertake suboptimal labor investment activities.

The Accounting quality variable included in the regression of Column (2) shows negative association with inefficient labor investment, consistent with the finding in Jung, B., Lee, W. and Weber, D. P. (2014) that high-quality financial statements leads to more efficient investments in labor. Other control variables are also in line with the empirical findings in Jung, B., Lee, W. and Weber, D. P. (2014). For example, SIZE, DIVDUM, LABOR_INTENSITY, and INSTI is negatively related to normal net labor hiring, suggesting that large, dividend, labor intense firms and those with high institutional ownership are inclined to invest more efficiently in labor. On the contrary, firms with high quick ratio, leverage, volatilities of cash flow, sales, net hiring, abnormal non-labor investments, and loss tend to have lower labor investment efficiency as those variables show positive relationship with AB_NET_HIRE.

[Insert Table 4 about here]

4.3 Overinvestment and underinvestment

I partition the sample based on the sign of AB_NET_HIRE and examine overinvestment and underinvestment in labor. Overinvestment is defined as actual net hiring greater than the expected level while underinvestment is defined as actual net hiring less than the expected level. I examine model (2) for both overinvestment and underinvestment subsamples and present the results in Table 5. The underinvestment sample has 12,147 observations, much more than 4,829 in the overinvestment sample. The dependent variable remains to be abnormal net labor hiring (AB_NET_HIRE). The coefficients on general managerial ability index are positive among both columns in Table 6 but only significant in Column (2). The results suggest that general managerial ability significantly increase underinvestment in labor but has weak impact on overinvestment. In other words, the finding that a generalist CEO tends to have low labor investment efficiency is mainly attributed to underinvestment in labor.

Following Jung, B., Lee, W. and Weber, D. P. (2014) and Khedmatia, M., Sualihua, M. A. and Yawson, A. (2019), I further decompose overinvestment into over-hiring and under-firing, and underinvestment into under-hiring and over-firing. Over-hiring indicates that actual net hiring is greater than the expected level which is positive. Under-firing indicates that actual net hiring is greater than the expected amount which is negative. Under-hiring indicates that actual net hiring that is less than the expected level which is positive. Over-firing indicates that actual net hiring that is less than the expected level which is negative. Over-firing indicates that actual net hiring that is less than the expected level which is negative. Then I examine the baseline model (2) using four subsamples and present the results in Table 6. The unbalanced observations of subsamples suggest that inefficient labor investment is primarily due to Under-hiring, secondly Over-hiring. Both over- and under-firing accounts for small portions of abnormal labor investment. The coefficient on GAI is only significant and positive for Under-hiring in Column (3), suggesting that the potential specific reason that general managerial skills lead to inefficient labor investment is lack of hiring new employees.

[Insert Table 5 about here]

[Insert Table 6 about here]

5. Robustness tests

I aim to test the robustness of findings the by including additional variables in model (2). The baseline results may be affected by omitted variable concern, a source of endogeniety issue. Given that a battery of abnormal net hiring determinants are controlled in the model, there might exist omitted potential variables that are correlated with both general managerial skills and labor investment efficiency. In that case the primary findings could be biased. To address the omitted variable problem, I further control for managerial ability and executive characteristics and present the estimation results in Table 8. The data for additional executive characteristics is drawn from the ExecuComp database.

I first control for managerial ability (MASCORE) using the measure developed in Demerjian, P., Lev, B. and McVay, S. (2012). Higher managerial ability scores indicate better managerial ability to convert corporate resources into revenues. Column (1) of Table 8 suggests that general managerial ability is still positively associated with abnormal net hiring. In line with Jung, B., Lee, W. and Weber, D. P. (2014), managerial ability variable (MASCORE) shows negative relationship, meaning that more capable CEOs are likely to invest more efficient in labor. Next, I control for executive education variables, namely PHD and MBA. PHD is a dummy variable that equals to one if the CEO has a Doctor of Philosophy degree. Similarly, MBA takes value of one for CEOs with Master of Business Administration degree. Education might affect CEO general managerial ability and also labor investment efficiency. Column (2) of Table 8 reports positive association between general managerial ability and abnormal net hiring, consistent with the main findings. Further, I control for CEO compensation (TOT_COMP) in Column (3) and CEO wealth (TOT_HOLD) in Column (4). TOT_COMP is defined as the total of salary, bonus, other annual, restricted stock grants, long-term incentive plan payout, all other and the value of option grants. Custódio, C., Ferreira, M. A. and Matos, P. (2013) document a positive association between the general ability index and CEO compensation. Following Roussanov, N. and Savor, P. (2014), I define TOT_HOLD as the log of CEO's total holdings of own company stock and options. In a similar vein, CEO wealth might be related to his/her general ability and also labor investment efficiency because CEOs are prone to make suboptimal hiring decisions to satisfy personal interests. The results in Column (3) and Column (4) continue to support the baseline findings by showing significant and positive relation between general managerial ability and abnormal net hiring.

[Insert Table 7 about here]

6. The role of corporate governance

Agency issues to some extent are able to affect decisions on human capital. Agency issue could exacerbate labor investment inefficiency. For instance, managers may over-hire or retain inappropriate employees for empire-building purpose. Managers may also be reluctant to hire new employees in order to maintain the cash flow available for spending at the discretion of managers. In this study, I attempt to investigate whether agency issues affect the relation between CEO general managerial skills and corporate labor investment efficiency.

Previous literature has research about the link between CEO general ability and agency problem as well as labor investment efficiency. For instance, Khedmatia, M., Sualihua, M. A. and Yawson, A. (2019) in their research have studied whether CEO-director ties which may potentially lead to an agency issue affects labor investment efficiency. Their findings suggest that generalist CEOs are more likely to exist in companies with complex operations, bad corporate governance and higher anti-takeover provisions (Mishra, D., 2014). Whereas, other researches document the opposite result, meaning the correlation between agency issue and labor investment efficiency is unclear. For example, Habib, A. and Hasan, M. M. (2019)

indicate in their research that agency issues have nothing to do with inefficient labor investment. Surprisingly, the main cause of inefficient labor investment for a prospector-type firm is uncertainty in business. Similarly, Gan's (2018) research suggests that the impact of CEO managerial ability on investment efficiency is not due to the influence of good or bad board monitoring.

Provided agency conflict may worsen inefficient labor investment, I would expect that the positive impact of general ability on labor inefficiency is more pronounced among poorly-governed firms. To test this prediction, I use accounting quality and institutional ownership to proxy for corporate governance. Good governance firms are more likely to keep information environment transparent and less likely to manipulate earnings. Institutional investors tend to monitor firms and reduce agency conflict. I split the sample based on the median value of accounting quality (AQ) and institutional ownership (INST) in each year and define the above-median subsample as well-governed, vice versa. Then I conduct subsample analysis by estimating model (2).

The results are presented in Table 9. In Panel A, Column (1) is the estimation results for weak governance group while Column (2) is for good governance group. General managerial ability GAI is positively correlated with abnormal net hiring in both columns but only statistically significant for weak governance subsample firms. In Panel B, I measure corporate governance using institutional ownership. Similarly, the coefficients on general managerial ability is significantly positive in Column (1) but insignificant in Column (2).

Overall, the findings confirm the conjecture that weak governance accelerates the positive impact of CEO general managerial skills on labor investment inefficiency.

[Insert Table 7 about here]

7. Analysis of future operating performance

In this section I aim to directly examine how abnormal net hiring and CEO general ability affect firms' future operating performance. Managing human resources is of great importance to firms' future performance while top managers' ability also affects corporate development. I predict that higher labor investment efficiency tends to be associated with better future performance.

However, how CEO general ability affects operating performance could be a complex issue. On one hand, a CEO's rich past experience may enable her to more efficiently adapt the changing environment and tackle difficult challenges in various areas. For example, when a CEO with working experience in financial industry joins a biological technology company, he may effectively address financing difficulties to ensure biological research and development activities. Eventually this contributes to firms' future performance. On the other hand, a generalist CEO may lack of special technological knowledge, compared with a specialist CEO. This disadvantage is likely to result in a generalist CEO making suboptimal operational decisions. In the above example, let's suppose that the biological technology company faces two different development paths as well as limited financial resources. One path has greater potential to compete with rivals and gain a higher market share than the other one but requires greater research and development input, higher risk and longer payback period. The generalist CEO with finance working experience probably may be not fully aware of the benefit of the long path and take the conservative choice which is suboptimal. Thus, I aim to empirically examine how CEO general skills affect firms' future operating performance.

I use return on assets (ROA) to measure operating performance. ROA is defined as the ratio of income before extraordinary items over total assets in the beginning of the year. The estimation method is a multivariate regression of return on assets in year t on abnormal net hiring and

general managerial skills and a bunch of control variables in year t-1. The results are presented in Table 10. In Column (1), the coefficient on abnormal net hiring is negative and statistically significant, meaning that greater labor investment inefficiency leads to lower future operating performance. In Column (2), general managerial skills variable (GAI) also shows significant and negative association with future ROA. This finding supports the view that CEO general ability is negatively related with operating performance. Column (3) suggest that the findings in from the first columns remain unchanged when both abnormal net hiring and general managerial skills are included in the model.

Overall, I find that both abnormal net hiring and general managerial skills are negatively associated with future operating performance. This indicates that inefficient labor investment leads to inferior future performance. All else equal, a generalist CEO may not make the firm achieve better performance than the counterpart, specialist CEO.

[Insert Table 8 about here]

8. Concluding remarks

This study contributes to research on executives and human resource management by examining whether CEO general managerial skills can affect labor investment efficiency. I find that generalist CEOs lead to inefficient investment in labor. This is robust to controlling for accounting quality and additional CEO traits including managerial ability scores, education, compensation, and wealth. The exacerbating impact of general managerial skills on inefficient labor investment is more pronounced among firms with weak governance.

By decomposing abnormal labor investment, I provide more specific evidence that the inefficient investment in labor is attributed to lack of hiring new employees (Under-hiring) by generalist CEOs. My findings are consistent with the view that general managerial ability curbs

CEOs from recruiting technology-oriented employees. By contrast, specialist managers with industry background may have an advantage in making optimal labor investment decisions.

This study contributes to human resource management theory by linking general managerial skills with labor investment. For practitioners, the findings shed light on corporate policies and firm performance evaluation.

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Appendix. Variable definitions

Variable	Description
NET_HIRE _t	Percentage change in the number of employees (EMP) from year t-1 to year t.
SALES GROWH _{t-1}	Percentage change in sales revernue (REVT) in year t-1. This variable reflects a change in demand for a firm's products and services and likely to affect executives' hiring decisions (Pinnuck and Lillis, 2007).
SALES GROWTH _t	Percentage change in sales (REVT) in financial year t. This variable reflects the uncertainty as to the time lag between sales growth and change in the number of employees (Pinnuck and Lillis, 2007).
⊿ROA _{t-1}	Change in return on assets in financial year t-1. This is included because of the uncertainty as to the time lag between profitability change and change in the number of employees (Jung, and Lee, W. –J., and Weber, D. P., 2014). This is included as the leve of profitability is likely to be a fundamental determinant of the level of investment in employees (Pinnuck and Lillis, 2007).
ΔROA_t	Change in return on assets in year t.
ROA_t	Return on assets (NI / lag(AT)) in year t.
<i>RETURN</i> _t	Total stock return during financial year t. This proxies for future expected growth and for the effect of any omitted fundamental variables (Pinnuck and Lillis, 2007).
SIZE _{t-1}	Natural log of market value (CSHO * PRCC_F) at the end of year t - 1.
QUICK _{t-1}	Quick ratio ((CHE + RECT) / LCT) at the end of year t - 1.
$\Delta QUICK_t$	Percentage change in the quick ratio in year t.
$\Delta QUICK_{t-1}$	Percentage change in the quick ratio in financial year t-1. This is included as a furthe control following Jung, Lee, and Weber (2014).
LEV _{t-1}	Leverage, measured as the sum of debt in current liabilities and total long-term deb (DLC+DLTT) at the end of financial year t-1, divided by financial year t-1 total assets (AT). This is included as a proxy for long-term financing requirements and for reduced funds available for investment, which may trigger delay in hiring or retrenching employees (Pinnuck and Lillis, 2007).
LossBinXit-1	There are five separate loss bins to indicate each 0.005 interval of ROA from 0 to -0.025 in period t-1. For example, LossBin1 is qual to 1 if ROA ranges from -0.005 to 0 LossBin2 is equal to 2 if ROA is 'between -0.005 and -0.010 '. LossBin3 is equal to 3 if ROA is 'between -0.010 and -0.015 ', LossBin4 is equal 4 if ROA is 'between -0.015 and -0.020 ', and LossBin5 is equal 5 if ROA is 'between
	-0.020 and-0.025'. The loss bins are included because Pinnuck and Lillis (2007) hold that firms' making losses are more likely to cut back labor force compared to those making profits.

Table 1 Descriptive statistics for net hiring and its determinant variables

This table reports the descriptive statistics for net hiring and its determinant variables in model 1. The sample period is from 1993 to 2016. It shows the number of observations, mean, standard deviation, the 25th percentile (p25), the median, and the 75th percentile (p75) of the variables. All the variable definitions are shown in Appendix.

variable	N	Mean	sd	p25	Median	p75
NET_HIRE _t	16,976	0.0620	0.220	-0.0290	0.0280	0.109
SALES GROWH _{t-1}	16,976	0.113	0.227	0.00300	0.0820	0.185
SALES GROWTH _t	16,976	0.101	0.213	-0.00100	0.0750	0.173
ΔROA_{t-1}	16,976	0.0110	0.0830	-0.0130	0.00900	0.0330
ΔROA_t	16,976	0.00900	0.0800	-0.0140	0.00800	0.0300
ROA_t	16,976	0.0560	0.0900	0.0230	0.0570	0.101
RETURN _t	16,976	0.0930	0.437	-0.180	0.0540	0.290
$SIZE_{t-1}$	16,976	7.500	1.543	6.388	7.366	8.496
QUICK _{t-1}	16,976	1.661	1.585	0.732	1.174	1.927
$\Delta QUICK_t$	16,976	-0.0220	0.723	-0.187	-0.00100	0.181
$\Delta QUICK_{t-1}$	16,976	-0.0210	0.759	-0.187	0	0.187
LEV _{t-1}	16,976	0.229	0.200	0.0530	0.210	0.341

Table 2 Estimating the predicted level of net hiring

This table reports the regression results of estimating the predicted net hiring in model (1). The dependent variable net hiring is defined as the change in the number of employees from year t-1 to year t. The t-statistics reported in parentheses are based on standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. All the variable definitions are shown in the Appendix.

	Predicted sign	(1) NET_HIRE
SALES_GROWTH t-1	+	0.076***
		(8.27)
SALES_GROWTH t	+	0.553***
		(31.89)
ΔROA_{t-1}	+	-0.083***
		(-3.60)
ΔROA_t	_	-0.389***
		(-12.80)
ROA_t	+	0.207***
		(7.14)
RETURN t	+	0.021***
		(5.09)
SIZE_R _{t-1}	+	-0.000
		(-1.46)
QUICK _{t-1}	+	0.002
		(1.37)
$\Delta QUICK_t$	+/	-0.039***
		(-12.52)
$\Delta QUICK_{t-1}$	+	0.011***
		(4.10)
LEV _{t-1}	+/	-0.081***
		(-8.37)
LOSSBIN1 t-1	_	-0.017
		(-1.49)
LOSSBIN2 1-1	_	-0.021*
		(-1.90)
LOSSBIN3 t-1	_	-0.026**
		(-2.01)
LOSSBIN4 t-1	_	-0.014
		(-0.93)
LOSSBIN5 1-1	_	-0.025*
		(-1.92)
Constant		-0.027

	(-1.49)
Industry Fixed Effects	Yes
Ν	16,976
Adj. R ²	0.347

Table 3 Descriptive statistics

This table reports the descriptive statistics for abnormal net hiring, general managerial skills index, and main control variables. The sample period is from 1993 to 2016. It shows the number of observations, mean, standard deviation, the 25th percentile (p25), the median, and the 75th percentile (p75) of the variables. All the variable definitions are shown in Appendix.

variable	Ν	Mean	S.D.	p25	Median	p75
$AB_NET_HIRE_t$	16,976	0.103	0.122	0.0310	0.0670	0.124
GAI _{t-1}	16,976	-0.172	0.879	-0.842	-0.357	0.310
$SIZE_{t-1}$	16,976	7.500	1.543	6.388	7.366	8.496
MTB_{t-1}	16,976	3.095	2.595	1.564	2.313	3.638
QUICK _{t-1}	16,976	1.661	1.585	0.732	1.174	1.927
LEV _{t-1}	16,976	0.229	0.200	0.0530	0.210	0.341
DIVDUM _{t-1}	16,976	0.542	0.498	0	1	1
STD_CFO_{t-1}	16,976	0.0540	0.0440	0.0250	0.0410	0.0680
STD_SALE_{t-1}	16,976	0.137	0.115	0.0600	0.102	0.176
$STD_NET_HIRE_{t-1}$	16,976	0.170	0.193	0.0600	0.109	0.198
TANGIBLE _{t-1}	16,976	0.328	0.260	0.125	0.249	0.470
LOSS _{t-1}	16,976	0.150	0.357	0	0	0
LABOR_INTENSITY _{t-1}	16,976	0.007	0.009	0.002	0.004	0.008
INSTI _{t-1}	16,976	0.703	0.209	0.574	0.731	0.862
AB_INVEST_OTHER _{t-1}	16,976	0.0900	0.0860	0.0420	0.0760	0.110
AQ_{t-1}	16,976	-0.0420	0.0340	-0.0530	-0.0320	-0.0200

Table 4 The impact of general managerial skills on abnormal net hiring

This table reports the regression results of estimating the impact of general managerial skills on abnormal net hiring. The dependent variable abnormal net hiring is defined as the absolute residual estimated from model (1). I use General Managerial Ability Index (GAI) to proxy for CEOs' general managerial skills. The t-statistics reported in parentheses are based on standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. All the variable definitions are shown in Appendix.

	(1)	(2)
	$AB_NET_HIRE_t$	$AB_NET_HIRE_t$
GAI _{t-1}	0.006***	0.006***
	(3.94)	(3.99)
$SIZE_{t-1}$	-0.004***	-0.003***
	(-3.42)	(-3.25)
MTB_{t-1}	-0.000	-0.000
	(-0.43)	(-0.51)
QUICK _{t-1}	0.006***	0.006***
	(5.38)	(5.51)
LEV _{t-1}	0.048***	0.047***
	(6.23)	(6.08)
DIVDUM _{t-1}	-0.009***	-0.009***
	(-3.16)	(-3.04)
STD_CFO _{t-1}	0.082**	0.058
	(2.01)	(1.37)
STD_SALE_{t-1}	0.049***	0.044***
	(3.88)	(3.36)
STD_NET_HIRE _{t-1}	0.053***	0.050***
	(5.66)	(5.25)
TANGIBLE _{t-1}	-0.001	0.000
	(-0.12)	(0.05)
LOSS _{t-1}	0.013***	0.013***
	(3.47)	(3.51)
LABOR_INTENSITY _{t-1}	-0.588***	-0.578***
	(-3.10)	(-3.05)
INSTI _{t-1}	-0.019**	-0.019**
	(-2.34)	(-2.29)
AB_INVEST_OTHER _{t-1}	0.479***	0.478***
	(17.28)	(17.26)
AQ_{t-1}		-0.106*
		(-1.96)

Constant	0.168***	0.166***
	(8.14)	(8.00)
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Ν	16,976	16,976
Adj. R ²	0.264	0.265

Table 5 The impact of general managerial skills on over- and under-investments in

labor

This table reports the regression results of estimating the impact of general managerial skills on overinvestments and underinvestments in labor. The dependent variable abnormal net hiring is defined as the absolute residual estimated from model (1). I use General Managerial Ability Index (GAI) to proxy for CEOs' general managerial skills. Overinvestment in labor indicate that the actual net hiring is greater than the expected level while underinvestment in labor indicate that the actual net hiring is less than the expected level. The t-statistics reported in parentheses are based on standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. All the variable definitions are shown in Appendix.

	(1)	(2)
	Overinvestment in labor	Underinvestment in labor
	AB_NET_HIRE _t	AB_NET_HIRE _t
GAI _{t-1}	0.005	0.006***
	(1.30)	(4.43)
SIZE _{t-1}	-0.006**	-0.004***
	(-2.33)	(-4.42)
MTB _{t-1}	0.005***	-0.005***
	(3.21)	(-7.68)
QUICK _{t-1}	0.013***	0.002**
	(5.12)	(2.31)
LEV _{t-1}	0.050**	0.065***
	(2.38)	(10.49)
DIVDUM _{t-1}	-0.020***	0.003
	(-2.80)	(1.00)
STD_CFO _{t-1}	-0.037	0.066*
	(-0.43)	(1.85)
STD_SALE _{t-1}	0.067**	0.037***
	(2.21)	(3.13)
STD_NET_HIRE _{t-1}	0.124***	0.018**
	(4.93)	(2.46)
TANGIBLE _{t-1}	-0.022	-0.013*
	(-1.08)	(-1.71)
LOSS _{t-1}	-0.020**	0.028***
	(-2.12)	(8.24)
LABOR_INTENSITY _{t-1}	-1.949***	-0.225
	(-3.82)	(-1.12)
INSTI _{t-1}	-0.004	-0.034***
	(-0.17)	(-5.13)
AB_INVEST_OTHER _{t-1}	0.616***	0.123***

	(17.81)	(4.59)
AQ_{t-1}	-0.144	-0.049
	(-1.22)	(-1.15)
Constant	0.182**	0.205***
	(2.12)	(9.74)
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Ν	4,829	12,147
Adj. R ²	0.217	0.399

Table 6 The impact of general managerial skills on over- and under-hiring (and firing)

This table reports the regression results of estimating the impact of general managerial skills on over- and under-hiring (and firing). The dependent variable abnormal net hiring is defined as the absolute residual estimated from model (1). I use General Managerial Ability Index (GAI) to proxy for CEOs' general managerial skills. Over-hiring indicates that actual net hiring is greater than the expected level which is positive. Underfiring indicates that actual net hiring is greater than the expected amount which is negative. Under-hiring indicates that actual net hiring that is less than the expected level which is positive. Overfiring indicates that actual net hiring that is less than the expected level which is negative. Overfiring indicates are based on standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. All the variable definitions are shown in Appendix.

	(1)	(2)	(3)	(4)
	Over-hiring	Underfiring	Under-hiring	Overfiring
	$AB_NET_HIRE_t$	$AB_NET_HIRE_t$	$AB_NET_HIRE_t$	AB_NET_HIRE _t
GAI _{t-1}	0.005	0.009	0.006***	-0.026
	(1.29)	(0.62)	(4.73)	(-1.05)
$SIZE_{t-1}$	-0.007**	0.000	-0.004***	-0.002
	(-2.44)	(0.06)	(-4.35)	(-0.12)
MTB_{t-1}	0.005***	0.004	-0.005***	0.002
	(2.92)	(0.80)	(-7.62)	(0.30)
QUICK _{t-1}	0.014***	0.005	0.003**	0.007
	(5.13)	(0.85)	(2.41)	(0.53)
LEV _{t-1}	0.057***	-0.196*	0.065***	0.092
	(2.67)	(-1.94)	(10.44)	(0.62)
DIVDUM _{t-1}	-0.017**	-0.051*	0.003	-0.017
	(-2.33)	(-1.81)	(1.00)	(-0.46)
STD_CFO_{t-1}	-0.082	0.173	0.068*	-0.269
	(-0.94)	(0.65)	(1.90)	(-0.65)
STD_SALE_{t-1}	0.070**	0.064	0.036***	-0.002
	(2.26)	(0.52)	(3.03)	(-0.01)
STD_NET_HIRE _{t-1}	0.125***	0.062	0.019**	0.076
	(4.86)	(0.71)	(2.45)	(1.03)
TANGIBLE _{t-1}	-0.023	0.085	-0.011	-0.060
	(-1.11)	(1.08)	(-1.50)	(-0.46)
LOSS _{t-1}	-0.019*	-0.049	0.028***	0.015
	(-1.67)	(-1.65)	(8.13)	(0.30)
LABOR_INTENSITY _{t-1}	-2.066***	1.129	-0.220	3.616
	(-3.99)	(0.25)	(-1.09)	(0.79)
INSTI _{t-1}	-0.006	-0.035	-0.033***	-0.173**
	(-0.30)	(-0.41)	(-4.88)	(-2.14)
AB_INVEST_OTHER _{t-1}	0.622***	0.268	0.126***	-0.147
	(17.74)	(1.55)	(4.67)	(-0.61)

AQ_{t-1}	-0.112	-0.699*	-0.046	0.283
	(-0.97)	(-1.83)	(-1.10)	(0.67)
Constant	0.175**	0.430***	0.200***	-0.268
	(2.02)	(3.47)	(10.03)	(-1.16)
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
N	4549	280	11982	165
Adj. R ²	0.219	0.292	0.405	0.087

Table 7 Robustness tests

This table reports the regression results of robustness tests. The dependent variable abnormal net hiring is defined as the absolute residual estimated from model (1). I use General Managerial Ability Index (GAI) to proxy for CEOs' general managerial skills. In column (1), *MASCORE* is the industry-year decile rank of managerial ability scores from Demerjian, P., Lev, B. and McVay, S. (2012). In column (2), PHD is an indicator variable that takes one if the CEO has a PhD degree. MBA is an indicator variable that takes one if the CEO has a PhD degree. MBA is an indicator variable that takes one if the CEO has a MBA degree. In column (3), *TOT_COMP* indicates a CEO's total compensation including salary, bonus, other annual, restricted stock grants, long-term incentive plan payout, all other and the value of option grants. In column (4), *TOT_HOLD* indicates a CEO's total holdings, defined as the natural log of CEO's total holdings of own company stock and options. The t- statistics reported in parentheses are based on standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. All the variable definitions are shown in Appendix.

	(1)	(2)	(3)	(4)
	$AB_NET_HIRE_t$	$AB_NET_HIRE_t$	$AB_NET_HIRE_t$	$AB_NET_HIRE_t$
GAI _{t-1}	0.006***	0.004*	0.004**	0.004**
	(3.04)	(1.72)	(2.40)	(2.15)
$SIZE_{t-1}$	-0.005***	-0.002	-0.005***	-0.002
	(-3.54)	(-1.07)	(-3.62)	(-1.33)
MTB_{t-1}	0.001	-0.000	-0.001	0.001
	(0.74)	(-0.07)	(-1.07)	(0.85)
QUICK _{t-1}	0.007***	0.007***	0.005***	0.008***
	(4.87)	(3.73)	(3.57)	(4.88)
LEV_{t-1}	0.052***	0.054***	0.056***	0.042***
	(5.60)	(4.41)	(5.64)	(4.01)
DIVDUM _{t-1}	-0.011***	-0.010**	-0.008**	-0.011***
	(-3.17)	(-2.20)	(-2.14)	(-2.69)
STD_CFO_{t-1}	0.049	0.070	0.057	0.026
	(1.02)	(1.11)	(1.11)	(0.49)
STD_SALE_{t-1}	0.035**	0.062***	0.037**	0.051***
	(2.27)	(2.96)	(2.37)	(2.89)
$STD_NET_HIRE_{t-1}$	0.045***	0.032***	0.023**	0.043***
	(4.24)	(2.59)	(2.14)	(4.00)
TANGIBLE _{t-1}	-0.002	0.014	0.007	0.004
	(-0.21)	(1.12)	(0.75)	(0.35)
LOSS _{t-1}	0.011**	0.023***	0.020***	0.011**
	(2.52)	(3.84)	(4.45)	(2.29)
$LABOR_INTENSITY_{t-1}$	-0.457*	-0.494	-0.485*	-0.805***
	(-1.94)	(-1.40)	(-1.95)	(-3.10)
INSTI _{t-1}	-0.014	-0.007	0.010	-0.020*
	(-1.45)	(-0.50)	(1.04)	(-1.81)
AB_INVEST_OTHER _{t-1}	0.469***	0.522***	0.441***	0.526***

	(15.03)	(11.81)	(12.76)	(14.71)
AQ_{t-1}	-0.112*	-0.098	-0.092	-0.063
	(-1.94)	(-1.30)	(-1.51)	(-1.00)
MASCORE t-1	-0.034***			
	(-2.62)			
PHD t-1		-0.004		
		(-0.41)		
MBA t-1		-0.000		
		(-0.10)		
TOT_COMP t-1			0.000	
			(0.70)	
TOT_HOLD t-1				-0.002*
				(-1.86)
Constant	0.166***	0.091***	0.146***	0.178***
	(7.59)	(3.69)	(5.60)	(8.28)
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Ν	11,867	6,862	10,011	9,282
Adj. R ²	0.231	0.268	0.247	0.256

Table 8 The role of corporate governance

This table presents the results of the impact of general managerial skills on abnormal net hiring conditional on corporate governance. In Panel A, corporate governance is proxied by accounting quality (AQ). I split the sample based on the median level of accounting quality in each year, and define weak governance firms as those with below-median accounting quality. In Panel B, I use institutional ownership (*INST*) to proxy for corporate governance. Institutional ownership is defined as the percentage of shares owned by institutional investors. The institutional ownership data is obtained from the Thomson-Reuters Institutional Holdings (13F) database. Variable definitions are given in Table 2. The t-statistics reported in parentheses are based on standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Use accounting quality to proxy for corporate governance							
	(1)	(2)					
	Weak governance	Strong governance					
	AQ _{t-1} ≤Median	AQ _{t-1} >Median					
GAI _{t-1}	0.009***	0.003					
	(4.01)	(1.50)					
Year Fixed Effects	Yes	Yes					
Industry Fixed Effects	Yes	Yes					
Ν	8,700	8,276					
Adj. R ²	0.253	0.277					
Panel B. Use institutional ownership to proxy for corporate governance							
	(1)	(2)					
	Weak governance	Strong governance					
	INST _{t-1} ≤Median	INST _{t-1} >Median					
GAI _{t-1}	0.006***	0.002					
	(3.07)	(0.95)					
Year Fixed Effects	Yes	Yes					
Industry Fixed Effects	Yes	Yes					
Ν	8025	8015					
Adj. R ²	0.264	0.223					

Table 9 The impact of abnormal net hiring and general managerial skills on future

operating performance

This table reports the regression results of estimating the impact of abnormal net hiring and general managerial skills on future operating performance. The dependent variable return on assets (ROA) is defined as the ratio of income before extraordinary items over total assets in the beginning of the year. The t-statistics reported in parentheses are based on standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. All the variable definitions are shown in Appendix.

	(1)	(2)	(3)	
	ROA	ROA	ROA	
$AB_NET_HIRE_{t^{-1}}$	-0.043***		-0.042***	
	(-4.71)		(-4.67)	
GAI _{t-1}		-0.006***	-0.005***	
		(-4.06)	(-3.60)	
$SIZE_{t-1}$	0.009***	0.011***	0.010***	
	(7.28)	(7.78)	(7.65)	
LEV_{t-1}	-0.073***	-0.073***	-0.071***	
	(-10.72)	(-11.67)	(-10.44)	
DIVDUM _{t-1}	0.010***	0.012***	0.010***	
	(3.95)	(4.65)	(4.03)	
SALES GROWH _{t-1}	-0.002	0.001	-0.003	
	(-0.70)	(0.23)	(-0.78)	
MTB_{t-1}	0.011***	0.010***	0.011***	
	(12.68)	(10.50)	(12.54)	
Constant	-0.059***	-0.077***	-0.067***	
	(-4.19)	(-5.10)	(-4.64)	
Year Fixed Effects	Yes	Yes	Yes	
Industry Fixed Effects	Yes	Yes	Yes	
Ν	14846	16981	14846	
Adj. R ²	0.205	0.163	0.207	