

Do overconfident CEOs face a disadvantage in the managerial
job market?

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ABSTRACT

This study finds that overconfidence increases the chances of job market success for CEOs. By accounting for various factors such as firm and CEO characteristics, we show that overconfident CEOs not only have a greater probability of becoming the outside successors in a new company following their turnover, but they also spend less time searching for such opportunities than their non-overconfident peers. The effects of overconfidence on job market success are mainly observed in cases of voluntary turnover, where overconfident CEOs tend to secure new positions in larger companies in the same industry. Additionally, overconfident CEOs are more likely to improve the performance of these new firms after assuming the leadership role. Overall, this study provides empirical evidence on how overconfident CEOs are valued by the managerial job market.

Declaration

I certify that this work contains no material that has been accepted for the award of any other degree or diploma in my name in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and, where applicable, any partner institution responsible for the joint award of this degree.

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1. Introduction

Job-hopping is a common experience for people at all levels of their career, including CEOs who are responsible for important corporate decisions. Bennedsen et al. (2020) highlight that not only do CEOs have a valuable impact on firms' investment and profitability, but their impact is more profound than that of other senior managers. However, CEO turnover and job-hopping have recently surged, particularly in hiring external CEOs (Huson et al., 2001, Murphy and Zabochnik, 2004, Murphy and Zabochnik, 2007, Parrino, 1997). Therefore, there is a challenge and an opportunity for both job-hopping CEOs and firms searching for suitable successors. The literature suggests that the likelihood of having an outside successor CEO increases when outsiders are represented on the board (Borokhovich et al., 1996), when there is a relatively heavier demand for "managerial ability" that can be transferred rather than "firm-specific human capital" that is valuable for a specific company (Murphy and Zabochnik, 2007), or when an industry many similar firms, which lowers the cost of employing an outsider CEO (Parrino, 1997). These studies examine succession decisions mainly from the company's perspective, they do not taken into account the personal traits of potential CEO candidates that could have a significant impact on succession outcomes. In this study, we propose that a CEO's personal characteristics, especially overconfidence, should be considered in succession decisions.

The literature documents the influence of CEO overconfidence on various corporate decisions. Overconfident CEOs tend to overestimate their ability and underestimate the risks and costs of some decisions. It is known that CEO overconfidence is negatively related to the level of CSR (Corporate social responsibility) (McCarthy et al., 2017), positively related to tax avoidance (Chyz et al., 2019) and stock price crash risk (Al Mamun et al., 2020). Overconfident CEOs overinvest when there are sufficient internal funds (Malmendier and Tate, 2005), overpay for target companies, undertake value-destroying mergers (Malmendier and Tate,

2008) and are less responsive to corrective feedback to improve management forecast accuracy (Chen et al., 2015). Though many researchers show the dark side of overconfident leadership, there are also opposite opinions. Overconfident CEOs lead successful innovation by underestimating the probability of failure, thus invest more in innovation and obtain more patents (Galasso and Simcoe, 2011, Hirshleifer et al., 2012). They also induce stronger commitment from employees and suppliers (Phua et al., 2018). Hu et al. (2020) show that overconfident CEOs outperformed non-overconfident CEOs during the early phase of the COVID-19 pandemic.

Though there is a rich literature on how overconfident CEOs affect corporate performance, few published studies have considered job market opportunities for overconfident CEOs. Campbell et al. (2011) posit that highly overconfident CEOs are more likely to experience forced turnover, but what happens after such turnover is less well understood. It has been shown that overconfident CEOs have a greater likelihood of succeeding in an insider succession situation (Anand and Anjan, 2008). However, it remains unclear whether this advantage also extends to outsider successions. With the rising trend of CEO turnover and outsider succession, combined with the growing literature on CEO overconfidence, an important question arises: How does overconfidence affect CEOs' probability of being the outsider successors in another company?

Although the likelihood of becoming an outside successor CEO is an important aspect to consider, it is even more vital to investigate whether overconfident CEOs secure a new position more quickly and whether they can obtain a more favourable position than their previous one. First, the employment gap, which represents the time between the new appointment as an outsider CEO and the CEO's prior position, has a negative effect on the executive-firm match (Ertimur et al., 2018). If overconfident CEOs take longer to secure new CEO positions, despite having a higher likelihood of being selected as outside successor CEO,

they are likely to receive lower compensation and have a higher chance of experiencing turnover at the new firm (Ertimur et al., 2018). Therefore, assessing the employment gap is essential in evaluating the overall quality of succession.

Another crucial aspect to consider in assessing a new CEO position is the compensation package and the company size. Research has shown that firm size is one of the most significant determinants of CEO compensation (Brookman and Thistle, 2013); larger firms generally offer higher compensation packages. Thus, working for a larger firm tends to result in higher compensation for CEOs. Additionally, our analysis investigates whether overconfident CEOs have a greater inclination to seek positions in diverse industries. We aim to ascertain whether overconfident CEOs possess transferrable management skills, leading to increased opportunities and a higher likelihood of securing a job placement across different sectors.

Finally, it is crucial to assess whether overconfident CEOs outperform non-overconfident peers in their new role. Post-succession performance is a critical aspect in evaluating the effectiveness of outsider succession. It reflects how well the successor CEO is performing in the new role and whether the successor is achieving the goals set by the board of directors and stakeholders. It also helps to determine whether the board of directors made the right decision in selecting the outsider CEO, and whether the outsider successor is creating value for the firm.

Using the Execucomp database, which covers over 3,380 CEOs in the S&P 1500 indexed firms (i.e., 21,757 firm-year observations) from 1992 to 2021, we examine the effect of CEO overconfidence on job market outcomes. To measure CEO overconfidence, we use the *Holder 67* measure refined by Hirshleifer et al. (2012). This measure identifies overconfidence by analysing the timing of option exercises and classifies CEOs who fail to exercise their 67% in-the-money options at least twice after the vesting period as overconfident. Our findings indicate that overconfident CEOs are 4.3% more likely to be selected as outside successors

than non-overconfident peers. We also investigate whether the influence of overconfidence on job market outcomes of CEOs is amplified or diminished when CEO turnover is involuntary. To explore this, we use two renowned databases established by (Jenter and Kanaan, 2015, Peters and Wagner, 2014)¹, and find that the previously observed positive impact of overconfidence on the possibility of succession diminishes with forced turnover.

Our analysis reveals that overconfident CEOs have a higher likelihood of securing a new CEO position in external companies after their turnover; the effect is predominantly pronounced in voluntary turnovers. Such CEOs tend to secure new employment at a quicker rate than their non-overconfident peers, especially in instances of voluntary turnover. We also observe that overconfident CEOs are more likely to be employed by larger companies in the same industry; they display a lower inclination to switch industry following voluntary turnover. Further analysis suggests that overconfident CEOs are more likely to enhance company performance after assuming a position as an outside successor.

We conduct several robustness tests to validate our findings. To mitigate selection bias, we use the propensity score matching method with the aim of reducing the effects of selection bias and balance the distribution of observable characteristics between treatment and control groups, which are overconfident and non-overconfident CEOs, respectively. Our findings persist with a propensity score matched sample. Our findings could also suffer from endogeneity issues. For example, there may be omitted variables that influence CEOs' job market outcomes that are correlated with CEO overconfidence, such as board preferences. To mitigate this concern, we introduce an exogenous shock into our analysis, the adoption of the Inevitable Disclosure Doctrine (IDD). This doctrine is designed to safeguard trade secrets and impose restrictions on executive mobility across companies. By examining the impact of the

¹ These databases are recognized for their comprehensive data on CEO turnover, allowing us to analyse the relationship between overconfidence and job market outcomes specifically in cases of involuntary CEO turnover.

IDD on our results, we aim to provide further supporting evidence and verification of our findings. If overconfident CEOs have better opportunities outside their current firm than others, they would negotiate higher compensation to compensate for their losses from the restrictions from the adoption of IDD (Chen et al., 2021b, Gibbons and Murphy, 1992). Consistent with our prediction, we find that overconfident CEOs experience a rise in their compensation compared with their peers after the adoption of IDD.

This paper contributes to the literature in several ways. First, existing published studies on overconfident CEOs focus on their impact on firm policies and decisions, such as investment decisions (Malmendier and Tate, 2005, Malmendier and Tate, 2008), capital structure decisions (Huang et al., 2016), and innovation choices (Galasso and Simcoe, 2011, Hirshleifer et al., 2012). A surging amount of literature presents overconfidence as a subset of managerial skills (Kaplan et al., 2012, Kaplan et al., 2021). However, the implications of overconfidence on CEOs' career outcomes have received limited attention. We aim to bridge this gap by empirically examining the impact of overconfidence on CEOs' career outcomes.

Secondly, the managerial job market literature primarily focuses on factors related to the company's perspective that may influence CEO turnover or succession decisions. This includes examining the composition and demographics of the board of directors, with studies suggesting that a greater proportion of outside directors increases the likelihood of choosing an external successor (Borokhovich et al., 1996, Zajac and Westphal, 1996). The desired management skills sought by the company also play a role (Hamori and Koyuncu, 2015). Despite these insights, there is limited evidence regarding the specific characteristics of candidates more likely to be chosen for CEO positions. Our findings contribute to this literature strand by indicating that overconfident CEOs are more likely to be selected as outside successors, particularly in cases involving voluntary turnover.

Finally, our study presents compelling evidence of the divergent impacts of voluntary and forced turnovers on CEOs' job market outcomes. We find that overconfident CEOs have greater opportunities following voluntary turnover than non-overconfident CEOs, both in terms of becoming outside successors and their job search duration. However, these effects are diminished in forced turnovers, which is consistent with the intuition that a forced turnover significantly damages a CEO's reputation, subsequently impacting job market prospects.

The remainder of the study is organized as follows. Section 2 develops the research hypotheses in the context of the literature review. Section 3 describes the data, the key measurements and the techniques used to estimate the impact of overconfidence on CEOs' job market outcomes. Section 4 presents the empirical results and robustness tests. Section 5 concludes the study.

2. Literature reviews and empirical hypotheses

2.1. Overconfident CEOs

Prior studies document many different aspects of overconfident CEOs. They have a distinct preference in corporate financing choices compared with their non-overconfident peers. Overconfident CEOs overestimate future returns from their investments and their financing decisions rely heavily on cash flow (Malmendier and Tate, 2005). The preference to invest using internal cash flow by overconfident CEOs indicates that they believe the market undervalues their firm, leading to investment distortions. Chen et al. (2020) find that overconfident CEOs tend to hold more cash. Regarding debt financing policy, overconfident CEOs prefer short-term debt, particularly with maturities of less than 12 months (Huang et al., 2016). This preference for short-term debt among overconfident CEOs stems from their belief that they possess private information about their company. They anticipate that, if positive news emerges, they can refinance the short-term debt at more favourable terms. Overconfident CEOs are more prone to making inefficient investment decisions than non-overconfident peers. Their M&A choices are affected by the internal cash flow (Malmendier and Tate, 2008). Malmendier and Tate (2008) find that overconfident CEOs tend to limit corporate mergers during periods of weak internal cash flow. However, they tend to overinvest when cash flow is abundant; those overinvested targets tend to be value-destroying.

In diversification decisions, overconfident CEOs have a higher likelihood of encountering value loss and ultimately resorting to refocusing activities (Andreou et al., 2019). The authors find that overconfident CEOs demonstrate a greater inclination to pursue diversification and engage in diversified investments more frequently than non-overconfident CEOs. These investments tend to be excessive and yield unsuccessful outcomes. As a result, overconfident CEOs subsequently attempt to rectify past failures by implementing refocusing strategies.

Why do overconfident CEOs make value-destroying decisions? One reason explored by Billett and Qian (2008) is that managers started to develop their overconfidence when their first deal had a non-negative effect and decide to pursue more deals thereafter. As a consequence of overconfidence, the following deals are likely to generate negative results. Similarly, overconfident managers tend to increase speculative activities when they experience gains from such activities. However, they do not correspondingly reduce their speculative activity when they incur losses. This behaviour can be attributed to their tendency to attribute the gains to their ability and attribute losses to mere bad luck (Adam et al., 2015). However, overconfident CEOs may take corrective actions after investment failure; corrective actions are unlikely to happen when it comes to forecast errors. Chen et al. (2015) show that overconfident CEOs are less responsive to corrective feedback in voluntary corporate earnings forecasts.

Overconfident CEOs also face higher litigation risk than their non-overconfident peers. Banerjee et al. (2018) indicate that overconfident CEOs tend to give excessively optimistic public statements and fail to disclose negative information, believing the negative information will soon be rectified. These misalignments, if shown to be falsely optimistic, may be sued by shareholders for loss in investments based on such disclosure, which constitutes additional litigation risk for the company. There is a positive correlation between CEO overconfidence and tax avoidance, which subsequently heightens the potential for litigation (Chyz et al., 2019).

However, the presence of sound corporate governance mechanisms acts as a restraint on overconfidence. Evidence from implementation of Sarbanes-Oxley Act (hereafter, SOX) in Banerjee et al. (2015) shows that by adopting SOX, overconfident CEOs reduce their overinvestment, increase dividend payouts and the firm's overall performance. SOX serves to mitigate poor governance and unethical behaviour in the form of increasing the independence of boards and audit committees. Thus, the improvement in corporate governance helps to restrain overconfident CEOs and adds value to shareholders. A good corporate governance

system tends to fully observe a candidate's characteristics and is able to tell the difference between luck and skill in the candidate's investment results (Banerjee et al., 2020). When choosing CEOs internally, overconfident candidates may have had risky projects that succeeded or failed in the past. However, boards that are entrenched and preoccupied may lack the capacity or willingness to differentiate between these factors relying, instead, on publicly available signals. Consequently, when selecting internal candidates, overconfident CEOs are more likely to be chosen by entrenched, busy boards.

Even with all the costly mistakes it brings, overconfidence can still be favoured because "it boosts ambition, morale, resolve, persistence or the credibility of bluffing" (Johnson and Fowler, 2011). Overconfident CEOs invest more in R&D and achieve higher quality innovation success (Galasso and Simcoe, 2011, Hirshleifer et al., 2012). This can be explained by their enthusiasm for risky, challenging and vision-orienting projects that result from their overestimation of self-ability and the overall circumstances. Further, overconfident CEOs exercise effective leadership. Overconfidence, resoluteness, or execution skills, in contrast to communication and interpersonal skills, are recognised as general abilities that have a strong positive impact on a firm's performance (Kaplan et al., 2012). During expansionary periods of the business cycle, overconfident CEOs outperform their non-overconfident peers (Reyes et al., 2020). At the early phase of the COVID-19 pandemic, researchers found that overconfident CEOs generate higher stock market returns than non-overconfident CEOs, which implies that overconfidence boosts market confidence during a crisis (Hu et al., 2020).

With a strong belief in their firm's prospects, overconfident CEOs have been shown to be better leaders with greater stakeholder commitments (Phua et al., 2018). They develop important bilateral relationships with suppliers and are associated with greater suppliers' R&D intensity, even with lower cash flow. According to Phua et al. (2018), overconfident CEOs exhibit a heightened ability to retain talent, as evidenced by lower employee turnover rate and

greater employee ownership of company stock. This amalgamation of traits suggests that overconfident CEOs may be more likely to be favoured by boards of directors, particularly in companies that place a premium on fostering robust stakeholder relationships for effective leadership.

Despite these advantages and disadvantages, theoretically, overconfident executives are more likely to be chosen as CEOs (Guenzel and Malmendier, 2020). This can be attributed to two main reasons: first, when boards of director prioritize selecting CEOs with the potential for higher payoff, overconfident CEOs are more inclined to pursue riskier projects that may yield greater rewards. Secondly, overconfident CEOs are favoured in high-growth industries, and boards of director intentionally recruit individuals who exhibit overconfidence. Our objective is to empirically investigate whether overconfident CEOs are actually more likely to be chosen than their non-overconfident counterparts.

2.2. Managerial job market

The literature reveals a significant increase in CEO turnover and outsider succession (Huson et al., 2001, Murphy and Zabochnik, 2004, Parrino, 1997). Most literature on the CEO turnover focuses on reasons and factors from firms' perspective. For instance, poor share performance results in higher probability of top management change (Warner et al., 1988). Other factors in firms' perspective includes the share fraction held by non-CEO officers and directors (Huson et al., 2001), a competition or creation-oriented culture (Fiordelisi and Ricci, 2014), contractual lawsuits (Aharony et al., 2015), and the availability of strong outside candidates (Parrino, 1997). Turning to the perspective of CEOs, it has been well-documented that age plays a substantial role in CEO turnover (Murphy, 1999). His study shows that CEOs who are over 63 years old have a 30% higher likelihood of experiencing turnover than younger CEOs. Other than age, overconfidence (Campbell et al., 2011) and connectedness (Liu, 2014) increase the likelihood of CEO turnover.

In the context of heightened challenges related to turnover and succession competition, an important question is whether overconfident CEOs have an advantage or disadvantage over non-overconfident peers in the job market. Except for CEO overconfidence, prior literature identifies several other factors that can influence succession competition. Boards of directors tend to choose new CEOs who are demographically similar to themselves (Zajac and Westphal, 1996) and aim to obtain stronger influence over the new CEOs and the company's operations. If more outside directors sit on the board, an outside CEO is more likely to be selected (Borokhovich et al., 1996). An outside CEO is also more likely to be selected when the firm's performance is poor and growth is slow (Datta and Guthrie, 1994). Outside CEOs tend to have more opportunities, with the trend of demanding general management skills as opposed to firm-specific knowledge (Murphy and Zabojsnik, 2007). Hermalin (2005) argues that, as the board increases its monitoring, the number of outsiders who can become the CEO successor increases. However, outsiders face enormous challenges. According to Chan (1996), when external candidates participate in a promotion competition, internal candidates often experience feelings of discouragement. By imposing a handicap on external candidates, internal candidates are motivated to work harder; external candidates can secure promotion only if they demonstrate significantly superior abilities than internal candidates. Outside candidates are more likely to be handicapped when there are more inside candidates or when the inside candidates are more comparable, thus having a knowledge advantage over outsiders (Agrawal et al., 2006).

The transition period for CEOs to secure new positions at public firms following their departure from a prior role can be extensive, spanning several months or even years. The employment gap has important implications for a CEO's career path. The presence of employment gaps not only results in missed opportunities for substantial compensation, but also creates challenges for CEOs in securing a new CEO position, particularly as the length of the gap increases (Ertimur et al., 2018). According to Ertimur et al. (2018), executives tend to

receive higher compensation when they transition to a new position without a gap. Further, the longer the gap, the worse the match between the CEO and the firm, and the higher the likelihood of later forced turnover. Finally, the gap length can serve as a proxy for the difficulties that a CEO has encountered in finding a suitable CEO position. Fee et al. (2018) show that the positions CEOs can get after dismissal are inferior to their previous one. Their succession is less likely to be related to the old firm's performance and board composition but more likely to be related to the attachment to the old employer. When CEOs are more attached to their old employer, they may possess firm-specific managerial skills that are applicable only to the old employer or else dismissal represents poor management skills.

Additionally, the managerial labour market can function as a disciplinary mechanism for CEOs, whereby superior performance is incentivized with increased job offers and underperformance may result in diminished opportunities (Fama, 1980). For the product market, CEO market tightness is positively affected by the number of competing firms (Jung and Subramanian, 2021). A tighter CEO labour market represents a higher performance-related dismissal and outside opportunities (Zhao, 2018). The managerial job market is intricately linked to the career concerns of CEOs, influencing their decision-making and shaping their expectations regarding compensation. Gibbons and Murphy (1992) state that the total optimal incentive contract comprises two components, the "explicit incentive", which refers to the compensation package, and the "implicit incentive" which refers to career concerns. When the "implicit incentive" is weak, the "explicit incentive" remains strong. Career concerns stemming from regulatory changes may profoundly influence CEO behaviour. Such changes can directly impact outside opportunities or hinder decision-making efficiency, thereby prompting a shift in their actions and strategies. The adoption of the IDD, which aims to protect trade secrets held by the former employer by restricting an employee from working for a new company, directly constrains a CEO's employment opportunities since CEOs have natural access to a

company's trade secrets (Ali et al., 2019, Chen et al., 2021a). Therefore, CEOs are more likely to reduce their risk-taking activities (Chen et al., 2021b) in response to the adoption of IDD because they are less rewarded (i.e., less likely to be job-hopping for better opportunities).

Finally, we address the performance of external successors. Existing published research demonstrates that the appointment of an external CEO can potentially enhance a firm's financial performance (Huson et al., 2004). However, successor CEOs with job-specific skills tend to have poor post-succession firm performance (Hamori and Koyuncu, 2015). This may be because the successor was chosen by the firm for more complex assignments, in other words, the firm may be in a difficult situation. When an individual from the board of directors, typically categorized as an insider, takes on the role of CEO and this succession occurs unexpectedly, the market response tends to be negative (Hoitash and Mkrtchyan, 2018).

Building upon this literature, we pose an empirical question into whether overconfident CEOs possess an advantage in successor campaigns compared with non-overconfident peers. We also seek to address the enigma of the employment gap duration. The advantages of overconfident CEOs, stemming from the positive facets of their traits, may manifest in higher succession probability and shorter employment gap. Conversely, the drawbacks of overconfidence could lead to irrational decision-making, potentially reducing their chance of succeeding in the CEO job market thus prolonging the time required to secure another CEO position. In the study's subsequent sections, we aim to empirically test these conjectures.

3. Data

3.1. Data and sample

The primary data source is the Execucomp database covering S&P 1500 companies from 1992 to 2021. We gather accounting information from Compustat and monthly stock returns from CRSP. We exclude firms in the financial services industries (SIC 6000 to 6799) because of their unique characteristics and regulatory frameworks that could potentially affect the validity of our empirical tests.

To identify overconfident CEOs, we use a sample of 8,531 CEOs from the S&P 1500 companies. We exclude CEOs who served in a single company for one year or less because we need a minimum of two years' data to identify overconfidence. We also differentiate CEOs who concurrently held positions in multiple companies for over two years from other turnover events.² After applying these exclusion criteria, the primary sample consists of 6,140 CEOs.

A turnover event is defined as when a company replaces its current CEO with a new CEO. Our dataset contains 3,380 CEO turnovers during the sample period. Based on the turnover sample, a succession event is defined as when a CEO assumes the role of CEO in another S&P 1500 company after their departure from their previous position. The period between the turnover and the succession event is the employment gap. This gap serves as our metric to measure the time CEOs dedicate to searching for a new CEO position.

3.2. Overconfidence measures

Our measure of overconfidence is derived from the personal investment decisions of CEOs originally developed by Malmendier and Tate (Malmendier and Tate, 2005, Malmendier and Tate, 2008). The underlying intuition is that CEOs, who typically have significant holdings

² If a CEO is identified as working in different companies at the same time for over 2 years, it is more likely that the CEO was simultaneously appointed as CEO in two companies rather than experiencing a turnover. It is important to note that there may be cases where a CEO worked in company A and then began working in both company A and company B simultaneously for a period of 2 years before returning to company A. However, such arrangements are typically short-term and should not be considered as turnovers in our analysis.

of stock and option grants in their company, have also invested their human capital in the organization. This exposes them to substantial idiosyncratic risk. Thus, a rational CEO would try to minimize such risk exposure to the company. However, for an overconfident CEO who perceives the company's stock as undervalued, there is a tendency to delay the exercise of well-in-the-money options. Drawing on this concept, the commonly used indicator of an overconfident CEO is Holder 67. Holder 67 utilizes 67% as a benchmark of the percentage in the money of CEOs' options. If a CEO has options that are over 67% in the money during the vesting period but choose not to exercise any of the options, the CEO would be identified as overconfident.

Based on the dataset provided by ExecuComp, Campbell et al. (2011) revise Malmendier and Tate's overconfidence measure. They calculate the moneyness of CEOs' option holdings on an annual basis and identify CEOs whose held options were 100% in-the-money for a minimum of two years during the sample period, as overconfident. Hirshleifer et al. (2012) combine these measurements and identify overconfident CEOs as those who hold options that are at least 67% in the money after the vesting period for two consecutive years.

Following Campbell et al. (2011), Hirshleifer et al. (2012), we first compute the realizable value per exercisable option by dividing the total value of unexercised exercisable options by the number of those options. Next, we calculate the average exercise price of the options by subtracting the realizable value per exercisable option from the stock price at the fiscal year-end. The average moneyness of the options is then determined by dividing the realizable value per exercisable option by the average exercise price. CEOs are defined as overconfident managers when the average moneyness of their options is 67% or higher for at least two consecutive periods.

3.3. Descriptive statistics

Table 1 presents summary statistics for the key variables used in this study. Panel A reports the characteristics of CEO successions. The indicator variable, *Succession*, is set to 1 when a CEO undergoes turnover in the current firm and subsequently assumes the role of CEO in another firm. The succession indicator has a mean value of 5.3%, indicating the proportion of CEOs who became successors at another S&P 1500 company. In other words, of the 3,380 CEOs who experienced turnover, only 5.3% became CEOs of other S&P 1500 company after leaving their previous position. The employment gap quantifies the duration, in years, between a CEO's departure from one firm and their subsequent appointment as CEO at another one. On average, CEOs, who transit to become CEO of another S&P 1500 company, spend over three years in the process.

In Panel B, we provide descriptive statistics for CEO-level characteristics. Following Campbell et al. (2011), Hirshleifer et al. (2012), we use the *Holder67* indicator to capture the managerial trait of overconfidence. If a CEO holds over 67% in-the-money exercisable executive options for at least two years, the CEO is classified as an overconfident CEO. Around 41.8% of CEOs exhibit overconfidence in their managerial characteristics. The tenure variable represents the duration of their CEO position, with an average of 6 years. Age indicates the average age of CEOs, 59 years, which is consistent with the statistics reported in Campbell et al. (2011). The average annual total compensation for CEOs, referred to as total pay, exceeds US\$4.8 million.

Panel C reports the statistics for firm-level variables. Size is the logarithm of total assets. The variable Stock return denotes the buy-and-hold monthly returns of the previous firm over a 12-month period before the executive assumes the role of CEO of another company. Profitability is determined by dividing the operating income before depreciation by total assets.

Leverage is computed as the ratio of long-term debt plus debt in current liabilities to total assets.

On average, firms in our sample exhibit a profitability ratio of 0.12 and a leverage ratio of 0.25.

[Insert Table 1 about here]

4. Empirical results

4.1. Univariate tests

Table 2 reports results from the univariate tests on overconfident and non-overconfident and CEOs in our sample. The probability of overconfident CEOs assuming the CEO position in a new company after turnover is 6.1%; non-overconfident CEOs have a lower probability of 4.7%, a significant difference at the 10% level. This preliminary result indicates that overconfident CEOs have a better chance to be outside successors of new companies. On average, overconfident CEOs who have undergone turnover have a tenure of 7.8 years, whereas non-overconfident CEOs have an average tenure of 5 years. The average age of overconfident CEOs is approximately 1 year older than that of non-overconfident CEOs. These findings suggest that overconfident CEOs tend to have more experience (i.e., as reflected by longer tenure) and are older when experiencing turnover, which agrees with Chen et al. (2020).

The results in Table 2 indicate that overconfident CEOs are more likely to become outsider new CEOs for another company. However, it is worth noting that this finding could be influenced by other factors, such as CEO age, tenure, and firm-specific characteristics. In our sample, overconfident CEOs tend to possess greater experience (with longer tenure and older age), work for larger firms, and demonstrate better stock and accounting performance. Consequently, the association between overconfidence and the likelihood of becoming an outsider new CEO may be confounded by these variables. To address this issue, we conducted multivariate analyses, the results of which are shown in Table 3, to examine the relationship between CEO overconfidence and the probability of assuming an outsider successor in another company while controlling for CEO and firm characteristics.

[Insert Table 2 about here]

4.2. Baseline results

To ascertain whether overconfident CEOs have a higher possibility of becoming an external successor CEO of another S&P 1500 company subsequent to turnover compared with non-overconfident CEOs, we undertook a multivariate analysis. This analysis involved controlling for additional CEO and firm attributes in our model. The testing was conducted using this regression model:

$$\mathbf{Succession}_{i,t} = \beta_0 + \beta_1 \mathbf{Overconfidence}_{i,t-1} + \beta' \mathbf{Controls}_{i,t-1} + \text{Year fixed effects} \\ + \text{Industry fixed effects} + \varepsilon$$

The dependent variable is Succession indicator, which equals one when a CEO transitions into a CEO position in another S&P 1500 company following turnover and zero otherwise. The key independent variable is the overconfidence indicator. To account for the effects from potential confounding factors, we include a set of control variables at both the CEO and firm level. These control variables are CEO tenure, age, total pay, company size, stock return, profitability, and leverage. Additionally, we incorporate year and industry fixed effects (i.e., the 2-digit SIC code) to address the possibility of unobservable year and industry characteristics. We also cluster standard errors at the firm level.

Table 3, Columns [1], [2] and [3] report the regression results using the logit model and Columns [4]-[6] report the regression results using the OLS model. The results in Columns [1] and [4] are without industry fixed effects and Columns [2] and [5] are without year fixed effects. Our results reveal a statistically significant, positive association between CEO overconfidence and the probability of securing a CEO position in another S&P 1500 firm following turnover. Notably, in the logit model results in Column [3], the marginal effect of the overconfidence indicator is 4.3%, which is significant at the 1% level. This outcome remains pronounced even after accounting for other pertinent CEO and firm attributes, in addition to year and industry fixed effects. The findings suggest that the probability of succession for overconfident CEOs

is significantly higher by 4.3% than for non-overconfident CEOs following turnover. This indicates that overconfident CEOs have a competitive edge in the managerial job market after experiencing turnover, potentially stemming from their propensity to pursue and execute risky projects (Hirshleifer et al., 2012) and their demonstrated execution skills (Kaplan et al., 2012).

Other CEO characteristics, especially age and tenure, can significantly influence succession probability; they have a noteworthy impact. As a CEO's age and tenure increase, the likelihood of securing another CEO job decreases. However, higher levels of total compensation for CEOs are associated with an increased probability of finding another job as a CEO. Company characteristics also play a role in CEO succession. CEOs who have previously worked for larger companies have a better chance of finding another CEO position. This suggests that boards of director may perceive CEOs from larger firms as being more adept at handling comprehensive corporate issues. Better stock performance also contributes to a CEO's chances of finding a new job after a turnover. Strong stock performance reflects positively on a CEO's track record, making the ex-CEO more attractive to potential employers.

[Insert Table 3 about here]

4.3. CEO overconfidence and the employment gap

To further assess whether overconfident CEOs spend less time securing a new CEO position after experiencing turnover, we analyse the employment gap encountered by these CEOs. We define the employment gap as the time between a CEO's final year in the previous firm and the initial year in the new firm. To compute the employment gap for each CEO succession, we use data sourced from the Execucomp database. According to Ertimur et al. (2018), the employment gap can be used to measure CEO-firm match quality. Specifically, the longer the gap, the lower the quality of the match. This finding highlights the significance of

the employment gap as a crucial factor when assessing the effectiveness of CEO succession. Specifically, we estimate the following model in our analysis:

$$\begin{aligned} \mathbf{Employment\ gap}_{i,t} &= \beta_0 + \beta_1 \mathbf{Overconfidence}_{i,t-1} + \beta' \mathbf{Controls}_{i,t-1} + \mathbf{Year\ fixed\ effects} \\ &+ \mathbf{Industry\ fixed\ effects} + \varepsilon \end{aligned}$$

The dependent variable in our regression model is the employment gap. We further classify the gap into five groups: the first is a duration of up to one year (including one year); the second group covers periods more than one year but less than three years (including exactly three years); the third group is over three years (but not exactly three years) and extends up to five years (including exactly five years); the fourth group is durations exceeding five years (but not exactly five years); and the fifth group comprises CEOs do not transition to another S&P 1500 firm after their turnover.

Table 4 shows the results of the ordered logit regression and OLS regression. The estimated coefficient is significantly negative in our ordered logit model, which indicates that overconfident CEOs experience a shorter employment gap in finding another job after turnover than non-overconfident CEOs. The result is the same when we use the OLS model. Other than overconfidence, we include several CEO and firm characteristics in the regression as control variables such as total pay, age, tenure, company size, stock return, profitability and leverage, which could also affect the chance of a CEO being appointed as an outside successor to another company. The analysis reveals a negative correlation between total pay and the length of the employment gap, indicating that CEOs from larger companies with higher compensation tend to secure a new position more quickly. This association may be attributed to their experience in dealing with more complex organization matters. Additionally, CEO tenure has a positive correlation with the length of the gap, indicating that CEOs who have stronger attachment to their prior company may take longer to transition to a new job. These findings align with prior

research by Fee et al. (2018). To account for unobservable time-invariant factors at the year and industry level, we include year fixed effects and industry fixed effects in the regression model.

[Insert Table 4 about here]

4.4. Overconfidence and company size, compensation, and industry change

The results in Tables 3 and 4 suggest that overconfident CEOs are welcome in the managerial job market. However, it remains unclear whether they secure better job opportunities. It is possible that non-overconfident CEOs are more willing to wait for their desired job opportunity, which increases the employment gap. To account for this possibility, we assess whether overconfident CEOs secure improved positions compared with their previous roles. We accomplish this by analysing changes in firm size, CEO compensation, and industry sector associated with the new position.

Overconfident CEOs often overestimate their ability and may seek positions in larger firms. For example, overconfident CEOs may believe they can add significant value to a company, justifying even higher compensation. This is particularly true when CEOs job-hop, because they may demand a higher and more satisfying compensation package based on their perceived ability to improve the firm's performance. Additionally, overconfident CEOs may broaden their search when seeking a new CEO position, thinking that their abilities are applicable to other industries. A board may be more willing to consider overconfident CEOs because they tend to be more resolute in their decision-making and execution skills, which can have a positive impact on a firm's performance, compared with communication and interpersonal skills (Kaplan et al., 2012). However, because of their strong stakeholder relationships (Phua et al., 2018), overconfident CEOs may be less inclined to switch industries because they can leverage these connections to their advantage.

We use certain indicators and variables to assess improvements in CEO position. First, we use a positive change in Company size, represented as a continuous variable and Company size increase proxies for a better CEO position. The change in company size (Δ Company size) is calculated by dividing the total assets of the new company by the total assets of the old company. We examine changes in compensation using the Δ Compensation variable and the Compensation increase indicator. These variables help us evaluate shifts in CEO remuneration. We also incorporate a Different industry indicator based on the 2-digit SIC code to determine whether a CEO secures a position in an industry different from their previous company. If a CEO gets a job with a different 2-digit SIC code than their previous company, the Different industry indicator equals one, otherwise it is 0. To analyse these factors, we use the following regression models:

Δ Company size_{*i,t*}

$$= \beta_0 + \beta_1 \text{Overconfidence}_{i,t-1} + \beta' \text{Controls}_{i,t-1} + \text{Year fixed effects} \\ + \text{Industry fixed effects} + \varepsilon$$

Company size increase indicator_{*i,t*}

$$= \beta_0 + \beta_1 \text{Overconfidence}_{i,t-1} + \beta' \text{Controls}_{i,t-1} + \text{Year fixed effects} \\ + \text{Industry fixed effects} + \varepsilon$$

Δ Compensation_{*i,t*}

$$= \beta_0 + \beta_1 \text{Overconfidence}_{i,t-1} + \beta' \text{Controls}_{i,t-1} + \text{Year fixed effects} \\ + \text{Industry fixed effects} + \varepsilon$$

Compensation increase indicator_{*i,t*}

$$= \beta_0 + \beta_1 \text{Overconfidence}_{i,t-1} + \beta' \text{Controls}_{i,t-1} + \text{Year fixed effects} \\ + \text{Industry fixed effects} + \varepsilon$$

Different industry indicator_{*i,t*}

$$= \beta_0 + \beta_1 \text{Overconfidence}_{i,t-1} + \beta' \text{Controls}_{i,t-1} + \text{Year fixed effects} \\ + \text{Industry fixed effects} + \varepsilon$$

Table 5 presents our results regarding difference in company size, compensation change, and industry change between overconfident and non-overconfident CEOs after experiencing a turnover. To control for potential confounding factors, we include year and industry fixed effects in our OLS and logit models. Our results indicate that there are no significant differences in changes in company size, compensation, or industry between overconfident and non-overconfident CEOs. This indicates that, although overconfident CEOs might have an advantage in quickly securing external opportunities, it does not necessarily guarantee improved prospects in the new position acquired.

However, it is worth noting that there is a negative relationship between stock return for the previous company and the change or increase in compensation. This indicates that CEOs who have demonstrated superior stock performance in their prior position have stronger bargaining power when negotiating their compensation with the new company. CEO tenure is negatively associated with the indicator of transitioning to a different industry. This suggests that, as a CEO's tenure increases, the acquisition of firm-specific skills may restrict the ability to explore job opportunities in different industries.

[Insert Table 5 about here]

4.5. Voluntary turnover and forced turnover

4.5.1. Are overconfident CEOs more likely to find another S&P 1500 CEO job after a voluntary or forced turnover?

A voluntary turnover and a forced turnover and have very different reasons and implications. In this section, we incorporate the two types of turnover into our analysis. The forced CEO turnover information is provided by Jenter and Kanaan (2015) and Peters and Wagner (2014). Their method follows Borokhovich et al. (1996), where a forced turnover is identified using press reports, age criteria, and other refinements. If a CEO is reported in the media as fired, forced out, retiring or resigning because of policy differences or public pressure,

the turnover is classified as forced. If a CEO has a turnover before the age of 60 without being reported in the media to be because of poor health, death, or job-hopping to another position, the turnover is also classified as forced. A third selection criterion for forced turnover is when the media report that a CEO is retiring, but the CEO is under the age of 60 and the company fails to announce the retirement date at least six months before the CEO's departure.

CEOs who undergo a forced turnover can still manage to secure another CEO position, but such an experience can have negative implications for their reputation, potentially making it more challenging for them to find a new position (Cannella et al., 1995, Gilson, 1989, Gilson, 1990) or they end up with a less desirable job (Fee and Hadlock, 2004). We anticipate that succession following a forced turnover is likely to be disrupted. To investigate this, we divide our original dataset of 3,380 CEO turnovers into two subsamples: voluntary turnover and forced turnover. In both subsamples, we use identical dependent variable (Succession), independent variables, and control variables. To explore the differences between succession following voluntary and forced turnover, we use both logit and OLS models. The results are presented in Table 6.

In our sample, voluntary turnovers are more prevalent, with 2,815 CEOs experiencing this type of turnover; forced turnovers are less common, involving 565 CEOs. In Table 6. Columns [1] and [2], we present the results of the analysis conducted on the subsample of voluntary turnovers using logit and OLS regression, respectively. The results indicate that overconfident CEOs who undergo voluntary turnover are 0.047 more likely to succeed in positions outside their previous company than their non-overconfident peers. The estimated coefficient of overconfidence is positive and statistically significant. In Columns [3] and [4], we present the corresponding results from the subsample of forced turnovers. There is no statistically significant relationship between overconfidence and the likelihood of moving to a

new position. This suggests that forced turnover carries a stigmatizing effect on the CEO, irrespective of their level of overconfidence.

Our analysis also reveals that the size of the previous company impacts both voluntary and forced turnovers. CEOs of larger companies may have a smoother transition when moving to smaller companies. This suggests that the size of the previous company may facilitate the transition for CEOs seeking a new position.

[Insert Table 6 about here]

4.5.2. Are overconfident CEOs able to spend less time finding a job after voluntary or forced turnover?

Building upon our previous analysis of the employment gap, we investigate whether overconfidence has a distinct impact on the duration of the gap for voluntary and forced turnovers. We use an ordered logit model to estimate separately the impact of overconfidence on the employment gap for forced and voluntary turnovers. In Table 7, we present the results of our analysis with the dependent variable being the employment gap. Our primary explanatory variable remains overconfidence and we include the same set of control variables: total pay, age, tenure, company size, stock return, profitability, and leverage, to account for CEO and firm characteristics.

The results show that overconfidence has a significant negative impact on the duration of the employment gap for CEOs who experience voluntary turnover. Specifically, overconfident CEOs are more likely to find a new job more quickly after voluntary turnover than their non-overconfident peers. In contrast, we find no significant relationship between overconfidence and the duration of the employment gap for CEOs who experience forced turnover. Irrespective of whether the turnover is voluntary or forced, our results suggest that older CEOs, those with longer tenure, and CEOs from smaller companies tend to experience a

longer duration before finding another CEO position. This implies that these factors may present a disadvantage for turnover CEOs in the job market.

[Insert Table 7 about here]

4.5.3. *Do overconfident CEOs fare better in their new position after a voluntary turnover?*

Given the higher likelihood and speed at which overconfident CEOs secure new CEO positions in other companies following voluntary turnover, we explore whether they tend to acquire more favourable positions than their non-overconfident peers. To do so, we focus solely on voluntary turnovers excluding CEOs who experienced forced turnover from our analysis³. We examine the same set of dependent variables as before: Δ Company size, Company size increase indicator, Δ Compensation, Compensation increase indicator, and Different industry indicator. Table 8 presents the results.

In Table 8, Column [2], we show empirical evidence that overconfident CEOs are 0.638 more likely to transition to larger companies following voluntary turnover. Specifically, the coefficient of Overconfidence is positive and statistically significant at the 1% level. However, we do not observe any significant differences between overconfident and non-overconfident CEOs regarding changes in compensation or the Compensation increase indicator in Columns [3] and [4]. This indicates that overconfident CEOs do not obtain higher income than their non-overconfident peers after experiencing voluntary turnover. In Column [5], the Different industry indicator has a negative, statistically significant relationship at the 10% level, with a marginal effect of -0.256. This implies that overconfident CEOs are 0.256 less likely to switch to a different industry after experiencing voluntary turnover. Our results suggest that overconfident CEOs are more inclined to secure positions in larger companies in the same industry than their non-overconfident peers. However, we do not find any significant

³ The sample size for forced turnovers is considerably small, with only 18 observations. Because of this limited size, conducting a regression analysis may not be suitable or reliable.

differences in their compensation. In Column [2], we observe a significant positive association between profitability and the dependent variable, the Company size increase indicator. This suggests that CEOs with stronger prior accounting performance are more likely to secure positions in larger companies, indicating the importance of prior profitability in CEO transitions.

[Insert Table 8 about here]

4.6. Performance after succession

In this subsection, we examine the post-succession performance of companies following CEO turnover. Prior research indicates that outside successors tend to have a positive impact on firm performance (Huson et al., 2004). This can be attributed to the fact that companies typically choose outside successors when they believe they possess superior skills and abilities than internal candidates (Chan, 1996). In certain cases, outside successors are sought to rescue struggling companies from challenging situations. Their fresh perspective and novel ideas contribute to overcoming obstacles and driving improved performance.

Given that overconfident CEOs are more likely to generate innovative ideas and undertake valuable innovation projects (Galasso and Simcoe, 2011, Hirshleifer et al., 2012), it is expected that they may enhance performance in their new leadership role. Our previous tests indicate that overconfident CEOs demonstrate a higher likelihood of succeeding in CEO position campaigns. Consequently, we hypothesize that overconfident CEOs will outperform non-overconfident CEOs in their new CEO role.

To evaluate our hypothesis, we use industry-adjusted return on assets (ROA) as a measure of performance. Specifically, we calculate the industry-average ROA by taking the mean ROA of companies in the same two-digit SIC industry and the same year. We then compute the adjusted company's ROA from this industry average (Huson et al., 2004). To further analyse performance, we introduce an indicator variable that equals one if the new CEO

achieves a three-year average industry-adjusted ROA higher than that of the prior CEO, and 0 otherwise. This allows us to assess whether the new CEO's performance passes their predecessors'. The regression model used to test our hypothesis is:

$$\begin{aligned}
 & \mathbf{Performance}_{i,t} \\
 & = \beta_0 + \beta_1 \mathbf{Overconfidence}_{i,t-1} + \beta' \mathbf{Controls}_{i,t-1} + \mathbf{Year\ fixed\ effects} \\
 & + \mathbf{Industry\ fixed\ effects} + \varepsilon
 \end{aligned}$$

The regression results, presented in Table 9, provide evidence on the relationship between CEO overconfidence and firm performance. The table displays the results of the logit regression models, progressively incorporating fixed effects such as Year fixed effects, Industry fixed effects, and both Year and Industry fixed effects. In Column [4], incorporating both Year and Industry fixed effects, the estimated marginal effect is 0.353, statistically significant at the 1% level. The marginal effects capture the performance disparity between firms that appoint overconfident CEOs and firms that appoint non-overconfident CEOs. This significant, positive marginal effect provides empirical evidence that companies hiring an overconfident CEO have a 0.353 higher likelihood of achieving superior performance than their previous CEO, in contrast to companies hiring non-overconfident CEOs. These results agree with our initial hypothesis, supporting the notion that CEO overconfidence can contribute value to a firm when an overconfident CEO is appointed as an external successor.

Our analysis also reveals a positive association between total pay and the performance indicator. This implies that companies appropriately compensate CEOs for their contribution to improved performance. The positive correlation between compensation and performance highlights the alignment between compensation practices and the enhanced firm performance observed in these companies.

It is worth noting that a similar result is observed when using the industry median ROA as a means to adjust the firm's annual ROA. This further bolsters our findings, emphasizing the positive impact of CEO overconfidence on firm performance.

[Insert Table 9 about here]

4.7. Robustness tests

4.7.1. Propensity score matching

One possible concern arises from the fact that CEOs who display overconfidence and those who do not may exhibit significant differences in their personal traits and company characteristics. For instance, as shown in Table 2, overconfident CEOs in our sample tend to have longer tenure, be older, and receive higher pay than their non-overconfident peers. Moreover, overconfident CEOs tend to work for larger companies with better stock returns and accounting performance but use less debt financing. This difference could potentially increase concern about omitted variable bias. Further, confounding variables that influence a board's decision to hire an overconfident CEO are also likely to influence our main results. We have previously controlled for these variables in our regression analyses. To further alleviate these concerns, in this section we implement the propensity score matching method.

Specifically, we match each overconfident CEO with a control non-overconfident CEO (i.e., closest propensity score and with replacement) in the turnover year. The matching is based on propensity scores from logistic regressions where we use all the control variables in our previous regression analysis as covariates. After conducting t-tests on the matched sample, we observe no significant differences in characteristics between the two groups of CEO (Table 10, Panel A). We then run the regression analysis using the matched sample. The results are reported in Panels B and C. The findings remain consistent with our prior results.

[Insert Table 10 about here]

4.7.2. The impact from the Inevitable Disclosure Doctrine (IDD)

In this subsection, we further address the endogeneity concern by using a difference-in-differences (DID) approach and leveraging the variation in the implementation of the Inevitable Disclosure Doctrine (IDD) in US state courts. The IDD restricts outside employment opportunities for CEOs, which would significantly affect their compensation contracts. Gibbons and Murphy (1992) identify two key components of optimal incentive contracts, implicit and explicit incentives. Implicit incentives could be measured by CEOs' career outcomes. For instance, past corporate performance reflects a CEO's abilities and subsequently impacts their future career prospects. Consequently, when CEOs exhibit a lower likelihood of switching jobs to another company, indicating a substantial decrease in implicit incentives, they are likely to demand higher compensation to compensate for such a loss. In this case, the IDD adoption could increase CEO compensation. Research indicates that the adoption of the IDD amplifies the sensitivity of compensation to stock performance for CEOs who possess greater job mobility and engage in higher risk (Chen et al., 2021b). Given that overconfident CEOs are more likely to secure new positions following voluntary turnover, they would be particularly influenced by the IDD adoption, potentially resulting in a greater increase in their overall remuneration than for other CEOs.

Table 11 shows the results from a panel data analysis that includes 32,186 firm-year observations with 5,199 CEOs in 2,666 companies. The dependent variable of interest is the logarithm of total pay, representing the CEOs' overall compensation for each observed CEO. In addition to using the same control variables as in our main analyses, we incorporate three variables of interest, all represented as dummy variables. The variable "Adopt IDD" indicates whether a state has ever recognized IDD. This indicator equals one if the state has ever recognized IDD and zero otherwise. The variable "Post IDD" identifies the specific time period when IDD was adopted in a given state. It equals one during all periods when the state

recognizes IDD, and zero otherwise. The variable "Overconfidence" has the same definition as before. Additionally, a key interaction term is used: "Adopt IDD × Post IDD × Overconfidence" which demonstrates the influence of overconfidence on a CEO's total pay when the state adopts IDD and during the post adoption period. The triple-interaction regression is run in the following form:

$$\begin{aligned}
 \mathbf{Total\ Pay}_{i,t} = & \beta_0 + \beta_1 \mathbf{Adopt\ IDD}_{i,t-1} \\
 & + \beta_2 \mathbf{Overconfidence}_{i,t-1} + \beta_3 \mathbf{Post\ IDD}_{i,t-1} \\
 & + \beta_4 \mathbf{Adopt\ IDD} \times \mathbf{Overconfidence}_{i,t-1} \\
 & + \beta_5 \mathbf{Adopt\ IDD} \times \mathbf{Post\ IDD} \times \mathbf{Overconfidence}_{i,t-1} + \beta' \mathbf{Controls}_{i,t-1} \\
 & + \mathbf{Year\ fixed\ effects} + \mathbf{Industry\ fixed\ effects} + \varepsilon
 \end{aligned}$$

Following to our previous argument, we anticipate that the compensation of overconfident CEOs would experience a more pronounced increase following the adoption of IDD. Our results in Table 11 are consistent with this prediction since we find a significant, positive coefficient (i.e., β_5) for the triple interaction term "Adopt IDD × Post IDD × Overconfidence". These results suggest that overconfident CEOs enjoy more favourable external opportunities and consequently demand higher compensation than their peers following the adoption of IDD.

[Insert Table 11 about here]

5. Conclusion

In contrast to the literature, which primarily emphasizes the impact of CEO overconfidence on corporate operating activities, our study contributes novel evidence regarding job market outcomes. Using a sample of S&P 1500 companies from 1992 to 2021, we find that overconfident CEOs are more likely to secure a CEO position in another S&P 1500 company after leaving their previous role. They tend to experience shorter periods of unemployment and demonstrate an increased ability to secure subsequent job opportunities.

Through our additional analysis, we find that, in the event of a forced turnover, which can potentially damage a CEO's reputation, there is no difference in job market outcomes between overconfident and non-overconfident CEOs. However, when it comes to voluntary turnover, our results align with our primary findings. We also document a pattern where overconfident CEOs are more likely to secure a position in a larger company operating in the same industry as their previous employment. Firms that hire overconfident CEOs have a higher likelihood of experiencing improved accounting performance. In sum, our study shows how CEO characteristics, especially overconfidence, impact job market outcomes.

Though our study offers valuable insights into the influence of overconfident CEOs on their future career, it is important to acknowledge certain limitations that should be considered. One limitation is the narrow scope of our sample, which solely comprises CEOs from S&P 1500 companies. Consequently, the generalizability of our findings to other industries and organizations beyond this sample may be limited. Another limitation stems from the relatively small sample size of forced turnovers, which may introduce bias to our results. Future research could incorporate a broader range of public firms or even large private firms to provide additional insights and foster a more comprehensive understanding of the impact of CEO characteristics on CEO careers in a wider context. By addressing these limitations, we can

enhance our comprehension of the role of CEO characteristics in the job market and their broader implications for organization performance.

Appendix

Variable definitions

Variable	Description	Source
Dependent Variables		
Succession	An indicator variable equal to one if the CEO finds a job after turnover, and zero otherwise.	ExecuComp
Employment gap	The gap between the year a CEO has turnover and the year she/he becomes CEO in a new company.	ExecuComp
△ Company size	The new company's size at the year of succession divided by the prior company's size at the year of turnover.	ExecuComp
Company size increase indicator	An indicator variable equal to one if the new company's size is larger than the previous company, and zero otherwise.	ExecuComp
△ Compensation	The average three years' compensation after succession divide by the average three year's compensation before turnover.	ExecuComp
Compensation increase indicator	An indicator variable equal to one if the CEO obtains higher average three years' compensation than the previous company, and zero otherwise.	ExecuComp
Different industry indicator	Indicator variable equal to one if the CEO finds a job that has a different 2-digit SIC from the previous company, and zero otherwise.	ExecuComp
Total pay	The logarithm of variable TDC1, which includes all compensation.	ExecuComp
ROA	Operating income before depreciation divided by total assets.	ExecuComp
Performance	An indicator variable equal to one if the new CEO achieves a three-year average industry-adjusted ROA higher than that of the prior CEO, and 0 otherwise,	ExecuComp
Independent Variables		
Overconfidence	An indicator variable that equals one if the CEO holds vested options that are more than 67% in the money for consecutive two years and zero otherwise.	ExecuComp and Compustat
Tenure	CEO tenure in years	ExecuComp
Age	CEO age in years	ExecuComp
Total pay	The variable TDC1 which includes all compensation.	ExecuComp
Size	The natural logarithm of a firm's total assets	ExecuComp
Stock return	Annualized monthly stock return	CRSP
Profitability	Operating income before depreciation divided by total assets	ExecuComp
Leverage	Long-term debt plus debt in current liabilities divided by total assets	ExecuComp
Adopt IDD	An indicator variable equal to one if a state recognises the IDD, and zero otherwise.	Flammer and
Post IDD	An indicator variable equal to one after the state has adopted the IDD, and zero otherwise.	Kacperczyk (2019), Klasa et al. (2018)

Table 1

Sample descriptive statistics for CEO and firm characteristics

Panel A: CEO succession characteristics

Variable	N	p25	Median	p75	Mean	St.Dev
Succession	3380	0	0	0	.053	.223
Employment gap	178	1	3	5	3.685	3.641

Panel B: CEO characteristics

Variable	N	p25	Median	p75	Mean	St.Dev
Overconfidence	3380	0	0	1	.418	.493
Tenure	3380	3	5	8	6.216	3.884
Age	3368	54	60	64	58.884	7.577
Total pay (thousands)	3358	1138.983	2634.676	5833.113	4826.501	8141.790

Panel C: Firm characteristics

Variable	N	p25	Median	p75	Mean	St.Dev
Size	3330	6.330	7.450	8.595	7.491	1.679
Stock return	3278	-.225	.026	.268	.059	.507
Profitability	3323	.082	.124	.178	.118	.174
Leverage	3262	.080	.232	.356	.248	.227

Note: Our sample consists of 3,380 CEOs who have experienced at least one turnover. Table 1 provides summary statistics for the key variables used in this study. In Panel A, we present the characteristics of CEO successions. The Succession indicator variable equals one when a CEO undergoes turnover in their current firm and subsequently becomes the CEO of another company. The Employment gap variable quantifies the duration, in years, between a CEO's departure from one company and subsequent appointment as CEO at another one. In Panel B, we provide descriptive statistics for CEO-level characteristics. The tenure variable represents the duration of their CEO position. Age is the CEO's age at the year of their turnover. Total pay is the annual total compensation of the CEO. Panel C reports the statistics for the firm-level variables. Size is the logarithm of total assets. The variable Stock return denotes the buy-and-hold monthly returns of the previous firm over a 12-month period before the executive assumes the role of CEO in another company. Profitability is determined by dividing the operating income before depreciation by total assets. Leverage is computed as the ratio of long-term debt plus debt in current liabilities to total assets. All continuous variables are winsorized at the 1st and 99th percentiles to mitigate the impact of outliers.

Table 2

Univariate tests comparing overconfident CEOs and non-overconfident CEOs.

	Overconfident CEOs	Mean	Non- overconfident CEOs	Mean	Test of Diff.
Succession	1414	0.061	1966	0.047	0.014*
Tenure	1414	7.864	1966	5.03	2.834***
Age	1414	59.541	1954	58.409	1.132***
Total pay	1408	5921.950	1950	4035.531	1886.419***
Firm size	1408	7.649	1922	7.375	0.274***
Stock return	1404	0.106	1874	0.023	0.084***
Profitability	1405	0.138	1918	0.103	0.035***
Leverage	1394	0.235	1868	0.258	-0.023***

Note: This table presents the results of univariate tests comparing non-overconfident CEOs and overconfident CEOs in our sample. The sample consists of 3,380 CEOs, with 1,966 classified as non-overconfident and 1,414 as overconfident. The Succession indicator variable equals one when a CEO undergoes turnover in their current firm and subsequently becomes the CEO of another company. The tenure variable represents the duration in their CEO position. Age is the CEO's age at the year of their turnover. Total pay is the annual total compensation for CEOs. Firm size is the logarithm of total assets. The variable Stock return denotes the buy-and-hold monthly returns of the previous firm over a 12-month period before the executive assumes the role of CEO in another company. Profitability is determined by dividing the operating income before depreciation by total assets. Leverage is computed as the ratio of long-term debt plus debt in current liabilities to total assets. The significance of the differences observed is shown in the last column of the table, with ***, **, and * indicating significance at the 1%, 5%, and 10% levels, respectively.

Table 3

Are overconfident CEOs more likely to find another S&P 1500 CEO job after their turnover?

Dependent Fixed effects Model Column	Succession					
	Year	Industry	Year & Industry	Year	Industry	Year & Industry
	Logit	Logit	Logit	OLS	OLS	OLS
	[1]	[2]	[3]	[4]	[5]	[6]
Overconfidence	0.874*** (0.000)	2.535*** (0.000)	2.608*** (0.000)	0.040*** (0.000)	0.040*** (0.000)	0.041*** (0.000)
Total pay	0.211** (0.036)	1.189* (0.065)	1.279** (0.019)	0.007** (0.049)	0.006 (0.121)	0.007* (0.071)
Age	-4.309*** (0.000)	0.007*** (0.000)	0.006*** (0.000)	-0.209*** (0.000)	-0.225*** (0.000)	-0.225*** (0.000)
Tenure	-1.472*** (0.000)	0.218*** (0.000)	0.207*** (0.000)	-0.067*** (0.000)	-0.067*** (0.000)	-0.067*** (0.000)
Size	0.214*** (0.002)	1.280*** (0.001)	1.287*** (0.002)	0.009*** (0.002)	0.010*** (0.001)	0.010*** (0.002)
Stock return	0.299* (0.087)	1.373* (0.056)	1.281 (0.202)	0.020** (0.044)	0.024** (0.012)	0.020** (0.048)
Profitability	0.539 (0.508)	2.021 (0.411)	1.626 (0.581)	0.019 (0.623)	0.019 (0.620)	0.015 (0.695)
Leverage	-0.096 (0.853)	0.939 (0.909)	1.246 (0.707)	-0.008 (0.721)	-0.014 (0.548)	-0.005 (0.830)
Observations	3188	3008	2978	3218	3218	3218
(Pseudo) R-squared	0.167	0.179	0.206	0.065	0.073	0.081
Year FE	YES	NO	YES	YES	NO	YES
Industry FE	NO	YES	YES	NO	YES	YES

Note: This table presents results of the regression model that examines the relationship between CEO overconfidence and the likelihood of CEOs finding another CEO position in S&P 1500 companies following their turnover. The sample includes all CEOs in the ExecuComp database who have experienced turnover. The dependent variable, Succession indicator, equals one when CEO transitions into a CEO position in another S&P 1500 company after turnover, and zero otherwise. To control for potential confounding factors, we include a set of control variables at both the CEO and firm level. These control variables are CEO tenure, age, total pay, company size, stock return, profitability, and leverage. We also incorporate year and industry fixed effects (based on the 2-digit SIC codes) to account for unobservable year and industry characteristics. The standard errors are clustered at the firm level. Columns [1], [2], and [3] report the regression results using the logit model, and Columns [4], [5], and [6] report the results using the OLS model. Columns [1] and [4] do not include industry fixed effects, and Columns [2] and [5] do not include the year fixed effect. In the logit model of Column [3], the marginal effect of the overconfidence indicator is 4.3%. The symbols ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 4**Overconfidence and the employment gap**

Dependent	Employment gap	
	Year & Industry Ordered logit	Year & Industry OLS
Fixed effects		
Model		
Overconfidence	-0.962*** (0.000)	-0.120*** (0.000)
Total pay	-0.231** (0.016)	-0.015 (0.118)
Age	5.126*** (0.000)	0.607*** (0.000)
Tenure	1.542*** (0.000)	0.187*** (0.000)
Size	-0.269*** (0.000)	-0.032*** (0.001)
Stock return	-0.282 (0.134)	-0.076** (0.014)
Profitability	-0.673 (0.445)	-0.079 (0.508)
Leverage	-0.162 (0.776)	0.035 (0.614)
<i>N</i>	3,218	3,218
Pseudo <i>R</i> ² / <i>R</i> -squared	0.164	0.073
Year FE	YES	YES
Industry FE	YES	YES

Note: This table presents the results of an ordered logit model examining the relationship between CEO overconfidence and the duration of the employment gap, which represents the time taken by a CEO to secure new CEO position after experiencing turnover. The employment gap is defined as the duration between a CEO's final year at their previous firm and their initial year at their new firm. The sample includes all CEOs that have experienced turnover in our database. The dependent variable in our regression model is the employment gap, which is further classified into five groups: first, durations of less than one year, which also covers exactly one year; second, periods longer than one year up to three years, including exactly three years; third, beyond three years (but doesn't include exactly three years) up to five years, including exactly five years; fourth, durations exceeding five years but not exactly five years; and finally, it addresses cases where CEOs do not transition to another S&P 1500 firm after their turnover. The results are from the ordered logit regression and OLS regression model. All models in the table include fixed effects, which are shown in the table footer. The symbols ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 5

Overconfidence and its effects on company size, compensation, and industry change

Dependent	Δ Company size	Company size increase indicator	Δ Compensation	Compensation increase indicator	Different industry indicator
	Year & Industry	Year & Industry	Year & Industry	Year & Industry	Year & Industry
Fixed effects	Year & Industry	Year & Industry	Year & Industry	Year & Industry	Year & Industry
Model	OLS	Logit	OLS	Logit	Logit
Column	[1]	[2]	[3]	[4]	[5]
Overconfidence	-1.304 (0.357)	1.672 (0.134)	-0.488 (0.483)	-2.135 (0.261)	-1.581 (0.116)
Total pay	0.445 (0.671)	0.655 (0.560)	-0.365 (0.460)	-1.259 (0.204)	0.696 (0.312)
Age	-1.404 (0.849)	-8.598 (0.474)	-4.660 (0.183)	-15.468** (0.017)	6.183 (0.107)
Tenure	1.668 (0.247)	1.166 (0.422)	0.318 (0.562)	4.058* (0.058)	-1.751* (0.076)
Size	-1.239* (0.086)	-1.936 (0.166)	-0.260 (0.443)	-1.338* (0.066)	-0.006 (0.990)
Stock return	1.350 (0.408)	-1.453 (0.241)	1.490** (0.034)	3.208** (0.015)	0.049 (0.962)
Profitability	0.663 (0.945)	19.060 (0.216)	-3.415 (0.354)	3.113 (0.714)	-2.783 (0.555)
Leverage	3.893 (0.517)	1.744 (0.841)	0.524 (0.749)	-1.229 (0.755)	5.204 (0.209)
Observations	110	67	125	86	87
(Pseudo) R-squared	0.603	0.405	0.641	0.515	0.368
Year FE	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES

Note: This table presents regression model results investigating the association between CEO overconfidence and improvement in CEO position. The sample comprises all CEOs in our dataset who successfully secured a job after turnover. To assess improvement in CEO position, we use various indicators and variables. First, we use a positive change in Company size and the Company size increase indicator as proxies for a better CEO position. The change in company size (Δ Company size) is calculated by dividing the total assets of the new company by the total assets of the old company. The Company size increase indicator equals one if the Δ Company size is greater than one, indicating an increase in company size, and 0 otherwise. Similarly, we evaluate changes in compensation using the Δ Compensation variable and the Compensation increase indicator, which capture shifts in CEO remuneration. We incorporate a Different industry indicator based on the 2-digit Standard Industrial Classification (SIC) code to determine whether CEOs secure positions in industries different from that of their previous company. The Different industry indicator is set to 1 if the CEO obtains a job in an industry with a different 2-digit SIC code from their previous company, and 0 otherwise. Columns [1] and [3] present the results of OLS models, and the remaining columns display the results of logit models. To account for potential confounding factors, we include year and industry fixed effects in our OLS and logit models. All models in the table incorporate these fixed effects. The symbols ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 6

Incorporate forced turnover: Are overconfident CEOs more likely to find another S&P 1500 CEO job after a **voluntary** or **forced** turnover?

Dependent	Succession			
	Year & Industry	Year & Industry	Year & Industry	Year & Industry
Fixed effects	Logit	OLS	Logit	OLS
Turnover type	Voluntary	Voluntary	Forced	Forced
Column	[1]	[2]	[3]	[4]
Overconfidence	2.752*** (0.000)	0.043*** (0.000)	3.402 (0.124)	0.036 (0.120)
Total pay	1.319** (0.016)	0.008* (0.057)	1.578 (0.154)	0.005 (0.480)
Age	0.004*** (0.000)	-0.260*** (0.000)	0.004** (0.013)	-0.113 (0.205)
Tenure	0.198*** (0.000)	-0.070*** (0.000)	0.358* (0.064)	-0.054** (0.029)
Size	1.239** (0.014)	0.008** (0.024)	1.486** (0.020)	0.019** (0.013)
Stock return	1.165 (0.497)	0.016 (0.142)	2.259 (0.412)	0.024 (0.305)
Profitability	0.739 (0.764)	-0.013 (0.780)	75.489 (0.144)	0.064 (0.373)
Leverage	0.999 (0.999)	-0.010 (0.736)	1.294 (0.877)	-0.030 (0.544)
Observations	2,381	2,692	232	526
(Pseudo) R-squared	0.2215	0.093	0.246	0.142
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES

Note: This table presents regression model results examining the relationship between CEO overconfidence and the likelihood of securing another CEO position in the S&P 1500 after experiencing turnover. To investigate this relationship, we divide our original dataset of 3,380 CEO turnovers into two subsamples:

voluntary turnover and forced turnover. In both subsamples, we use identical dependent variables (Succession), independent variables, and control variables. In the voluntary turnover subsample, which consists of 2,815 CEOs, Columns [1] and [2] display the results of the analysis using logit and OLS regression, respectively. In the logit model of Column [3], the marginal effect of the overconfidence indicator is 4.7%. Additionally, in the forced turnover subsample, comprising 565 CEOs, Columns [3] and [4] present the corresponding analysis. All models in the table incorporate fixed effects, as indicated in the table footer. Significance levels are denoted by ***, **, and *, representing significance at the 1%, 5%, and 10% levels, respectively.

Table 7

Incorporate forced turnover: Are overconfident CEOs able to spend less time finding a job after voluntary or forced turnover?

Dependent Model Turnover type Column	Employment gap	Employment gap
	Year & Industry Ordered logit Voluntary [1]	Year & Industry Ordered logit Forced [2]
Overconfidence	-1.012*** (0.000)	-1.190 (0.124)
Total pay	-0.252** (0.014)	-0.429 (0.205)
Age	5.618*** (0.000)	5.268** (0.011)
Tenure	1.571*** (0.000)	1.094* (0.056)
Size	-0.239*** (0.004)	-0.438** (0.013)
Stock return	-0.185 (0.398)	-0.841 (0.387)
Profitability	0.071 (0.944)	-4.580 (0.115)
Leverage	0.073 (0.913)	-0.270 (0.877)
<i>N</i>	2692	526
pseudo R^2	0.183	0.329
Year FE	YES	YES
Industry FE	YES	YES

Note: This table presents the results of ordered logit models that investigate the distinct impact of overconfidence on the duration of the employment gap for voluntary and forced turnovers. We use separate ordered logit models in Column [1] for voluntary turnovers and Column [2] for forced turnovers. The dependent variable is the employment gap, representing the duration between CEO turnover and subsequent job appointment. The key explanatory variable is overconfidence, and we control for various CEO and firm characteristics, including total pay, age, tenure, company size, stock return, profitability, and leverage. All models in the table incorporate fixed effects, as indicated in the table footer. The symbols ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 8

Incorporate forced turnover: Do overconfident CEOs fare better in their new position after voluntary turnover?

Dependent	Δ Company size	Company size increase indicator	Δ Compensation	Compensation increase indicator	Different industry indicator
	Year & Industry OLS Voluntary [1]	Year & Industry Logit Voluntary [2]	Year & Industry OLS Voluntary [3]	Industry Logit Voluntary [4]	Year & Industry Logit Voluntary [5]
Overconfidence	-0.656 (0.665)	6.396*** (0.001)	-0.310 (0.704)	-0.150 (0.861)	-1.883* (0.072)
Total pay	0.381 (0.731)	7.074*** (0.001)	-0.263 (0.628)	-0.996** (0.049)	1.344 (0.140)
Age	-3.038 (0.723)	-24.524** (0.017)	-6.236 (0.115)	-0.381 (0.914)	15.47 (0.109)
Tenure	1.283 (0.383)	5.950*** (0.000)	0.702 (0.332)	0.944** (0.048)	-1.828 (0.233)
Size	-1.121 (0.197)	-4.189*** (0.006)	-0.568 (0.219)	-0.208 (0.591)	-0.181 (0.843)
Stock return	1.261 (0.543)	-7.198* (0.075)	1.356* (0.098)	0.773 (0.209)	1.886 (0.217)
Profitability	0.542 (0.955)	117.802*** (0.000)	-5.135 (0.215)	1.265 (0.753)	-4.896 (0.290)
Leverage	5.198 (0.441)	-35.488** (0.028)	0.549 (0.749)	-1.102 (0.539)	15.611 (0.101)
Observations	94	48	107	83	71
(Pseudo) R-squared	0.630	0.574	0.669	0.301	0.402
Year FE	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES

Note: Table 5 presents regression models that explore whether overconfident CEOs tend to secure more favourable positions than to their non-overconfident peers following voluntary turnover. Our sample consists of CEOs who have successfully found a job after turnover, with a specific focus on voluntary turnovers. CEOs who experienced forced turnovers are excluded from our analysis. We examine several dependent variables, including Δ Company size, Company size increase indicator, Δ Compensation, Compensation increase indicator, and Different industry indicator. Columns [1] and [3] present the results of OLS models, and the remaining columns use logit models. In the logit model of Column [2], the marginal effect of the overconfidence indicator is 0.638. Marginal effect for overconfidence in Column [5] is -0.256. All models in the table incorporate fixed effects, as indicated in the table footer. The symbols ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 9
Performance after a succession

Dependent Fixed effects Model Column	Performance			
	None Logit [1]	Year Logit [2]	Industry Logit [3]	Year & Industry Logit [4]
Overconfidence	2.426*** (0.008)	1.529*** (0.000)	1.477*** (0.001)	2.598*** (0.001)
Total pay	15.835** (0.035)	2.460 (0.161)	3.579** (0.020)	5.862** (0.022)
Age	0.621** (0.014)	-0.686*** (0.007)	-0.754*** (0.002)	-0.904** (0.013)
Tenure	1.167 (0.224)	0.281* (0.069)	0.246 (0.195)	0.292 (0.172)
Size	0.589** (0.036)	-0.590** (0.033)	-0.541* (0.082)	-0.589 (0.109)
Stock return	1.007 (0.985)	0.446 (0.376)	-0.191 (0.636)	0.429 (0.491)
Profitability	0.159 (0.303)	-3.754* (0.095)	-3.433 (0.134)	-5.704** (0.018)
Leverage	0.210 (0.112)	-1.775 (0.163)	-2.005 (0.102)	-3.746** (0.046)
Observations	197	187	177	169
(Pseudo) R-squared	0.079	0.223	0.187	0.371
Year FE	NO	YES	NO	YES
Industry FE	NO	NO	YES	YES

Note: this table contains regression models that examine whether overconfident CEOs deliver better post-succession performance of companies following CEO turnover compared with non-overconfident CEOs. The sample includes all CEOs that have experienced succession in our dataset. We use industry-adjusted return on assets (ROA) as a measure of performance. The dependent variable is an indicator variable that equals one if the new CEO achieves a three-year

average industry-adjusted ROA higher than that of the prior CEO, and 0 otherwise. Columns [1], [2], [3] and [4] display the results of the logit regression models, progressively incorporating fixed effects such as Year fixed effects, Industry fixed effects, and both Year and Industry fixed effects. Column [4] incorporates both Year and Industry fixed effects, the estimated marginal effect for overconfidence is 0.353. The symbols ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 10

Tests based on propensity score matching.

Panel A

		Overconfident CEOs	Non-overconfident CEOs	Test of differences	
		Mean	Mean	t-test	p- value
Total pay	All	8.075	7.645	9.71	0.000
	Matched	8.084	8.019	1.50	0.132
Age	All	4.079	4.059	4.41	0.000
	Matched	4.080	4.078	0.61	0.545
Tenure	All	1.915	1.442	23.43	0.000
	Matched	1.912	1.921	-0.39	0.695
Size	All	7.649	7.375	4.67	0.000
	Matched	7.654	7.556	1.60	0.109
Stock return	All	0.098	0.192	4.95	0.000
	Matched	0.098	0.109	-0.60	0.546
Profitability	All	0.141	0.113	7.47	0.000
	Matched	0.140	0.134	1.48	0.138
Leverage	All	0.230	0.250	-2.97	0.003
	Matched	0.230	0.229	0.09	0.927

Note: This table presents the propensity score matching results for the control variables used in our regression model. We match each overconfident CEOs with a control non-overconfident CEOs (i.e., closest propensity score and with replacement) in the turnover year. The matching is based on propensity scores from logistic regressions where we use all the control variables in our previous regression analysis as covariates. The sample is divided into two rows: "All" includes all 3,380 CEOs who have experienced turnover, and "Matched" includes overconfident CEOs and their matched non-overconfident counterparts who have experienced turnover. The last two columns of the table display the significance of the observed differences using t-tests and p-values.

Panel B

Dependent	Succession					
	Year	Industry	Year & Industry	Year	Industry	Year & Industry
Fixed effects	Logit	Logit	Logit	OLS	OLS	OLS
Model						
Column	[1]	[2]	[3]	[4]	[5]	[6]
Overconfidence	0.581** (0.020)	0.634*** (0.010)	0.635** (0.016)	0.025** (0.014)	0.026** (0.012)	0.024** (0.020)
Total pay	0.238** (0.047)	0.177 (0.132)	0.281** (0.030)	0.009* (0.057)	0.006 (0.190)	0.008 (0.104)
Age	-4.837*** (0.000)	-5.012*** (0.000)	-5.415*** (0.000)	-0.240*** (0.000)	-0.239*** (0.000)	-0.247*** (0.000)
Tenure	-1.465*** (0.000)	-1.561*** (0.000)	-1.502*** (0.000)	-0.076*** (0.000)	-0.082*** (0.000)	-0.076*** (0.000)
Size	0.199** (0.025)	0.214** (0.015)	0.196** (0.033)	0.009** (0.022)	0.010** (0.011)	0.009** (0.026)
Stock return	0.353* (0.093)	0.301 (0.131)	0.344 (0.133)	0.023* (0.075)	0.024** (0.049)	0.024* (0.072)
Profitability	0.227 (0.829)	0.429 (0.695)	0.169 (0.876)	0.000 (0.994)	0.001 (0.979)	-0.003 (0.949)
Leverage	0.244 (0.708)	0.178 (0.797)	0.654 (0.386)	0.002 (0.958)	-0.009 (0.786)	0.006 (0.867)
Observations	2,014	1,858	1,773	2,109	2,109	2,109
(Pseudo) R-squared	0.188	0.197	0.222	0.086	0.092	0.105
Year FE	YES	NO	YES	YES	NO	YES
Industry FE	NO	YES	YES	NO	YES	YES

Note: this table presents the propensity score matching results on the likelihood of overconfident CEOs becoming outside successors in another S&P 1500 company after experiencing turnover. Each overconfident CEO is matched with a non-overconfident CEO as a control (closest propensity score with replacement) in the same turnover year. Propensity scores are obtained from logistic regressions using all the control variables from our previous regression analysis as covariates. The sample consists of overconfident CEOs and their matched non-overconfident counterparts who have experienced turnover. Columns [1] to [3]

use a logit model, and Columns [4] to [6] use an OLS model. All models incorporate fixed effects, which are displayed in the table footer. The symbols ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel C

Dependent	Employment gap
Fixed effects	Year & Industry
Model	Ordered logit
Column	[1]
Overconfidence	-0.609** (0.018)
Total pay	-0.258** (0.043)
Age	5.209*** (0.000)
Tenure	1.501*** (0.000)
Size	-0.223** (0.014)
Stock return	-0.342 (0.128)
Profitability	-0.333 (0.769)
Leverage	-0.380 (0.600)
<i>N</i>	2109
pseudo R^2	0.191
Year FE	YES
Industry FE	YES

Note: This table presents the propensity score matching results examining the impact of overconfidence on the employment gap of CEOs following turnover. Each overconfident CEO is matched with a non-overconfident CEO as a control (closest propensity score with replacement) in the same turnover year. Propensity scores are derived from logistic regressions using all the control variables from our previous regression analysis as covariates. The sample consists of overconfident CEOs and their matched non-overconfident counterparts who have experienced turnover. All models incorporate fixed effects, which are displayed in the table footer. The symbols ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 11

The impact on CEO compensation of the Inevitable Disclosure Doctrine (IDD)

Dependent Fixed effects Model Column	Total Pay			
	Year & Industry OLS [1]	Year & Industry OLS [2]	Year & Industry OLS [3]	Year & Industry OLS [4]
Adopt IDD	0.229*** (0.000)	0.219*** (0.000)	0.061** (0.019)	0.069*** (0.007)
Overconfidence	0.256*** (0.000)	0.245*** (0.000)	0.186*** (0.000)	0.208*** (0.000)
Post IDD	-0.176*** (0.000)	-0.162*** (0.000)	-0.071*** (0.005)	-0.084*** (0.001)
Adopt IDD × Overconfidence	-0.311*** (0.000)	-0.305*** (0.000)	-0.166*** (0.000)	-0.173*** (0.000)
Adopt IDD × Post IDD × Overconfidence	0.317*** (0.000)	0.308*** (0.000)	0.143*** (0.000)	0.147*** (0.000)
Age		0.255*** (0.000)		-0.174*** (0.002)
Tenure		0.023* (0.069)		-0.050*** (0.000)
Size			0.409*** (0.000)	0.411*** (0.000)
Stock return			0.121*** (0.000)	0.119*** (0.000)
Profitability			0.614*** (0.000)	0.631*** (0.000)
Leverage			0.083** (0.019)	0.078** (0.028)

Observations	31,967	31,950	30,438	30,423
R-squared	0.134	0.135	0.393	0.393
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES

Note: This table presents the panel data analysis using 32,186 firm-year observations with 5,199 CEOs working in 2,666 companies, including CEOs who have never experienced turnover in an S&P 1500 company. The dependent variable is the total pay, which is the total compensation. In addition to using the same control variables as in our main analyses, we incorporate three variables of interest, all represented as dummy variables. The variable "Adopt IDD" indicates whether a state has ever recognized IDD. This indicator equals one if the state has ever recognized IDD and zero otherwise. The variable "Post IDD" identifies the specific time period when IDD was adopted by a given state. It equals one during all periods when the state recognized IDD, and zero otherwise. The variable "Overconfidence" has the same definition as before. Additionally, a key interaction term is employed: "Adopt IDD \times Post IDD \times Overconfidence" demonstrates the influence of overconfidence on a CEO's total pay when the state adopted IDD and during the post adoption period. Distinct sets of control variables are incorporated in different columns of the table. All models include fixed effects which are shown in the table footer. The symbols ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

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