UNIVERSITY OF SOUTHAMPTON

FACULTY OF SOCIAL SCIENCE
SOUTHAMPTON BUSINESS SCHOOL

Essays on CEO Overconfidence, Labor Protection Laws, and Corporate Opportunity Waivers in Shaping Corporate Payout Policies

by

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A thesis for the degree of
Doctor of Philosophy

January 2025

University of Southampton

Abstract

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This dissertation provides a comprehensive examination of the complex interactions between CEO overconfidence, labor protection laws, and corporate opportunity waivers (COW) in shaping corporate payout policies, specifically focusing on dividends and share repurchases. Through an integrative analysis of three distinct studies, the research elucidates the multifaceted ways in which managerial characteristics, legal regulations, and governance mechanisms influence corporate financial decisions. The findings offer significant insights into the nexus of corporate governance, legal frameworks, and firm behavior, providing implications for both theoretical development and practical policy-making.

The first study explores the impact of CEO overconfidence on corporate payout strategies, with a particular emphasis on the moderating role of board independence. It demonstrates that overconfident CEOs, who often have an inflated perception of their own decision-making abilities, prioritize aggressive investment strategies over shareholder payouts. However, an independent board can significantly mitigate these tendencies, ensuring a more balanced approach to dividend distributions and retained earnings. If unchecked, this managerial bias generally leads to reduced dividend distributions and increased retained earnings, diverging from optimal financial policies aligned with shareholder value maximization. This study highlights the critical role of independent directors in curbing the potential excesses of overconfident CEOs.

The second study provides an in-depth analysis of the impact of labor protection laws, specifically wrongful discharge laws, on corporate payout behaviors. The research reveals that these laws, by significantly increasing the costs and risks associated with terminating employees, prompt firms to reallocate their financial resources towards more shareholder-friendly mechanisms, particularly share buybacks. The study finds that in environments where wrongful discharge laws are stringent, firms are more likely to increase share repurchases as a strategic response to mitigate the potential financial burden imposed by these laws. This behavior serves as a compensatory mechanism, ensuring that resources are retained within the firm rather than being dissipated through costly employee litigation and settlements. Furthermore, the study concludes that such regulatory frameworks can effectively moderate the adverse effects of CEO overconfidence, leading to a more prudent and balanced approach to corporate payouts. This is because the heightened costs associated with labor protection laws impose a form of financial discipline, encouraging overconfident CEOs to align their payout strategies more closely with the interests of shareholders.

The third study explores the effects of corporate opportunity waivers (COW) on corporate governance and payout policies, focusing on the underlying transmission mechanisms and resultant findings. Corporate opportunity waivers allow directors and officers to engage in business ventures that might otherwise present conflicts of interest, fundamentally altering the governance landscape within firms. The study posits that the adoption of COW provisions can lead to a dual-pathway impact on corporate payout policies. Firstly, by permitting directors to pursue external business interests, these waivers can potentially dilute the focus on the firm's internal investment opportunities, thereby prompting a reallocation of resources. This reallocation can manifest as either increased dividends or share buybacks, depending on the firm's governance structure and financial strategy. Secondly, the presence of COWs might reduce the level of scrutiny and oversight typically exerted by independent directors, as these waivers lessen the perceived need to safeguard corporate opportunities strictly within the firm. As a result, firms may experience a shift in resource allocation towards activities that benefit both internal and external stakeholders, potentially at the expense of traditional payout mechanisms. The study finds that the degree of board independence plays a crucial moderating role in these dynamics. In firms with strong independent board oversight, the potential adverse impacts of COW provisions on shareholder payouts are mitigated, as independent directors remain vigilant in ensuring that payout policies continue to align with shareholder interests. Conversely, in firms with weaker governance structures, COW provisions may lead to a more significant diversion of resources away from shareholder payouts.

In summary, the integrated findings from these studies provide a holistic view of how intrinsic managerial traits and extrinsic legal and governance frameworks coalesce to

shape corporate payout policies. The research highlights the critical need to consider both psychological attributes of CEOs and the broader institutional context in understanding and predicting corporate financial behavior. This dissertation advances the scholarly discourse by bridging gaps between corporate governance, legal regulation, and financial decision-making, offering valuable insights for policymakers, scholars, and practitioners alike.

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Declaration of Authorship

I declare that this thesis and the work presented in it is my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. Parts of this work have been published as: None of this work has been published before submission.

Signed:..... Date:.....

Acknowledgements

I would like to express my deepest gratitude to everyone who supported me throughout my doctoral journey. Without their guidance, encouragement, and assistance, this thesis would not have been possible.

First and foremost, I would like to thank my primary supervisor, Professor Di Luo. His exceptional guidance, profound knowledge, and unwavering commitment to my work have been indispensable throughout this journey. Professor Luo's thoughtful insights and constructive critiques consistently pushed me to refine my research and reach a higher level of academic rigor. His encouragement, patience, and attention to detail played a crucial role in shaping this dissertation. I feel extremely privileged to have worked under his supervision, and I am sincerely grateful for his constant support and belief in my abilities.

I would also like to extend my heartfelt thanks to Dr. Yun Luo, whose insightful feedback and expert advice have significantly contributed to my research. Dr. Luo's ability to pose critical questions and offer fresh perspectives was instrumental in helping me navigate complex ideas. Her encouragement and timely suggestions provided me with the confidence to move forward, and her support was vital in helping me bring this research to completion.

I would like to express my gratitude to Dr. Soumyatanu Mukherjee for his valuable input throughout the course of my doctoral studies. His guidance and thoughtful comments helped to shape and strengthen the theoretical framework of my work. I truly appreciate his time and willingness to offer advice at key moments during the research process.

I also extend my thanks to the faculty and staff at the University of Southampton, particularly those in the Department of Banking and Finance, for creating an intellectually stimulating environment. Their feedback and support helped me refine my ideas and provided the academic foundation necessary for this research.

I am immensely grateful to my family for their unwavering love and support. To my parents, thank you for your boundless encouragement and belief in me. Your sacrifices and constant support have been the bedrock of my success.

To my girlfriend, Mrs. Yichi Zuo, thank you for your love, patience, and understanding during the many challenging moments of this journey. Your support has been my strength, and I am so proud of your achievements in your own academic journey in the Accounting and Finance program at the University of Southampton.

I would also like to acknowledge my friends and colleagues, both in the UK and China, for their encouragement and support.

Finally, I would like to thank everyone who contributed in one way or another to the successful completion of this thesis. Your support has been invaluable.

Thank you all.

To My Parents and My Friends

Chapter 1

Introduction

1.1 Research Background and Motivation

In corporate finance, the influence of managerial characteristics on financial decision-making has garnered significant scholarly attention. A key area of focus is CEO overconfidence, a psychological trait where CEOs possess an inflated belief in their abilities and the prospects of their firms. This trait often leads to aggressive investment strategies, excessive risk-taking, and a preference for retaining earnings for future investments over distributing them as dividends (Malmendier and Tate, 2005). Overconfident CEOs tend to overestimate the returns on investment projects, underestimating associated risks and the need for precautionary cash holdings. This can lead to reduced corporate payouts and increased likelihood of liquidity constraints, potentially jeopardizing the firm's financial stability (Ben-David et al, 2007; Hirshleifer et al, 2012).

CEO overconfidence, characterized by an inflated perception of managerial abilities, significantly influences corporate financial decisions. Overconfident CEOs tend to prioritize aggressive investments and reduce payouts, believing in the superiority of their strategic initiatives. This psychological trait can lead to suboptimal financial outcomes when unchecked by governance mechanisms.

Labor protection laws impose financial and operational constraints on firms by increasing the costs associated with managerial discretion, such as employee layoffs. These laws serve as an external disciplining mechanism, compelling overconfident CEOs to reallocate resources towards shareholder-friendly policies, including share buybacks or dividend payments.

COWs alter traditional governance dynamics by enabling directors and officers to engage in external opportunities that might otherwise conflict with corporate interests. This governance innovation can dilute focus on shareholder returns, especially under the influence of overconfident CEOs. However, the presence of independent boards can mitigate potential adverse effects by maintaining alignment with shareholder interests.

The broader legal and regulatory environment significantly interacts with these managerial behaviors. Specifically, labor protection laws such as the good faith exception in wrongful discharge laws introduce considerable complexity into corporate governance. These laws vary across states in the United States and provide employees with protections against unjust termination, thus raising the cost of firing and influencing corporate financial decisions. Studies have shown that such legal frameworks can constrain managerial discretion, forcing firms to reconsider their payout policies. For instance, Autor et al. (2006) and Serfling (2016) find that stronger employment protections can lead firms to increase share repurchases as a means of

managing the firm's cash reserves and reducing the risk of litigation or employee grievances.

Board independence serves as another crucial element in mitigating the risks associated with CEO overconfidence. An independent board, composed of directors without substantial ties to the company, can provide objective oversight and reduce the likelihood of self-serving behaviors by overconfident CEOs. Such boards are better positioned to challenge excessive risk-taking and ensure that payout policies align with shareholder interests. Prior research, including studies by Adams et al. (2005) and Cordeiro (2009), highlights that firms with more independent boards are less likely to engage in behaviors that significantly deviate from shareholder value maximization, such as reducing dividends to fund risky investments.

Moreover, the concept of fiduciary duty and the legal innovations around Corporate Opportunity Waivers further complicate the governance landscape. These waivers allow managers to pursue personal business opportunities that might otherwise be considered corporate assets, potentially leading to conflicts of interest. The adoption of these waivers raises critical questions about the alignment of managerial incentives with shareholder interests, particularly in firms led by overconfident CEOs. Studies by Fisch (2006) and Johnson et al. (2009) emphasize the delicate balance required in corporate governance structures to manage such conflicts while fostering entrepreneurial activity and managerial discretion.

Corporate payout policies, including dividends and share repurchases, are thus influenced by a combination of managerial traits, legal constraints, and governance mechanisms. The interplay between these factors can lead to varying outcomes in terms of firm financial policies and overall market behavior. For instance, La Porta et al. (2000) provide evidence that stronger legal protections for shareholders are associated with higher dividend payouts, as they reduce the ability of managers to divert resources. In contrast, weaker legal environments may exacerbate the effects of CEO overconfidence, leading to lower payouts and potentially higher risks for investors.

This research seeks to explore these intricate relationships, providing a comprehensive analysis of how CEO overconfidence, labor protection laws, board independence, and Corporate Opportunity Waivers collectively influence corporate payout policies. By examining these dynamics, the study aims to offer valuable insights for developing robust corporate governance frameworks that balance managerial discretion with the protection of shareholder interests. This understanding is crucial for policymakers, corporate boards, and other stakeholders in ensuring the stability and efficiency of financial markets.

1.2 Research Objectives

The intersection of CEO overconfidence, labor protection laws, and COWs creates a complex landscape influencing corporate payout policies. This research addresses a critical gap by providing an integrated analysis of these factors and their combined effects on firm behavior, offering valuable insights for policymakers, scholars, and practitioners.

This research aims to provide a comprehensive analysis of how internal managerial traits, such as CEO overconfidence, and external factors, including legal frameworks and corporate governance structures, influence corporate financial decisions, particularly payout policies. The study is divided into three main chapters, each addressing a distinct aspect of this multifaceted issue. By exploring the interactions between CEO overconfidence, labor protection laws, board independence, and Corporate Opportunity Waivers, the research seeks to uncover the nuanced ways these factors shape dividend policies and share repurchases. The objectives are to identify the conditions under which these elements either mitigate or exacerbate the risks associated with managerial overconfidence, ultimately aiming to provide actionable insights for policymakers, corporate boards, and investors.

Chapter 2: Research Objectives (The Effect of Board Independence on the Dividend Policy of Overconfident Managers)

Chapter 2: Research Objectives (The Effect of Board Independence on the Dividend Policy of Overconfident Managers)

Chapter 2 aims to explore the role of board independence in moderating the influence of CEO overconfidence on corporate financial decisions, with a focus on dividend policy. The specific objectives are:

- **To assess the impact of CEO overconfidence on dividend policy, particularly in firms with varying levels of board independence.**
  - This includes evaluating whether overconfident CEOs are less likely to pay dividends and whether this tendency is mitigated by a more independent board.
- **To determine the effectiveness of independent directors in providing oversight and ensuring that payout decisions align with shareholder interests.**

  - The objective is to analyze whether the presence of independent directors can counterbalance the biases and risk-taking behavior of overconfident CEOs, leading to more conservative dividend policies.

- **To investigate the interaction between board independence and other governance mechanisms in influencing dividend policy under conditions of CEO overconfidence.**

  - This involves exploring how different governance structures, such as audit committees and ownership concentration, interact with board independence to affect payout decisions.

Chapter 3: Research Objectives (The Impact of Labor Protection Laws on the Relation between CEO Overconfidence and Corporate Payout)

The focus of Chapter 3 is to investigate the interplay between CEO overconfidence and labor protection laws, particularly the good faith exception, in shaping corporate payout policies. The specific objectives are:

- **To examine the impact of CEO overconfidence on corporate payout strategies, specifically comparing the allocation between dividends and share repurchases.**

  - This includes determining whether overconfident CEOs are more inclined to retain earnings for investment rather than distributing them as dividends.

- **To analyze how the implementation of the good faith exception in labor protection laws influences the relationship between CEO overconfidence and corporate payout decisions.**

  - The objective is to assess whether these laws moderate the tendency of overconfident CEOs to favor share repurchases over dividends by increasing the costs and risks associated with employee dismissals.

- **To explore the differential effects of labor protection laws across various industries and firm sizes in the context of CEO overconfidence.**

  - This involves understanding whether the impact of labor protection laws is consistent across different sectors and how firm-specific characteristics influence this relationship.

Chapter 4: Research Objectives (Fiduciary Duty and Dividend Policy: Evidence from Corporate Opportunity Waiver)

Chapter 4 explores the implications of Corporate Opportunity Waivers and fiduciary duties on corporate governance and financial policies, particularly in the context of CEO overconfidence. The specific objectives are:

- **To analyze the impact of Corporate Opportunity Waivers on firms' dividend policies, especially in those led by overconfident CEOs.**
  - This includes examining whether these waivers exacerbate or mitigate the potential for conflicts of interest, affecting the alignment of payout decisions with shareholder interests.
- **To investigate the role of fiduciary duties in moderating the relationship between CEO overconfidence and corporate financial policies.**
  - The objective is to understand how fiduciary responsibilities influence the decision-making process of overconfident CEOs, particularly in contexts where Corporate Opportunity Waivers are in place.
- **To evaluate the broader governance implications of Corporate Opportunity Waivers in firms with varying levels of CEO overconfidence and other governance structures.**
  - This involves assessing whether these waivers, combined with other governance mechanisms, provide the necessary checks and balances to ensure that corporate decisions are made in the best interests of the shareholders.

These chapters collectively aim to provide a comprehensive analysis of how internal managerial characteristics and external governance mechanisms interact to influence corporate payout policies and overall corporate governance.

1.3 Research Contributions

This thesis makes several significant contributions to the literature on corporate governance, managerial behavior, and financial decision-making, particularly in the context of CEO overconfidence. It extends the existing body of knowledge by exploring the nuanced interactions between CEO overconfidence, board independence, labor protection laws, and Corporate Opportunity Waivers. Each chapter of this thesis provides unique insights and adds depth to our understanding of these complex relationships.

Contribution 1: Board Independence and CEO Overconfidence

Previous studies have extensively explored the role of board independence in corporate governance, generally concluding that independent boards can mitigate managerial excesses and align corporate policies with shareholder interests (Adams et al , 2005; Cordeiro, 2009) . However, this thesis specifically focuses on how board independence moderates the relationship between CEO overconfidence and dividend policies. Unlike earlier works that primarily addressed general governance outcomes, this research highlights the differential impact of board structures on firms led by overconfident CEOs. It shows that independent boards play a crucial role in curbing the tendencies of such CEOs to reduce dividend payouts in favor of retaining earnings for potentially risky investments. This nuanced understanding provides a more targeted analysis of governance effectiveness in specific managerial contexts, contributing to more refined policy recommendations for corporate boards.

Contribution 2: The Role of Labor Protection Laws

While prior research has acknowledged the influence of regulatory environments on corporate behavior, the specific interplay between labor protection laws and CEO overconfidence has been less explored. This thesis fills this gap by investigating how the good faith exception in labor protection laws interacts with CEO overconfidence to affect corporate payout strategies. The findings reveal that stringent labor protection laws can act as a moderating force, encouraging more conservative payout policies even in the presence of overconfident CEOs. This contrasts with the broader literature that often emphasizes the constraining effects of labor laws on managerial flexibility without distinguishing the type of managerial behavior (Autor et al , 2006; Serfling, 2016) . By focusing on the specific case of CEO overconfidence, this thesis offers a more detailed understanding of how legal frameworks can shape corporate financial decisions in nuanced ways.

Contribution 3: Corporate Opportunity Waivers and Fiduciary Duties

The concept of Corporate Opportunity Waivers has been explored in the context of potential conflicts of interest and managerial discretion(Fisch, 2006; Johnson, Porter et al , 2009). However, the specific impact of these waivers on firms led by overconfident CEOs, particularly concerning dividend policies, has not been thoroughly examined. This thesis contributes to the literature by providing empirical evidence on how these waivers interact with fiduciary duties to influence corporate governance outcomes. The study shows that while Corporate Opportunity Waivers can provide beneficial flexibility, they also carry the risk of exacerbating self-serving behavior in

overconfident CEOs, leading to decisions that may not align with shareholder interests. This contribution is particularly relevant for legal scholars and policymakers who seek to balance the benefits of managerial flexibility with the need for robust governance safeguards.

Comparative Analysis and Broader Implications

Compared to existing literature, this thesis provides a more comprehensive and integrative approach to understanding the effects of CEO overconfidence on corporate financial policies. It moves beyond the isolated study of managerial traits or governance mechanisms, instead examining how these elements interact within different regulatory and legal contexts. This holistic approach offers a deeper insight into the conditions under which governance structures and legal frameworks can effectively moderate potentially harmful managerial behaviors. The findings have broad implications for both theory and practice, offering valuable lessons for the design of governance policies and legal regulations that promote financial stability and protect shareholder value.

1.4 Structure of the Thesis

This thesis explores the complex relationships between CEO overconfidence, corporate governance mechanisms, and legal frameworks, with a focus on their combined impact on corporate payout policies. The research is organized into four main chapters, each providing an in-depth examination of these interactions.

Chapter 2: The Effect of Board Independence on the Dividend Policy of Overconfident Managers

This chapter explores how board independence influences the dividend policies of companies led by overconfident CEOs. The chapter begins with a comprehensive review of the literature on governance structures and managerial characteristics. It then develops hypotheses regarding how the presence of independent directors can affect corporate decisions, particularly in terms of dividend payouts. Using empirical data, the chapter analyzes whether independent boards can effectively counterbalance the tendency of overconfident CEOs to prioritize investments over dividends. The findings emphasize the role of independent directors in ensuring that dividend policies are more aligned with shareholder interests, thereby mitigating potential risks associated with managerial overconfidence.

Chapter 3: The Impact of Labor Protection Laws on the Relation between CEO Overconfidence and Corporate Payout

In this chapter, the focus shifts to the interaction between CEO overconfidence and labor protection laws, specifically examining how these laws influence corporate payout decisions. The chapter provides an overview of labor protection laws, such as the good faith exception in wrongful discharge cases, and discusses their potential impact on corporate behavior. It reviews relevant studies and presents hypotheses on how these legal frameworks might moderate the effect of CEO overconfidence on dividend and share repurchase decisions. The empirical analysis investigates whether the presence of strong labor protection laws leads overconfident CEOs to favor more conservative payout strategies, thereby protecting the firm's liquidity and stability. The chapter concludes with a discussion of the practical implications of these findings for policymakers and corporate governance.

Chapter 4: Fiduciary Duty and Dividend Policy: Evidence from Corporate Opportunity Waiver

This chapter examines the role of Corporate Opportunity Waivers and fiduciary duties in shaping the governance and financial policies of firms with overconfident CEOs. The chapter begins by explaining the concept of fiduciary duties and how Corporate Opportunity Waivers can impact managerial decision-making. It reviews literature on potential conflicts of interest arising from these waivers and formulates hypotheses about their influence on dividend policies. The empirical section assesses whether these waivers exacerbate or mitigate self-serving behavior among overconfident CEOs, specifically in terms of prioritizing personal gain over shareholder interests. The analysis provides insights into how such governance structures can either protect or harm shareholder value, depending on their implementation and oversight.

Chapter 5: Conclusions

The final chapter brings together the key findings from the previous chapters, highlighting the overall insights into how CEO overconfidence, governance structures, and legal frameworks interact to influence corporate payout policies. It synthesizes the research outcomes, discussing the theoretical contributions and practical implications of the study. The chapter emphasizes the importance of effective governance mechanisms and appropriate legal regulations in managing the risks associated with managerial overconfidence. It also outlines limitations of the current

research and suggests areas for future studies, providing a roadmap for further exploration into the intricate dynamics of corporate governance and financial decision-making.

Chapter 2

The Effect of Board Independence on the Dividend Policy of Overconfident Managers

2.1 Introduction

Research on corporate dividends has evolved significantly, transitioning from the phenomenon of "disappearing dividends" at the beginning of the century (Fama and French, 2001) to a gradual increase in dividends. This trend has sparked a discourse on the determinants of this surge in dividend payments, with recent discussions highlighting share buybacks as a substantial influence and a noteworthy contributor to corporate dividend payouts. Scholars have expressed concern that the proliferation of buybacks may be linked to a decline in corporate capital expenditure (Almeida et al., 2016; Gutiérrez and Philippon, 2017). Kahle and Stulz (2021) present a comprehensive analysis of the factors shaping the growth of dividend payments from 1971 to 2020. Figure2.1 presents a trend graph depicting the actual gross payments of a sample of CRSP/Compustat listed companies from 1971 to 2019, illustrating the relationship between dividends, net payments, and net repurchases during this period.

Kahle and Stulz (2021) attribute the increase in dividend payout rates in the 21st century partly to changes in firm characteristics, which have led to an augmented sensitivity to dividend payments. This heightened sensitivity significantly influences the observed surge in dividend payments. While Kahle and Stulz (2021) conclude their analysis without delving into the correlation between capital expenditure and dividend growth, this study aims to bridge this gap by utilizing CEO overconfidence as a novel lens for interpreting the factors impacting changes in corporate dividend payments.

This study seeks to broaden the existing literature by examining the impact of CEO overconfidence on dividend policy through a novel framework, building on foundational research on managerial overconfidence and its broad implications for various aspects of corporate finance. The existing literature has extensively discussed and examined the impact of managerial overconfidence on all aspects of corporate finance. Early research by Statman and Tyebjee (1985) predict managerial overconfidence in the calculation of net present value and profit cost. Later, Roll (1986) pioneer the study of managerial overconfidence in corporate M &A decisions, opening the door to a series of correlation studies between managerial overconfidence and investment, mergers and acquisitions, R &D innovation, and dividend distribution in corporate finance.

The most representative work is by Malmendier and Tate (2005), who examine the relationship between managerial overconfidence and corporate investment using a model. Their research shows that overconfident managers usually overestimate their investment returns. When the company has sufficient internal funds, it tends to overinvest; when internal funds are insufficient, it leads to underinvestment. This study also provides a guiding research basis for the relationship between managers' overconfidence and dividend policy.

Most theories of corporate dividend distribution are based on Miller and Modigliani's (1961) theory that dividend policy is irrelevant to firm value. This theory holds that under perfect capital market conditions, the dividend policy will not affect the company's value or cost of capital. The company's value depends on the profitability and risk determined by the company's investment decisions rather than by the company's dividend distribution policy. Since dividend policy is irrelevant to company value, most subsequent research has focused on the factors influencing dividend policy. Malmendier and Tate show that companies managed by overconfident CEOs exhibit higher investment sensitivity. Malmendier et al.(2007) argue that overconfident managers perceive their firms as undervalued and are reluctant to raise funds through external sources. Malmendier and Tate (2008) find that overconfident CEOs are likelier to engage in value-destroying acquisitions. These studies provide preconditions for a CEO's overconfidence that may lead to a lower level of dividend distribution. Deshmukh (2013) study the relationship between CEO overconfidence and company incentive policies and found that overconfident CEOs pay lower levels of dividends. Furthermore, this negative correlation is more significant in the presence of information asymmetry. This inevitably leads to a discussion of information asymmetry and corporate incentive policies.

Documenting the relationship between CEO overconfidence and a firm's dividend distribution policy is critical to understanding CEO overconfidence in corporate finance. One of the questions to be examined is which aspects of dividend distribution CEO overconfidence specifically affects. Building on Deshmukh's (2013) framework, this study refines the analysis by categorizing dividend decisions into binary outcomes—whether dividends are paid or not—and by analyzing dividend payout rates to reveal the varying effects of CEO overconfidence on these decisions. Additionally, the distinction between common stock and cash dividends is examined to assess the sensitivity of CEO overconfidence to firm cash flows.

Based on Deshmukh's (2013) model, CEO overconfidence reduces the dividends firms pay, and this effect is more significant in firms with information asymmetry and low growth. To verify the relationship between CEO overconfidence and other factors, it is first necessary to confirm whether CEO overconfidence is genuinely influencing the sample of empirical analysis. Therefore, we also test the relationship between CEO overconfidence and the company's dividend policy, and the results again confirmed that CEO overconfidence decreases the company's dividend payout. On this basis, we also test the level of cash dividend distribution, and the results were still in line with expectations. This comprehensive approach allows for a nuanced understanding of how CEO overconfidence impacts dividend policies and the role of information asymmetry and firm growth in moderating this relationship.

The research also examines the role of board independence, which is seen as an important counterbalance to the adverse effects of CEO overconfidence on dividend

policy. Many studies have shown that increasing board independence can effectively reduce agency costs. Hamdan and Al Mubarak (2017) show that external independent board decisions can effectively influence board decisions, ultimately adding value to the firm and reducing agency costs. An independent board also significantly impacts dividend distribution. Kilincarslan (2021) shows that if independent directors have sufficient power to review and control the behavior of family executives, the payment of cash dividends will be reduced as an internal disciplinary measure for company managers. This implies that board independence and dividend payments are alternative means of mitigating agency problems in family firms. Furthermore, Hamdan and Al Mubarak (2017) show that an independent board can effectively reduce the adverse effects of executive overconfidence on the firm. For example, firms tend to limit the overinvestment behavior of overconfident CEOs and increase the cash available for dividends under the supervision of independent directors. According to the existing literature, board independence is inextricably linked to dividend distribution policy, and CEO overconfidence can also affect a company's dividend distribution policy. Therefore, it is feasible to add the influence of board independence to the study of CEO overconfidence.

In addition, this study examines the influence of board independence in mitigating the adverse effects of CEO overconfidence on dividend policy. We group firms according to board independence, dividing them into strong and weak board independence groups. The results show that in the group with strong independence, the effect of CEO overconfidence on whether the company pays dividends and the level of dividend payout is still negative but no longer significant. In contrast, the group with weak board independence still turns out to be significantly negatively correlated.

To ensure the reliability of our findings, we conduct an extensive series of robustness checks using alternative measures of both CEO overconfidence and dividend payout. These methodological tests confirmed the robustness of our conclusions and highlighted the consistency of our analytical approach.

This investigation of the interaction between CEO overconfidence, dividend payout, and the moderating effect of board independence adds a new dimension to existing research. Previous research has shown that overconfident CEOs tend to pay lower dividends, while boards with strong independence tend to lead to higher dividends. Thus, we contribute to this field of research by investigating the impact of board independence on the relationship between CEO overconfidence and dividend payouts. Firms with robust board independence exhibit greater potential for dividends and higher dividend rates than those with weaker board independence, even when CEO overconfidence is the same. This confirms that board independence is crucial in corporate governance and can effectively reduce agency problems.

Our results contribute to several areas of the literature. First, this study expands on previous research on dividend payout, which mainly focused on CEO overconfidence and dividend policy. It confirms the impact of CEO overconfidence on dividend payout from the perspectives of dividend possibility and dividend payout rate. Additionally, the research contributes to corporate governance by showing that board independence plays a crucial role in solving agency problems such as CEO overconfidence. Improved corporate governance can lead to higher board independence, significantly reducing CEO overconfidence's negative impact on corporate dividend decisions.

The paper proceeds with a literature review and research hypotheses in the second section. The third section describes the research design, including data and sample selection, methodology, and the variable model. The fourth section presents the empirical test results and robustness checks, the fifth section discusses the moderation effect, the sixth section outlines policy implications, and the final section concludes the study.

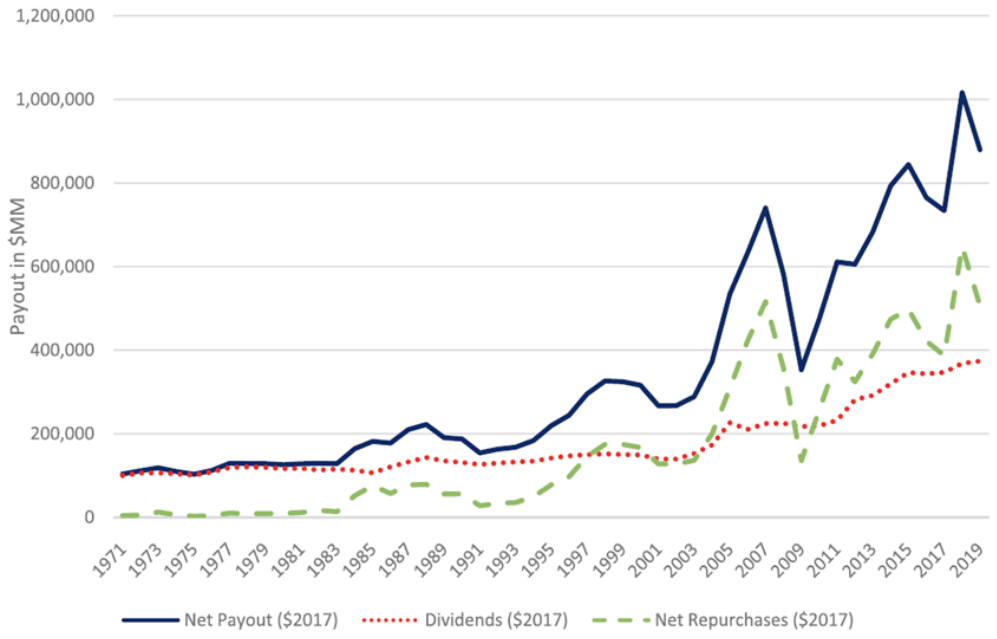

FIGURE 2.1: Aggregate real net payouts by year.

Note: This figure shows the total payments (in 2017 dollars) for a sample of CRSP/Compustat companies from 1971 to 2019. Repurchases are calculated as purchases of common and preferred stock (PRSTKC) less any reduction in the value of preferred stock; depending on availability, we use redemptions (item PSTKRV), liquidations (item PSTKL), or preferred stock value (item PSTK) to calculate this. Net repurchases are equal to repurchase volume minus shares issued (item SSTK). If both calculations produce a negative value, the repurchase is zero. Dividends are measured as cash dividends (DV). Net dividend payout is the sum of dividends and net share repurchases.

2.2 Literature Review and Hypothesis Development

This paper's literature review systematically describes the role of CEO overconfidence in corporate finance and its impact, from firm financing, investment, mergers, and acquisitions to the final dividend distribution. This provides a clear picture of the role of CEO overconfidence in every aspect of corporate finance, from financing to investing to spending to the final distribution, each of which is inextricably intertwined. Finally, the hypothesis is based on the literature on board independence.

The Modigliani and Miller (M&M) theorem asserts that under perfect capital market conditions, a firm's capital structure and payout policies are irrelevant to its value. However, in the real world, market imperfections such as taxes, agency costs, and information asymmetries make these decisions critical. This study extends the M&M framework by examining how behavioral factors like CEO overconfidence interact with governance mechanisms, thereby influencing corporate payout decisions. This perspective bridges the gap between classical financial theories and the behavioral nuances observed in contemporary corporate practices.

Agency theory highlights the conflicts of interest between principals (shareholders) and agents (managers), stemming from information asymmetry and misaligned incentives. Overconfident CEOs, for instance, may pursue high-risk investments or excessive payouts, prioritizing personal objectives over shareholder value maximization. Corporate governance mechanisms, such as board independence and labor protection laws, are essential in mitigating these agency conflicts by regulating managerial behavior. This study applies agency theory to investigate how such governance structures constrain CEO overconfidence, aligning managerial actions with shareholder interests.

The integration of M&M theory and agency theory provides a comprehensive framework for understanding the dynamics of corporate governance and payout policies. While M&M theory addresses the financial implications of payout decisions under market imperfections, agency theory focuses on governance mechanisms that regulate managerial discretion. Together, these perspectives form a robust theoretical foundation for this study, enabling the exploration of how governance structures and institutional constraints interact with managerial traits to shape financial decision-making.

2.2.1 Managerial Overconfidence and Corporate Financing Sequence

Overconfident managers overestimate the company's profitability and think that the market underestimates the company's value. Therefore, they are reluctant to raise external financing when the company needs financing. When necessary, they first use

debt financing and then use equity financing. Heaton (2002) used a two-stage, three-period model to examine the relationship between managerial overconfidence and corporate financing. He believes that the price of risky securities reflects an investor's estimation of the probability of good and bad states. Overconfident managers will systematically assign a higher probability to good states than efficient capital markets. Because overconfident managers overestimate the future cash flow generated by the company and believe that the market undervalues the risky securities issued by the company, they are reluctant to seek external financing. When the company must seek external financing, they are more sensitive to market expectations, so in the opinion of overconfident managers, the cost of issuing stocks is higher than issuing bonds, leading them to prefer debt financing. This results in overconfident managers following the "internal financing—debt financing—equity financing" sequence.

A rational CEO is defined as a corporate executive who makes decisions based on logical evaluation of available data, consistent with the principles of value maximization and aligned with the firm's long-term objectives. Rational CEOs are characterized by their ability to prioritize shareholder value, mitigate personal biases, and adapt strategies to dynamic market conditions. For instance, a rational CEO would evaluate investment opportunities based on net present value (NPV) calculations rather than personal intuition, ensuring decisions are rooted in financial soundness and strategic alignment.

In contrast to overconfident CEOs, rational CEOs are less likely to engage in excessive risk-taking or prioritize short-term gains at the expense of long-term sustainability. This distinction underpins the analysis of behavioral traits in this study, emphasizing the importance of governance mechanisms in moderating deviations from rational behavior. Malendier et al.(2005) study the CEOs of large American companies and empirically analyzed the relationship between managers' overconfidence and corporate financing decisions. Compared with rational CEOs, the results show that overconfident CEOs conduct less external financing in the capital market and use at least 10% more internal funds. When the company needs external financing, overconfident CEOs significantly reduce equity financing, using at least 15% more debt.

Lin et al. (2008) study listed companies in Taiwan, using the deviation of managers' profit forecasts and actual profits to measure managers' overconfidence. Their empirical analysis found that overconfident managers preferred debt financing for external financing compared to non-overconfident managers.

2.2.2 Managerial Overconfidence and Enterprise Investment Level

Overconfident managers often overestimate the benefits of projects and underestimate their risks, leading to a higher than optimal investment level. Statman and Tyebjee (1985) examine managers' overconfidence in forecasting profits and costs when calculating net present value. They believed that overconfidence led managers to overestimate expected benefits and underestimate expected costs when evaluating projects, inflating values and causing managers to pursue more bad projects.

Heaton (2002) examine the impact of managers' overconfidence and free cash flow on corporate investment through a model. The study find that managers' overconfidence can cause investment distortions, leading to over-investment and under-investment, closely related to the free cash flow owned by enterprises. On the one hand, overconfident managers believe that the market undervalues the risky securities issued by the company and, therefore, prefer internal financing. When the company runs short of free cash flow, they are reluctant to raise external funds because they think the cost of external financing is too high, leading to the abandonment of some investment projects with a net present value greater than zero, resulting in underinvestment. On the other hand, overconfident managers usually overestimate the value of investment opportunities and implement some investment projects whose actual net present value is less than zero, believing it to be greater than zero. When the company has sufficient free cash flow and does not need external financing, the excessive investment willingness of overconfident managers will be realized, leading to overinvestment.

Ben-David et al.(2007) study the relationship between managerial overconfidence and corporate investment through a model. They believe that overconfident managers overestimate their abilities, underestimate project investment risks, and use lower discount rates when evaluating investment projects. Based on theoretical analysis, they survey CFOs in the United States, using the CFO prediction bias as a proxy variable to measure managers' overconfidence, and conduct an empirical analysis on the relationship between managerial overconfidence and investment. The results confirm their prediction.

Goel and Thakor (2008) examine the impact of CEO overconfidence on investment decisions through a two-stage leadership selection model. The study finds that rational and risk-averse CEOs often underinvest under optimal compensation contract conditions because they are unwilling to take risks; moderately overconfident CEOs overestimate the accuracy of private information and act promptly based on the information. The underinvestment problem of rational, risk-averse CEOs can be overcome; extremely overconfident CEOs overestimate the accuracy of private information and are reluctant to invest in information acquisition, causing firms to overinvest.

2.2.3 Managerial Overconfidence and Enterprise M&A Decision

Roll (1986) first examine the role of managerial overconfidence in the decision-making of M&A firms. He believes that managers tend to pay too high a price for target companies in the process of mergers and acquisitions due to their overconfidence in their abilities; he also believes that overconfidence causes managers to overestimate the expected synergies of mergers and acquisitions and overestimate potential benefits, leading them to bid too high and resulting in wealth transfer from acquirer shareholders to target company shareholders at a premium over market price. Second, Roll (1986) links mergers and acquisitions with standard auction theory, arguing that because bidders cannot wholly solve the potential problem of the winner's curse, there are a large number of unlucky winners in corporate mergers and acquisitions. Firms overbid because acquirers must bid more than current market prices to complete an M&A transaction, leading to an upward bias. Finally, Roll (1986) puts forward three testable theories: (1) the combined value of the target company and the merging company decreases slightly, (2) the value of the merging company decreases, and (3) the value of the target company increases.

Hayward and Hambrick (1997) conduct an empirical analysis of the effect of managerial overconfidence in mergers and acquisitions. They studied the role of CEO overconfidence in explaining the M&A premium by taking 106 M&A events in the United States in 1989 and 1992 as samples. Through research, they found that four indicators of overconfidence are related to the M&A premium: (1) the stock price performance of the M&A company in the year before the announcement, measured by the cumulative excess return in the year before the announcement, (2) content analysis of major American media, (3) CEO self-importance, measured by the CEO's cash compensation ratio to the salary of the second highest-paid executive, and (4) the combination of the above three variables as the overconfidence factor. They also found that the relationship between CEO overconfidence and M&A premium is stronger when the board's supervisory role is not fully exerted, when the board has many internal directors, and when the CEO and the chairman are concurrent. There is a close relationship between CEO overconfidence and M&A premium.

Doukas and Petmezas (2007) study the relationship between overconfidence and mergers and acquisitions by examining British M&A transactions from 1980 to 2004. They find that overconfident managers achieved lower announced returns from M&A than rational managers and performed worse in the long run.

Brown and Zorn (2006) study the relationship between managerial overconfidence and mergers and acquisitions using a sample of public company mergers and acquisitions in the United States from 1994 to 2004. The results show that, whether it is the M&A company or the target company, the overconfidence of managers will lead to a higher M&A premium; the market does not respond positively to the M&A transactions

carry out by overconfident managers in the M&A company. However, if the managers of the target company are overconfident, the market will respond positively.

Lin et al. (2008) study the problem of managerial overconfidence in corporate mergers and acquisitions by examining M&A events of listed companies in Japan from 1989 to 2003, using past stock returns as a proxy variable for managerial overconfidence. They find that there is also a severe phenomenon of managerial overconfidence in Japanese corporate mergers and acquisitions. The mergers and acquisitions carried out by overconfident managers often have negative excess returns during the event period, whereas those carried out by nonoverconfident managers have positive event-period excess earnings.

Liu and Taffler (2008) examine M&A activity from a behavioral perspective using a sample of 1900 M&A transactions and 3100 CEO data from 1993 to 2005. Their findings show that, compare with rational CEOs, overconfident CEOs are more likely to engage in mergers and acquisitions; the overconfidence of CEOs of acquiring companies has a significant negative impact on short-term and long-term post-merger performance, especially for large companies; overconfidence of CEOs of target companies has a significant negative impact on the short-term performance of M&A firms.

2.2.4 Managerial Overconfidence and Corporate Dividend Distribution

Ben-David et al.(2007) analyze the impact of managerial overconfidence on corporate policy through a model. They find that overconfident managers tend to over-invest when investing in projects and often think that investors underestimate the company's value. As a result, managers are reluctant to use external funds and prefer to use internal funds when financing projects, leading to a reluctance to issue cash dividends. Based on theoretical analysis, they also survey CFOs of American companies, empirically analyzing the relationship between CFO overconfidence and corporate dividend distribution decisions. The results confirm the conclusion that overconfident managers are reluctant to pay dividends.

Cordeiro (2009) conduct an empirical study on the relationship between CEO overconfidence and corporate dividend policy, using whether the CEO exercises stock options promptly and the media's evaluation of the CEO as indicators to measure managers' overconfidence. The study finds that overconfident CEOs are reluctant to pay cash dividends; even if they do, the level of cash dividends paid by overconfident CEOs is lower than that of rational CEOs.

Deshmukh (2013) develops a model of the impact of CEO overconfidence on dividend policy and empirically tested many of its predictions, finding that the magnitude of dividend reductions associated with CEO overconfidence is more significant for firms

with fewer growth opportunities, lower cash flows, and higher information asymmetry; for firms managed by overconfident CEOs, the magnitude of the positive market response to dividend increase announcements is lower.

This paper argues that overconfident managers are reluctant to pay dividends. This is because overconfident managers overestimate their management capabilities and are optimistic about the company's future development. When evaluating investment projects, they overestimate the projects' cash flow, underestimate the company's investment risks, and incorrectly consider some projects with negative net present value as positive net present value projects, thus creating an urge to invest and expand. To meet the needs of investment projects, overconfident managers are forced to take various measures to raise funds. There are two main ways in which a company can obtain finance: internal finance and external finance. Overconfident managers are reluctant to raise external finance because they overestimate the future cash flows of their business, believe that their business is undervalued by the market, and think issuing risky securities to raise funds would harm the interests of the original investors. They also believe that raising funds from outside the business, whether through debt or equity capital financing, is subject to investor scrutiny. In contrast, raising capital from within requires no funding costs and is rarely subject to investor discipline. Based on the above discussion, this study proposes the following hypothesis:

Hypothesis 1: Relative to rational CEOs, overconfident CEOs make fewer dividend distributions and are reluctant to pay cash dividends.

Hypothesis 2: Overconfident CEOs pay lower levels of dividends relative to rational CEOs.

Independent directors can add value to the firm (Liu et al., 2015; Hamdan and Al Mubarak, 2017), and agency theory suggests that if the board includes more independent managers, then the leader's management control will become effective (Fakher and Abdelfettah, 2012; Rodriguez, 2015). An independent and qualified control body appears necessary to validate, certify, and guarantee the credibility of the information released and to give users confidence in the data disclosed in the accounts (Ndjanyou et al., 2015).

The conclusion drawn from the above literature is that an independent board of directors improves the quality of management's decision-making, which manifests itself in dividend policy. An independent board of directors enhances the company's internal transparency, leading to a reduction in agency problems and consequent information asymmetry within the company. This will result in a more rational dividend policy for the company. Based on the above discussion, this study proposes the following hypothesis:

Hypothesis 3: The greater the independence of the board of directors, the lower the impact of CEO overconfidence on cash dividend distributions.

Hypothesis 4: The greater the independence of the board, the lower the impact of CEO overconfidence on the level of dividend distribution.

The hypothesis posits that CEO overconfidence leads to a higher likelihood of dividend payments, as overconfident CEOs prefer signaling strong financial health to the market. This is supported by agency theory, which highlights how managerial discretion influenced by overconfidence can lead to decisions that prioritize market perceptions over shareholder value maximization. Furthermore, deviations from the Modigliani and Miller (M&M) framework demonstrate the impact of behavioral and institutional factors, such as governance structures, in shaping payout decisions in non-perfect capital markets.

2.3 Research Design

2.3.1 Sample selection

The study focuses exclusively on U.S. firms due to the availability of reliable, high-quality data and the consistency of the U.S. legal and institutional frameworks. The U.S. provides a robust environment for analyzing corporate governance dynamics, particularly with its well-documented adoption of labor protection laws and corporate opportunity waivers (COWs). Additionally, the financial market depth and transparency in the U.S. ensure that results derived from this context can serve as benchmarks for global comparisons.

However, the findings may not be directly generalizable to non-U.S. contexts due to differences in legal systems, cultural attitudes towards governance, and economic structures. Future research could explore these dynamics in other jurisdictions to assess the broader applicability of the conclusions.

The sample period from 1992 to 2021 was chosen to capture critical economic and regulatory developments that impact corporate governance and financial policies. This period includes the implementation of key labor protection laws, the increasing adoption of COWs, and significant economic events such as the 2008 financial crisis. These events provide a rich backdrop to investigate the interplay between CEO overconfidence, governance structures, and corporate payout policies.

The extended time frame also allows for a more comprehensive analysis of long-term trends and mitigates biases that may arise from focusing on shorter, less representative periods.

The study includes a diverse set of industries to ensure that the findings are not biased by industry-specific characteristics. Industries with unique regulatory environments or governance norms (e.g., financial services, utilities) are excluded to maintain consistency and focus on general corporate governance dynamics. The chosen industries reflect a broad cross-section of the economy, enhancing the relevance of the findings for policy recommendations and managerial practices.

Our sample includes all publicly traded U.S. companies from 1992 to 2021. We include companies at the end of the fiscal year and ensure that they have a CRSP stock code of 10 or 11 to confirm they are publicly traded. Data for CEO overconfidence metrics and control variables were obtained from the CRSP/Compustat merged database, S&P Capital IQ, and ExecuComp. Companies with total assets or sales below zero were excluded. Utilities (SIC codes 4900-4949) and financial firms (SIC codes 6000-6999) were also excluded due to their unique regulatory and cash flow structures. The final sample consists of 8,532 firm-year observations from 1,934 unique companies for the period 1992-2021.

2.3.2 Variable Definitions

2.3.2.1 Dependent Variables

Whether the company distributes dividends: This binary variable indicates the company's dividend distribution in the current year, with a value of 1 signifying that dividends have been distributed and 0 indicating no distribution.

Dividend payout ratio: This variable reflects a company's level of cash dividend payments and the size of its willingness to pay cash dividends, given its available cash capacity.

2.3.2.2 Overconfidence measures

As a psychological bias, overconfidence is challenging to measure for two main reasons. First, decision-makers themselves do not perceive that they are overconfident. When making decisions, they believe their estimates are accurate and, when questioned, often do not acknowledge any bias in their decision-making. Second, the outcome of events is inherently random, and individuals cannot know the results in advance, making it impossible for a rational observer to quantify the degree of estimation bias accurately.

Despite these challenges, psychological activities can be inferred from certain behaviors. As a result, many scholars use surrogate variables to represent managers' overconfidence. Malmendier and Tate (2005) significantly contributed to this field by

introducing robust measures of CEO overconfidence, which have become widely accepted in empirical research. The following indicators have been proposed by scholars to measure managers' overconfidence, with a particular focus on Malmendier and Tate's contributions:

Stock Options and Stock Purchases Malmendier and Tate (2005) propose using the behavior of CEOs regarding their stock options as a proxy for overconfidence. Specifically, they consider CEOs who do not sell their in-the-money options or who consistently increase their stock holdings as overconfident. According to portfolio theory, rational investors should diversify their investments to mitigate risk. A CEO who does not take advantage of opportunities to exercise options or sell stock, and who is willing to take on greater risk, indicates optimism about the company's future. This behavior suggests that the CEO is overconfident in their ability to manage and improve the company's performance. The reluctance to sell in-the-money options, even when they represent a significant proportion of the CEO's wealth, is a key indicator of overconfidence, as it reflects the CEO's belief that the stock price will continue to rise under their leadership.

Holder67: A Specific Measure of Overconfidence In their seminal paper, Malmendier and Tate (2005) introduce the Holder67 measure, which has since become a standard proxy for CEO overconfidence in empirical studies. CEOs classified as overconfident by this measure are those who hold more than 67% of their exercisable options in monetary terms without exercising them. The rationale behind this threshold is that rational CEOs, concerned with diversification and risk management, would exercise their options when they are significantly in-the-money. By holding onto these options, CEOs demonstrate an overly optimistic expectation of future stock price increases, indicative of overconfidence.

The Holder67 measure is calculated by taking the ratio of the realizable value (RV) of the exercisable options to the average exercise price (AEP) of these options. The RV is defined as the total realizable value of exercisable options, while AEP is calculated as the stock's closing price minus the RV at the end of the fiscal year. This ratio provides the average percentage of the option's value that remains unexercised, with a higher percentage indicating greater overconfidence.

Media Evaluation of the CEO Another widely used method to measure CEO overconfidence involves analyzing media evaluations, as first proposed by Hayward and Hambrick (1997). This approach categorizes media coverage of CEOs into different types based on the nature of the evaluation (e.g., overt praise, general praise) and assigns corresponding scores. The total score is then used to determine whether

the CEO is overconfident. Malmendier and Tate (2005) extend this approach by considering the interaction between media coverage and CEO behavior, suggesting that positive media coverage may reinforce overconfident behavior, leading to riskier corporate decisions.

General Manager Profit Forecast The tendency of CEOs to overestimate earnings forecasts is another indicator of overconfidence, first highlighted by Lin et al. (2005). Overconfident CEOs are more likely to predict higher pre-tax profits compared to actual results, resulting in positive forecast errors. Malmendier and Tate (2005) explore this behavior in the context of corporate investment, showing that overconfident CEOs often pursue aggressive investment strategies based on overly optimistic earnings projections. This misalignment between forecasted and actual earnings further demonstrates the CEO's overconfidence.

Mergers and Acquisitions (M&A) Frequency Doukas and Petmezas (2007) suggest that a higher frequency of mergers and acquisitions (M&A) can be a proxy for CEO overconfidence. Overconfident CEOs are more likely to engage in frequent M&A activities, driven by their belief in the superior benefits of such actions and their underestimation of the associated risks. Malmendier and Tate (2005) also examine the role of overconfidence in M&A decisions, finding that overconfident CEOs tend to overestimate the synergies and potential gains from acquisitions, leading to higher premiums and more frequent M&A transactions.

2.3.2.3 Holder67: The Chosen Measure of Overconfidence

In this study, we adopt the Holder67 measure as our primary method to assess CEO overconfidence. Holder67, introduced by Malmendier and Tate (2005), is defined by the proportion of exercisable stock options that a CEO holds without exercising, specifically focusing on CEOs who hold more than 67% of their exercisable options in monetary terms. This measure is particularly robust for several reasons:

Behavioral Precision: Holder67 directly captures a CEO's decision-making process regarding their stock options, which is a critical indicator of overconfidence. By choosing not to exercise options that are significantly in-the-money, CEOs signal their belief that the company's stock price will continue to rise, thus demonstrating an optimistic bias in their expectations.

Clear Quantitative Threshold: The 67% threshold is empirically derived and provides a clear, quantifiable benchmark for identifying overconfidence. This threshold is rooted in the understanding that rational CEOs, who are focused on risk diversification, would typically exercise a portion of their in-the-money options.

Exceeding this threshold indicates that the CEO is acting against conventional risk management strategies, a hallmark of overconfidence.

Empirical Validation: Holder67 has been extensively validated in prior research, including by Malmendier and Tate (2005), as a reliable and consistent measure of overconfidence. Studies using Holder67 have demonstrated its effectiveness in predicting a range of corporate behaviors influenced by overconfidence, such as investment decisions, financing choices, and risk-taking.

Advantages of Holder67

- **Simplicity and Reliability**: Holder67 is relatively straightforward to calculate, relying on readily available data from corporate filings. This simplicity does not come at the cost of reliability; on the contrary, it enhances the robustness of the measure, making it applicable across a wide range of firms and industries.
- **Behavioral Insight**: Unlike other measures that may rely on external perceptions or broad patterns of behavior, Holder67 provides direct insight into the personal financial decisions of CEOs. This direct behavioral evidence is particularly valuable for understanding the psychological biases that drive executive decision-making.
- **Cross-Study Comparability**: The widespread use of Holder67 in empirical studies allows for greater comparability across different studies. By using a well-established measure, this study contributes to the broader literature on CEO overconfidence, enabling comparisons with prior findings and enhancing the generalizability of the results.

  Limitations of CEO Overconfidence Measures

  One limitation of Holder67 as a proxy for CEO overconfidence is its reliance on a single behavioral trait (e.g., retention of in-the-money stock options). While this measure captures certain aspects of overconfidence, it may overlook other critical dimensions, such as overconfidence in strategic decision-making or risk evaluation. Additionally, Holder67 assumes that the retention of stock options is universally indicative of overconfidence, which may not account for variations in tax considerations, market conditions, or firm-specific governance structures.

  Alternative measures such as CEO option exercise behavior, media sentiment analysis, or earnings management patterns could provide complementary perspectives. For example, sentiment analysis of CEO speeches or interviews could reveal overconfidence tendencies in communication, while earnings management could reflect overconfidence in manipulating financial outcomes.

  The data on CEO overconfidence often relies on publicly disclosed information, which may introduce biases due to selective reporting or inconsistencies in

disclosures across firms and industries. For instance, smaller firms or firms in less regulated markets might provide less comprehensive data on CEO behaviors. These biases could affect the generalizability of the findings and should be acknowledged as a limitation.

Future research could address these limitations by exploring richer datasets, such as those derived from proprietary surveys or experimental settings, which might capture more nuanced behavioral traits.

In conclusion, the Holder67 measure is chosen for its robust ability to capture CEO overconfidence, offering a clear and empirically supported metric that aligns with the objectives of this research. Its simplicity, reliability, and strong behavioral foundations make it an ideal tool for examining the impact of overconfident CEOs on corporate outcomes.

2.3.2.4 Moderating and Control Variables

This section discusses the moderating and control variables included in the analysis. Among the control variables, dividend issuance is particularly significant as it directly relates to corporate payout decisions. In the dataset, approximately 62% of the sampled firms issued dividends during the study period. Table 2.1 provides a breakdown of dividend issuance by industry and year.

Our sample includes companies whose fiscal year ends with CRSP or Compustat Annual Data Project data. Profitability is measured as operating income before depreciation divided by total assets. Firm size is the log of total assets (item 6). Tangible assets are net tangible assets (item 13) divided by total assets (item 6). Cash holdings (item 162) reflect a firm's willingness and ability to pay cash dividends. The higher the level of cash the company owns, the more it can afford to pay dividends. Consequently, companies with relatively abundant monetary resources are more likely to choose the cash dividend option. The ratio of total cash and cash equivalents to total assets at the end of the period is expected to have a positive coefficient.

According to financial theory, the better a company's growth capacity, the less likely it is to distribute cash dividends. This is because companies with good growth opportunities have a greater demand for cash and will tend not to pay cash dividends in order to seize growth opportunities, develop markets, and expand production operations. Therefore, the coefficient of this variable is expected to be negative. Market-to-book ratio is used as a proxy for growth opportunities and is measured as the ratio of the market value of equity to the book value of equity.

Board independence is measured as the annual ratio of the number of non-executive directors to the total number of directors on the company's board, as in Harford et al.

(2008). The system of independent directors is an integral part of the modern corporate governance structure. It aims to prevent the abuse of control by major shareholders and management, which could disregard or harm the interests of small and medium shareholders in decision-making and operations. Independent directors are independent of management and significant shareholders, and can supervise management to prevent or counteract the abuse of power by major shareholders, thus reducing agency costs. The payment of cash dividends is also a way to reduce agency costs. Therefore, the more independent directors a company has, the more likely it is to consider the interests of outside investors and reduce agency conflicts. For this reason, this study expects that companies with a higher proportion of independent directors are more likely to distribute cash dividends and pay higher amounts of cash dividends.

TABLE 2.1: Percentage of Firms Issuing Dividends

Category	**Percentage of Firms Issuing Dividends**	**Sample Size**
Overall Sample	62%	1,200
Manufacturing Sector	68%	500
Technology Sector	55%	400
Other Sectors	60%	300

2.3.3 Baseline Regression

Analytical Model of CEO Overconfidence and the Propensity of Firms to Pay Dividends

Since whether or not a firm pays dividends is a binary variable with only two possible values, 1 and 0, a binary LOGIT regression model is used in this study. The probability of a firm paying cash dividends is denoted as P, and the regression model is expressed as follows:

$$\ln\left(\frac{P}{1-P}\right)_{i,t} = \alpha + \beta \text{CEO\_overconfidence}_{i,t} + \gamma \text{CONTROLS}_{i,t} + \text{FEs} + \epsilon_{i,t} \quad (2.1)$$

Where P represents the probability of a firm paying dividends. The primary variable of interest is CEO overconfidence, an indicator variable equal to 1 (Holder67) for CEOs with option moneyness above 67%. CONTROLS are vectors of firm-specific and CEO-specific characteristics that may affect firm liquidity management. We estimate

equation 2.1, including annual and firm fixed effects (FE), to control the effect of time and firm-specific trends on unused credit lines.[1]

(2) Analytical Model of CEO Overconfidence and the Level of Cash Dividends Paid by the Firms

To test the effect of CEO overconfidence on the level of cash dividends paid by the firm, the TOBIT regression model is chosen for this study, and the regression model is expressed as follows:

$$\text{PAYOUT}_{i,t} = \alpha + \beta \text{CEO\_overconfidence}_{i,t} + \gamma \text{CONTROLS}_{i,t} + \text{FEs} + \epsilon_{i,t} \tag{2.2}$$

Where PAYOUT represents the company's dividend payout ratio. The primary variable of interest is CEO overconfidence, an indicator variable equal to 1 (Holder67) for CEOs with option moneyness above 67%. CONTROLS are vectors of firm-specific and CEO-specific characteristics that may affect firm liquidity management. We estimate equation 2.2, including annual and firm fixed effects (FE), to control for the effects of time and firm-specific trends on unused credit lines.[2]

[1]The LOGIT regression model is appropriate for the first model as it deals with a binary outcome variable, whether or not a firm pays dividends. The use of a binary variable with only two possible values (1 and 0) justifies the choice of a LOGIT model. Additionally, the inclusion of CEO overconfidence as a binary independent variable and the use of control variables related to firm and CEO characteristics further support the appropriateness of this model. The model also incorporates fixed effects to control for time and firm-specific trends, ensuring that the results are robust against unobserved heterogeneity.

[2]The TOBIT regression model is suitable for the second model, which examines the level of cash dividends paid by firms. Since the dividend payout ratio is a continuous variable that may be censored or truncated (e.g., it cannot be negative and typically ranges between 0 and 1), the TOBIT model is an appropriate choice. The inclusion of CEO overconfidence and control variables, along with fixed effects, ensures that the model accounts for both observed and unobserved factors that could influence dividend payouts. This model choice is consistent with the literature and is well-suited to analyze the impact of CEO overconfidence on dividend policy.

2.3.4 Summary statistics

Table 2.1 presents descriptive statistics for all the variables used in our analysis. On average, the dividend payout ratio is 1.69%, and the cash payout ratio for dividends is approximately 43%. This indicates that the sample firms are relatively aggressive in paying dividends but still use a more conservative strategy for corporate cash distributions. The mean of Holder67 represents the percentage of firm-years in which companies are managed by overconfident managers. The table shows that approximately 36% (versus 64%) of the sample firms are managed by overconfident (versus non-overconfident) CEOs in a given year, which is similar to the 32.1% reported by Phua et al. (2018). The firm-level and CEO characteristics are consistent with previous literature (Banerjee et al., 2015; Huang-Meier et al., 2016; Aktas et al., 2019; Deshmukh et al., 2021).

From a profitability perspective, firms' profitability levels varied widely, with an average of 7.6%, a high of 10.3%, and a low of 3.1%. Despite this variability, profitability was generally stable. The mean value of revenue growth was 5.6%, indicating that most of the companies are relatively mature. The mean value of cash holdings was 10.4%, which supports the observation that cash dividends constitute a relatively low share of total dividends. Finally, the proportion of independent directors was 68%, indicating that most of the companies have strong corporate governance characteristics.

TABLE 2.2: Descriptive Statistics of Variables

Variable	Mean	Min	Median	Max	Std. Dev.
Cash dividends ratio	0.433	0.000	0.000	1.000	0.075
Payout ratio (%)	1.69	0.000	0.000	6.91	2.64
Overconfidence (%)	36.0	0.000	0.000	100.0	47.3
Profitability (%)	7.6	0.31	7.5	10.3	2.1
Firm size (log)	7.139	6.455	7.539	8.643	1.677
Tangibility (%)	13.1	9.1	19.2	40.1	23.2
Cash holdings (%)	10.4	3.9	3.4	11.9	4.5
Growth (%)	5.6	0.9	0.3	30.1	12.3
Board independence (%)	68.0	0.0	0.0	100.0	46.8
Market-to-Book Ratio	2.241	0.525	1.287	2.762	3.672

Note: This table shows the summary statistics for our variables. Variable definitions are provided in Appendix Table A1. On average, the dividend payout ratio is 1.69, and the cash payout ratio for dividends is approximately 43%. This indicates that the sample firms are relatively aggressive in paying dividends but still use a more conservative strategy for corporate cash distributions. The mean of Holder67 indicates the percentage of annual observations of firms managed by overconfident managers.

2.3.5 Correlation test

Table 2.2 shows the Pearson correlation coefficients between the variables. The table indicates that both the cash dividends paid by the firm and its cash dividend payout rate are negatively correlated with CEO overconfidence. This supports the conclusion that overconfident CEOs are reluctant to pay cash dividends and tend to have a lower level of cash dividend payout.

Regarding the control variables, the propensity to pay cash dividends and the level of cash dividends paid are positively correlated with firm size, firm profitability, and the level of cash held by the firm, which is entirely consistent with the study's expectations. The propensity to pay cash dividends is also significantly and positively correlated with the firm's growth opportunities, aligning with the study's expectations. Additionally, cash dividend payout is positively associated with growth opportunities, suggesting that many firms are more mature and maintain a relatively stable dividend payout rate.

The proportion of independent directors is weakly negatively related to whether cash is paid out and to the cash dividend payout rate. It is also negatively related to CEO overconfidence, suggesting that an independent board of directors may weaken the effect of reduced dividend distribution by an overconfident CEO.

TABLE 2.3: Pearson correlation coefficients

	1	2	3	4	5	6	7	8	9	10
1. Cash Dividend Paid	1.000	-0.400**	-0.223**	0.182***	0.168***	0.265*	0.303*	-0.005	0.265*	0.012
2. Cash Dividend Payout Rate		1.000	-0.135***	0.002***	0.171**	0.268**	0.112*	-0.212**	0.479**	0.033
3. CEO Overconfidence			1.000	0.113***	-0.083	0.479	-0.554	-0.005	0.268*	0.026
4. Firm Size				1.000	0.141**	0.183**	-0.267**	0.075	0.183**	0.241**
5. Profitability					1.000	-0.147	-0.217	-0.290	-0.147	0.289
6. Cash Holdings						1.000	-0.069*	0.514**	0.154	0.036
7. Growth Opportunities							1.000	0.249**	-0.069	0.175*
8. Board Independence								1.000	0.514**	0.049
9. Market-to-Book Ratio									1.000	0.672*
10. Tangibility										1.000

Note: This table shows the Pearson correlation coefficients between the variables in the sample. The table indicates that both the cash dividend paid by the firm and its cash dividend payout rate are negatively correlated with CEO overconfidence. This supports the conclusion that overconfident CEOs are reluctant to pay cash dividends and tend to have a lower level of cash dividend payout.Regarding the control variables, the propensity to pay cash dividends and the level of cash dividends paid are positively correlated with the size of the firm, the profitability of the firm, and the level of cash owned by the firm, which is consistent with the study's expectations. The propensity to pay cash dividends is significantly and positively correlated with the firm's growth opportunities, aligning with the study's expectations.***, **, * represent statistical significance at the 1%, 5%, and 10% levels, respectively.

2.4 Empirical Results

2.4.1 Results of the Analysis of CEO Overconfidence Levels and the Propensity to Pay Dividends

We use LOGIT regressions to test the relationship between CEO overconfidence and dividend payout propensity. To better examine the relationship, we analyzed four additional groups and conducted three more analyzes in the cash dividend-paying and non-cash dividend-paying groups. Table 2.3 shows the results of the regression analysis. The results for the control variables indicate varying degrees of significance. Firm size and growth rate were found to have no statistically significant impact on dividend payments, suggesting that these factors do not play a decisive role in corporate payout decisions within the sampled firms. On the other hand, cash holdings exhibit a negative and significant relationship with dividend payments ($p < 0.05$). This finding aligns with prior literature, which posits that firms with higher cash reserves are more likely to retain earnings for reinvestment or to safeguard against future uncertainties, rather than distributing them as dividends. These insights underscore the nuanced interplay of financial characteristics in shaping payout policies.

Column 2 introduces the overconfidence variable based on Column 1. The results show that the impact of the variables on the firm's willingness to pay cash dividends remains unchanged. Column 3 adds the firm's cash holdings to the model from Column 2, and the results show no change in the effect of each variable on whether the firm pays dividends. The relationship between the variables and the propensity to pay dividends has not changed much, except for cash holdings, which have become insignificant compared to their previous significance. These findings are generally consistent with the previous analysis. In contrast, the effect of the CEO overconfidence variable on whether the firm pays dividends has become more significant.

Column 4 builds on Column 3, and the results—changing the willingness to pay dividends to the willingness to pay cash dividends—are mostly consistent with Column 3. The above analysis indicates that overconfident CEOs are more reluctant to pay dividends compared to rational CEOs. This confirms Hypothesis 1.

2.4.2 Results of the analysis of CEO overconfidence and dividend payout ratio

Table 2.4 presents the results of the TOBIT regression analysis on the rate of dividend payout and the overconfidence of the company's CEO. Four models were analyzed to test the relationship more precisely. Column 1 presents the results without including

TABLE 2.4: The relationship between CEO overconfidence and the impact of a company's propensity to distribute dividends

Variables	**(1)**	**(2)**	**(3)**	**(4)**
overconfidence		-0.763**	-0.528**	-0.722**
		(-2.47)	(-2.39)	(-2.19)
Growth	0.110	0.132	0.147	0.167
	(0.151)	(0.167)	(0.132)	(0.155)
Firm size	0.181	0.219	0.229*	0.267
	(-1.50)	(1.672)	(1.732)	(1.322)
Cash holdings			-2.149***	-2.675*
			(-3.624)	(-1.943)
Tangibility	4.547**	4.672**	4.386*	4.686**
	(2.231)	(2.091)	(1.97)	(2.072)
Board independence				0.529*
				(1.927)
Leverage	-0.136	-0.129	-0.146	-0.153
	(-0.68)	(-0.53)	(-0.72)	(-0.86)
Profitability	1.642*	1.735*	1.865*	1.973**
	(1.92)	(1.91)	(1.92)	(2.03)
Market-to-book	0.072	0.067	0.086	0.098
	(1.483)	(1.592)	(1.367)	(1.622)
Observations	8532	8532	8532	6302
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Pseudo R-squared	0.031	0.125	0.131	0.152

Note: This table presents the results of a LOGIT regression analysis. All columns use the same dependent variable: **Propensity to distribute dividends (binary)**.
- Column (1): Baseline model with limited control variables.
- Column (2): Adds CEO overconfidence as a predictor.
- Column (3): Includes cash holdings as an additional control.
- Column (4): Builds on Column (3) with further adjustments to include board independence.
The analysis suggests that overconfident CEOs are less likely to distribute dividends compared to rational CEOs. Cash holdings negatively affect dividend distribution, while larger firm size and higher profitability positively influence it. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.
Note on Constant: The LOGIT regression model does not include a constant term because fixed effects for firms and years are included, absorbing the intercept term.

the overconfidence variable, while Column 2 introduces the overconfidence variable. Column 3 controls for CEO duality, and Column 4 controls for firm leverage.

The results in Column 1 indicate that larger firms, more profitable firms, and firms with more abundant cash flow tend to pay higher levels of dividends. Conversely, firms with higher debt levels and a higher proportion of independent directors tend to pay lower levels of dividends. Additionally, the growth opportunities of the firm have

little effect on the level of cash dividends paid. These results are generally in line with previous expectations.

In Column 2, after introducing the overconfidence variable, the impact of other variables on dividend payout levels remains largely unchanged. The coefficient for CEO overconfidence is -0.038 and is significant at the 5% level, indicating that overconfident CEOs pay lower dividends compared to rational CEOs.

Column 3 introduces the CEO duality variable on top of Column 2. The results show that all variables remain consistent except for the proportion of independent directors, which becomes non-significant. Column 4 adds the leverage variable, and all variables remain relatively significant and consistent with previous analysis, except for the proportion of independent directors and the primary business growth rate, which are no longer significant.

These findings suggest that overconfident CEOs tend to pay lower dividends than their rational counterparts, supporting Hypothesis 2.

2.4.3 Results of board independence on CEO Overconfidence and corporate willingness to distribute dividends

To test the relationship between board independence, CEO overconfidence, and the propensity to distribute dividends, the study divided the entire sample into two groups based on the median proportion of independent directors: the weak board independence group and the strong board independence group. LOGIT regression analysis was then conducted separately for each group. Table 2.5 presents the results for the weak board independence group and the strong board independence group, respectively. Column 1 shows the results for the weak board independence group, where the coefficient for the overconfidence parameter estimate is -0.626, with a significance level of 5%. Column 2 presents the results for the strong board independence group, where the coefficient for the overconfidence parameter estimate is still negative at -0.43. However, the significance level drops from significant to insignificant. These results indicate that the impact of CEO overconfidence on cash dividend distributions diminishes as the board of directors' independence increases, thereby confirming Hypothesis 3.

2.4.4 Results on the effect of board independence on CEO overconfidence and corporate dividend payout ratios

Table 2.6 presents the test results on the relationship between board independence, CEO overconfidence, and the level of dividend distribution. Column 1 shows the

TABLE 2.5: The relationship between CEO overconfidence and a company's dividend payout ratio

Variables	**(1)**	**(2)**	**(3)**	**(4)**
Constant	-0.0307***	-0.0347***	-0.0332***	-0.0318***
	(-3.02)	(-3.12)	(-2.98)	(-2.87)
Overconfidence		-0.038***	-0.036***	-0.029***
		(-3.42)	(-2.64)	(-2.75)
Firm size	0.132	0.172	0.148	0.164
	(0.189)	(0.157)	(0.139)	(0.138)
Cash holdings	-3.245*	-3.127*	-3.072	-2.959
	(-1.874)	(-1.942)	(-1.382)	(-1.478)
Tangibility	3.672*	3.196*	3.029*	3.042
	(1.948)	(1.842)	(1.775)	(1.629)
Board independence	-0.325*	-0.219*	-0.193*	-0.128
	(-1.494)	(-1.538)	(-1.09)	(-0.92)
Profitability	1.896**	1.967**	1.933**	1.929***
	(2.366)	(2.641)	(2.588)	(2.961)
Market-to-book	0.058	0.049	0.036	0.042
	(1.034)	(1.258)	(1.305)	(1.027)
CEO duality			-0.327***	-0.273***
			(-1.63)	(-1.89)
Leverage				-0.326***
				(-2.174)
Observations	8532	8532	8532	8532
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Log Likelihood	6856.1	6856.1	6856.1	6856.1
χ^2	953.7***	953.7***	953.7***	953.7***

Note: This table presents the results of the TOBIT regression analysis on the dividend payout ratio. All columns share the same dependent variable: **dividend payout ratio**.
- Column (1): Baseline model without the overconfidence variable.
- Column (2): Introduces CEO overconfidence as a predictor.
- Column (3): Adds CEO duality as a control variable.
- Column (4): Further controls for firm leverage.
The results indicate that CEO overconfidence has a statistically significant negative effect on the dividend payout ratio, suggesting that overconfident CEOs are less likely to distribute dividends. Cash holdings are negatively associated with the dividend payout ratio, while profitability exhibits a positive relationship. Firm size and board independence show varying levels of significance across the models. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

results for the weak board independence group, where the CEO overconfidence variable has a parameter of -0.113, significant at the 5% level. Column 2 shows the results for the strong board independence group; as seen in the table, the parameter for the overconfidence variable is -0.082, but its significance level is considerably lower. These results suggest that as board independence strengthens, the effect of

TABLE 2.6: LOGIT Regression Results for Weak and Strong Board Independence Groups

Variables	Weak Independence	Strong Independence
Overconfidence	-0.626***	-0.430
	(-2.673)	(-0.843)
Firm size	0.552***	0.644***
	(3.404)	(3.144)
Leverage	-0.388	-1.155
	(-0.415)	(-0.977)
Growth	0.899*	1.808**
	(1.610)	(2.420)
Cash holdings	-2.541*	-2.445
	(-1.630)	(-1.264)
Profitability	2.396***	3.289***
	(5.181)	(2.751)
Tangibility	3.162*	3.623**
	(2.098)	(2.392)
Market-to-book	0.032	0.094
	(1.087)	(1.549)
Observations	3206	2780
Pseudo R-squared	0.194	0.181

Note: This table presents the results of LOGIT regression analysis examining the relationship between board independence, CEO overconfidence, and the propensity to distribute dividends. The sample is divided into two groups based on the median proportion of independent directors: **Weak Independence** (below the median) and **Strong Independence** (above the median).
- **Weak Independence Group**: In firms with less independent boards, CEO overconfidence has a significant negative effect on the propensity to distribute dividends (*Coef. = -0.626, $p < 0.01$*). This suggests that weaker governance structures fail to constrain overconfident CEOs effectively. - **Strong Independence Group**: For firms with highly independent boards, CEO overconfidence shows a reduced and statistically insignificant effect (*Coef. = -0.430, $p > 0.1$*). This indicates that stronger board independence mitigates the influence of CEO overconfidence on dividend decisions.
Other significant predictors include **Profitability** and **Tangibility**, which positively influence dividend payouts in both groups, while **Cash Holdings** exhibit a negative relationship.
***, **, * represent statistical significance at the 1%, 5%, and 10% levels, respectively.

CEO overconfidence on the level of dividend distribution weakens, confirming Hypothesis 4.

TABLE 2.7: Test Results on Board Independence and CEO Overconfidence on Dividend Distribution

Variables	Weak Independence	Strong Independence
Constant	-1.474***	-1.867***
	(-2.795)	(-2.995)
Overconfidence	-0.113**	-0.082
	(-2.431)	(-0.833)
Firm Size	0.078***	0.092***
	(3.129)	(3.06)
Leverage	-0.204	-0.198
	(-1.295)	(-0.991)
Growth	-0.021	0.047
	(-0.276)	(1.40)
Cash Holdings	-0.450*	-0.503*
	(-1.861)	(-1.778)
Profitability	1.540***	1.353***
	(2.875)	(3.222)
Tangibility	2.632*	2.963*
	(1.677)	(2.091)
Market-to-Book	0.067	0.095
	(1.262)	(1.366)
Observations	3206	2780
Log Likelihood	2065.66	1965.32
χ^2	573.61***	539.72***

Note: This table presents the test results of the relationship between board independence, CEO overconfidence, and the level of dividend distribution. The sample is divided into two groups based on the median proportion of independent directors: **Weak Independence** (below the median) and **Strong Independence** (above the median).
- **Weak Independence Group**: In firms with weaker board independence, CEO overconfidence significantly negatively affects dividend distribution (*Coef. = -0.113,* $p < 0.05$). This indicates that when governance is weaker, overconfident CEOs are less likely to distribute dividends. - **Strong Independence Group**: In firms with stronger board independence, the effect of CEO overconfidence on dividend distribution becomes weaker and statistically insignificant (*Coef. = -0.082,* $p > 0.1$). This suggests that stronger board independence mitigates the negative influence of CEO overconfidence.
Other significant predictors include: - **Firm Size**: Positively associated with dividend distribution in both groups, indicating larger firms are more likely to distribute dividends. - **Cash Holdings**: Negatively associated with dividend distribution, reflecting firms with higher cash reserves are more conservative in dividend payouts. - **Profitability**: Strongly positively associated with dividend distribution, highlighting the role of financial performance in payout decisions.
***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

2.5 Robustness Tests

2.5.1 Alternative Measures of CEO Overconfidence

In this section, we follow the literature and estimate Equation (2) using two alternative measures of CEO overconfidence: High Optimism and Holder67MAX. The binary variable "High Optimism" equals 1 if highly optimistic CEOs hold more than 100% of exercisable options (moneyness $>$ 100%) for at least two years during their tenure (Campbell et al., 2011; Deshmukh et al., 2021); otherwise, it equals 0. Some literature suggests that overconfidence tends to be "sticky" over time, indicating that overconfidence is a stable rather than fluctuating behavioral trait (Malmendier and Tate, 2005; Banerjee et al., 2015). Therefore, we use another binary variable, Holder67MAX, which equals 1 if the monetization of exercisable options held by the CEO exceeds 67% (moneyness $>$ 67%) at least once during the CEO's tenure, assuming that the CEO's confidence is sticky; otherwise, Holder67MAX equals 0.

The results are shown in Table 2.7. In columns (1) and (3), the coefficient on High Optimism is negative and statistically significant. In columns (2) and (4), we examine the impact of stable managerial overconfidence behavior and observe that the coefficient of Holder67MAX remains negative and statistically significant. Overall, our results are consistent across different measures of CEO overconfidence, suggesting that overconfident CEOs are associated with a lower probability of dividends and a lower dividend payout ratio.

2.5.2 Alternative Measures of Dividends

Our baseline results show that CEO overconfidence reduces the dividend payout rate. In the benchmark test, we use the dividend payout ratio, defined as dividends divided by the market value of the company's equity. To ensure the robustness of our research findings, we follow the approach used in the literature (Chintrakarn, Pandey et al., 2022). There are two alternative ways to calculate dividends. The first measure scales dividends by total assets. The second measure scales dividends by sales. Table 2.8 reports our estimation results, showing that the coefficient on Overconfidence is negative and statistically significant in columns (1) and (2) when using these alternative dependent variables. Thus, our baseline results remain robust.

TABLE 2.8: Alternative measures of CEO overconfidence

Dependent variable:	**Dividend-paying Dummy**		**Dividend payout**	
	Logit (1)	**Logit (2)**	**Tobit (3)**	**Tobit (4)**
High optimism	-0.471***		-0.042***	
	(-3.72)		(-4.17)	
Holder67MAX		-0.012***		-0.039***
		(-3.17)		(-3.98)
Growth	1.075*	1.185*	-0.087***	-0.049***
	(1.692)	(1.702)	(-10.72)	(-11.36)
Firm size	0.315***	0.462***	0.036	0.041*
	(3.82)	(3.906)	(1.32)	(1.97)
Cash holdings	-2.375**	-2.675*	-2.174**	-1.94**
	(-2.17)	(-1.73)	(-2.23)	(-1.99)
Tangibility	2.165**	2.479**	3.762***	3.907***
	(2.13)	(2.30)	(4.163)	(4.62)
Board independence	-0.092	-0.104	-0.032	-0.046
	(-1.032)	(-1.172)	(-1.023)	(-1.329)
Leverage	-0.302	-0.209	-0.376**	-0.472***
	(-1.052)	(-1.28)	(-2.65)	(-4.19)
Profitability	1.926***	2.174***	2.162***	2.572***
	(3.25)	(2.97)	(3.762)	(4.138)
Market-to-book	0.043	0.038	0.016	0.022
	(1.029)	(1.17)	(1.03)	(0.902)
Constant			-0.326***	-0.317***
			(-3.924)	(-3.821)
Observations	8532	8532	8532	8532
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Pseudo R-squared	0.159	0.173		
Log Likelihood			2632.93	2647.91
χ^2			523.01***	491.92***

Note: This table reports the estimation results from two alternative measures of CEO overconfidence: High optimism and Holder67MAX. High optimism is a dummy variable equal to one for CEOs who are highly optimistic and hold exercisable options that are more than 100% in the money for at least two years during their tenure. Holder67MAX is a dummy variable equal to one for CEOs who hold exercisable options that are more than 67% in the money at least once during their tenure; otherwise, it is equal to zero. Variable definitions are provided in Appendix Table A1. Standard errors in parentheses are clustered at the firm level. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.
Note on Constant: The LOGIT regression in this analysis does not include a constant term. This is because the model includes fixed effects for firms and years, which absorb the intercept term, making it redundant.

TABLE 2.9: Robustness checks with alternative specifications

Variables	Dividends/Total Assets (1)	Dividends/Sales (2)
CEO overconfidence	-0.014***	-0.027***
	(-3.72)	(-4.36)
Growth	-0.017**	-0.014**
	(-2.15)	(-2.23)
Firm size	0.027	0.023
	(1.04)	(1.19)
Cash holdings	-2.07**	-2.19**
	(-2.18)	(-2.29)
Tangibility	2.159***	2.431***
	(3.87)	(4.17)
Board independence	-0.027	-0.038
	(-1.09)	(-0.95)
Leverage	-0.127*	-0.116
	(-1.99)	(-1.03)
Profitability	2.136***	2.157***
	(3.76)	(4.18)
Market-to-book	0.031	0.027
	(1.04)	(0.94)
Constant	-0.012**	-0.017***
	(-2.75)	(-3.85)
Observations	8532	8532
Firm FE	Yes	Yes
Year FE	Yes	Yes
Adjusted R-squared	0.372	0.395

Note: This table reports the estimation results from alternative measures of dividends. Variable definitions are provided in Appendix Table A1. Standard errors in parentheses are clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

2.6 The moderating role of board independence in CEO overconfidence

Many studies indicate that board independence plays a crucial role in dividend policy. In addition to the group tests conducted earlier in this research, we also performed tests on the moderating effects of board independence and CEO overconfidence. These tests aimed to reflect the moderating effect of board independence on company dividends for CEOs with different levels of confidence.

The moderating effect of board independence on corporate dividends and CEO confidence is shown in Table 2. 9. The results reveal that the interaction variable, *Overconfidence* $\times$ *Board independence*, has a significant positive relationship with both the likelihood of dividend payment ($\beta = 0.207$, $p < 0.01$) and the dividend payout

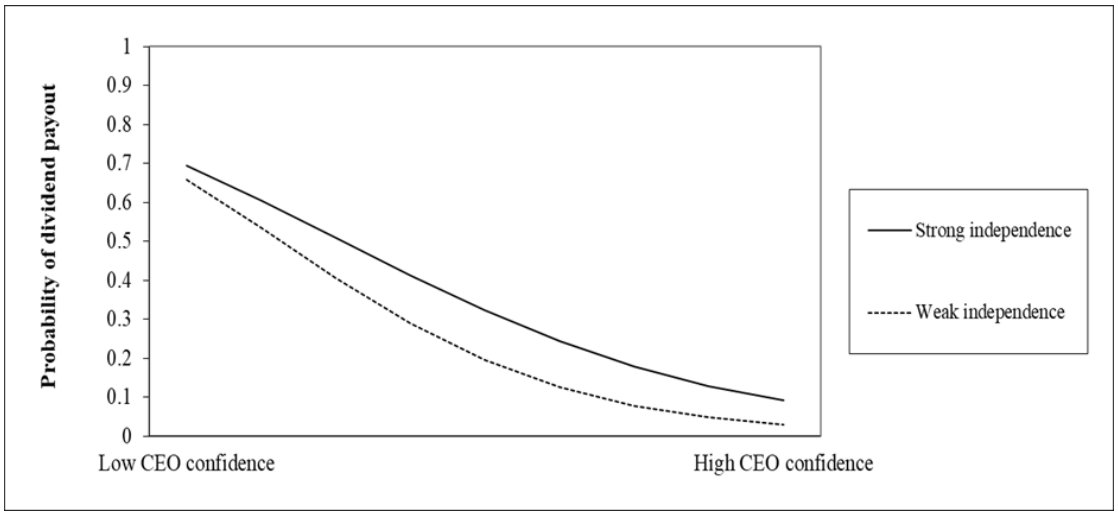

FIGURE 2.2: Overconfidence×Board independence (Dependent variable: dividend-paying) The independent variables and the moderator are standardized when plotting the simple slopes.

ratio ($\beta = 0.003$, $p < 0.01$). This suggests that board independence can mitigate the negative impact of CEO overconfidence on dividend distribution. In other words, an independent board of directors increases the probability of a company paying dividends and results in a higher dividend payout ratio.

Figures 2 and 3 provide simple plots of significant interaction variables to visualize the moderating effects. The simple slopes are plotted based on the approach suggested by Aiken and West (1991) and Dawson (2014), where the independent and control variables are centered before calculating the interaction variable (product term) and plotting the simple slopes. The figures illustrate that both the probability of dividend payment and the dividend payout ratio exhibit a negative slope with CEO confidence. Meanwhile, the moderating effect of strong board independence consistently leads to higher dividends for companies with CEOs of the same confidence level.

Overall, the results of this test are consistent with the previous subgroup findings, indicating that firms with strong board independence have a higher probability of paying dividends and a higher dividend payout ratio. These findings are also in line with recent research (Chintrakarn et al., 2022), which suggests that independent boards reduce agency problems, influence management decisions, and result in higher dividend payments.

TABLE 2.10: Moderating Effect of Board Independence on the Relationship Between CEO Overconfidence and Dividend Policy

Dependent variable:	**Dividend-paying Dummy Logit**	**Dividend payout Tobit**
Overconfidence × Board independence	0.207**	0.003***
	(2.16)	(4.17)
CEO overconfidence	-0.536***	-0.035***
	(-3.97)	(-3.79)
Board independence	-0.092	-0.087
	(-0.91)	(-1.02)
Firm size	1.327*	0.027***
	(1.96)	(7.26)
Profitability	0.472***	0.049*
	(3.99)	(1.99)
Leverage	-1.93**	-3.27***
	(-2.19)	(-4.86)
Tangibility	2.75***	3.48***
	(3.98)	(4.16)
Market-to-book	-2.16***	-4.32***
	(-3.81)	(-4.85)
Cash holdings	2.36***	3.71***
	(4.89)	(4.51)
Constant	0.046	0.037
	(0.92)	(0.82)
		-0.382***
		(-3.95)
Observations	8,532	8,532
Firm FE	Yes	Yes
Year FE	Yes	Yes
Adjusted R-squared	0.162	
Log Likelihood		2352.36
χ^2		429.36***

Note: This table reports the moderating role of board independence in CEO overconfidence. Variable definitions are provided in Appendix Table A1. Standard errors in parentheses are clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

2.7 Policy Implications and Conclusion

While previous literature has revealed the impact of overconfident managers on dividend distribution policies, there has been limited research into mitigating the adverse effects of overconfident managers. This study demonstrates that an independent board of directors significantly mitigates the dividend distribution problems associated with CEO overconfidence. Previous literature (Deshmukh et al., 2013) has shown that companies managed by overconfident CEOs are less willing to

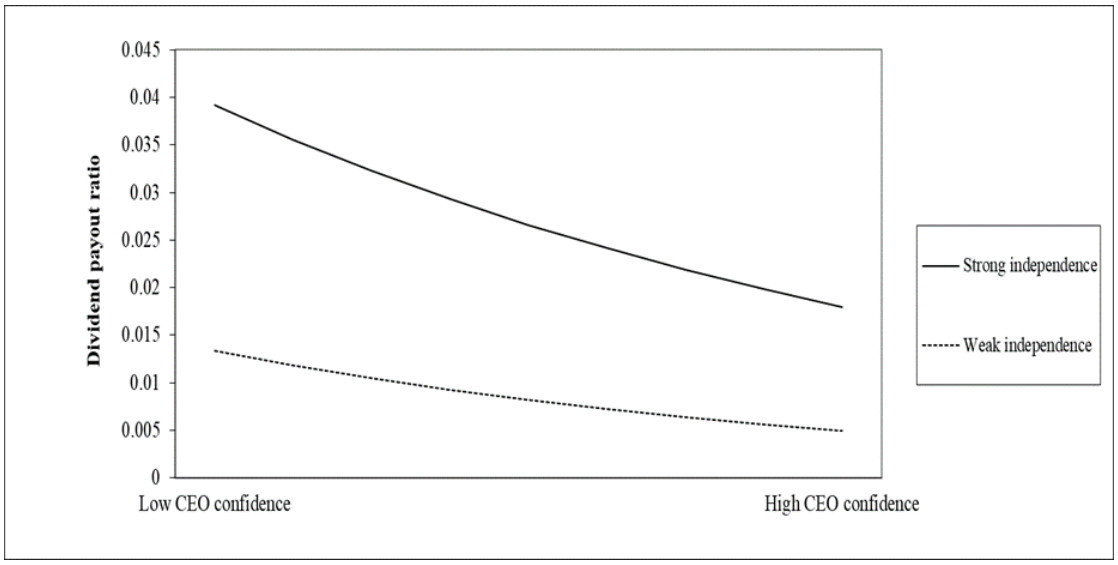

FIGURE 2.3: Overconfidence×Board independence (Dependent variable: dividend payout ratio) The independent variables and the moderator are standardized when plotting the simple slopes.

pay dividends than companies led by non-overconfident CEOs. Additionally, companies with overconfident CEOs tend to have lower levels of dividend payments compared to those managed by non-overconfident CEOs. Our research indicates that companies with more independent boards are more likely to have overconfident CEOs who are willing to distribute dividends and achieve higher levels of dividend distribution than companies with less independent boards.

Overconfidence, a cognitive bias in which individuals overestimate their level of judgment, is not necessarily pejorative and can yield both positive and negative outcomes. In the case of managers, a moderate degree of overconfidence can help overcome risk-averse behavior and facilitate decisive decision-making, leading managers to work harder and ultimately create value for shareholders. However, when managers exhibit extreme overconfidence, they may underestimate the risks they face and overestimate corporate returns, basing their decisions on distorted assumptions. This can result in suboptimal decisions and damage the value of the business. Since people are sensitive to corporate failure and managerial overconfidence is more likely to lead to such failure, adequate measures must be taken to curb managerial overconfidence, especially in extreme cases.

2.7.1 Policy Recommendations

Based on the findings of this research, the following recommendations are proposed to enhance corporate governance and dividend policies:

1. Firms should carefully assess the existing levels of board independence and align governance practices with specific organizational and regional contexts. While higher board independence can improve oversight and mitigate CEO overconfidence, its impact is contingent on legal and cultural frameworks. Countries with already high board independence, such as the USA, should focus on optimizing board functionality rather than simply increasing independence further.

2. Policy interventions aimed at modifying corporate governance structures, such as adopting corporate opportunity waivers (COWs), should consider their nuanced effects on dividend policies. Policymakers should balance the flexibility afforded to directors under COWs with potential risks to shareholder interests.

3. Future reforms should prioritize evidence-based governance adjustments, ensuring that any recommendations are directly tied to empirical findings. This study underscores the importance of tailoring governance mechanisms to address specific challenges posed by CEO behavioral traits, such as overconfidence.

Chapter 3

The Impact of Labor Protection Laws on the Relation between CEO Overconfidence and Corporate Payout

3.1 Introduction

While Chapter 2 focuses on the direct effects of CEO overconfidence on corporate payout policies, Chapter 3 expands the scope by examining how labor protection laws moderate these effects. This extension addresses a critical gap by integrating legal mechanisms into the analysis of overconfident CEO behavior. The findings aim to provide a richer understanding of the interplay between psychological traits and institutional constraints in shaping corporate governance outcomes.

Agency problems and the conflict of interests between shareholders and managers continue to be a significant issue in corporate finance, particularly regarding decisions about corporate payouts. These decisions are influenced by both external environmental factors and the internal motivations of company managers. Previous research suggests that the introduction of employment protection laws, which increase dismissal costs and encourage rent extraction behavior, prompts firms to increase share buybacks. This strategy is aimed at mitigating wealth transfers to employees, thereby aligning corporate actions more closely with shareholder interests (Dang et al., 2021). Consequently, the implementation of such labor laws drives companies to prioritize the protection of shareholder rights.

At the same time, the literature expands into personality traits, identifying CEO overconfidence as a key driver of firm payout policies. Studies, including those by Malmendier and Tate (2005) and Deshmukh et al. (2013), demonstrate that overconfident CEOs, with their tendency to pursue aggressive investment strategies, are more likely to lead firms to reduce traditional forms of payout, such as dividends. This divergence in managerial behavior underscores the complex interaction between personality traits and corporate financial strategies, particularly in the context of dividend payouts and share buybacks.

Our study aims to bridge these two distinct but interrelated streams of research by examing the effects of CEO overconfidence on dividend payouts and stock buybacks within the specific regulatory context of labor protection laws. Recognizing that share buybacks and dividends are primary firm payout mechanisms that may be influenced by intrinsic firm characteristics such as investment opportunities.These endogenous factors can bias regression results and lead to invalid inferences. To address this empirical challenge, we follow recent research by Bai et al. (2020) to establish causality using exogenous changes in termination costs that occurred after state courts adopted Wrongful Discharge Laws in the United States between 1969 and 2003. Specifically, we focus on the good faith exception because it has the most far-reaching impact (Kugler et al., 2004; Serfling, 2016). The good faith exception strengthens employee protections by requiring that terminations be conducted in good faith and for fair reasons, thus reducing the likelihood of unjust dismissals and promoting fair treatment in the workplace (Peterson, 1994). This increased protection raises termination costs for

employers, making them more cautious and deliberate in their decisions, which has been shown to influence company policies toward employment stability and reduce wrongful terminations (Rabin-Margalioth, 2006).

The higher dismissal costs associated with the good faith exception can also lead companies to alter their workforce composition, increasing the reliance on flexible staffing options such as temporary or contract workers to mitigate potential legal risks and costs (Autor et al., 2006). This shift in labor practices reflects a strategic response to the increased obligations imposed by the law, which affects not just human resource management but also broader financial strategies (Serfling, 2016). Furthermore, the exception encourages greater transparency and accountability in employer-employee relations, prompting companies to handle terminations more openly and to implement robust internal policies to ensure compliance with good faith standards (Summers, 2000).

These increased costs and legal constraints can also influence corporate financial decisions, such as a greater propensity to engage in stock buybacks, as companies seek to align their actions with shareholder interests and offset the impact of stricter labor protections (Kugler et al., 2004; Dang et al., 2021). This behavior highlights how the good faith exception extends beyond employment law, shaping corporate governance and balancing the interests of employees and shareholders. In recent research on share repurchases (Dang et al., 2021), only the good faith exception showed a positive and significant correlation, underscoring its unique and pervasive impact.

Firms distribute wealth to shareholders primarily through two mechanisms: dividends and share buybacks, with the latter being significantly influenced by Wrongful Discharge Laws (WDLs), as suggested by Dang et al. (2021). Companies are generally reluctant to alter their dividend payouts, as reducing or skipping dividends signals a negative outlook for the company, which can depress the stock price (Lintner, 1956; Brav et al., 2005; Leary and Michaely, 2011). In contrast, stock buybacks are more flexible, aligning with business cycles and temporary financial inflows, making them a more adaptable tool for managing firm resources. Babenko (2009) argues that managers should favor stock buybacks over dividends to increase employees' pay-performance sensitivity, thereby motivating them to exert greater effort. This perspective suggests that stock buybacks can serve as a more credible payment mechanism to mitigate employees' rent extraction behavior.

While dividends are less directly affected by the introduction of WDLs compared to share buybacks, the established link between CEO overconfidence and dividend policy warrants an examination of how WDLs influence both payout strategies. By exploring the impact of WDLs on firms' payout decisions, this study addresses how such laws affect overall firm behavior and resource allocation, providing insights into the broader implications of regulatory changes on corporate financial strategies.

Using a difference-in-differences (DID) estimation approach, our study aims to clarify the causal links between CEO overconfidence and corporate payouts, with a particular focus on the enactment of the good faith exception to wrongful discharge laws as a key external shock. This method allows us to assess the causal impact of the good faith exception by comparing firms in states that have adopted this law with those in states that have not. Our baseline results indicate that the good faith exception significantly mitigates the negative impact of CEO overconfidence on firm share repurchases and dividends. Specifically, the adverse effects of CEO overconfidence on both stock buybacks and dividend payments improved following the adoption of the good faith exception.

Our research builds on and differentiates from Dang's (2021) findings by specifically integrating the dimension of CEO overconfidence into the analysis of corporate payout policies under the lens of the good faith exception in wrongful discharge laws. While Dang (2021) highlights that the adoption of the good faith exception leads to an increase in share buybacks due to higher employee termination costs and a motivation to prevent wealth transfer to employees, it does not address the variability of dividend payouts. Our study enriches this literature by exploring how CEO overconfidence, which has been shown to negatively affect dividend payments due to a propensity to increase investment and decrease operating cash flow (Deshmukh et al., 2013; Malmendier and Tate, 2005), adjusts firms' payout strategies in response to changes in labor laws. We find that the adoption of the good faith exception mitigates the negative impact of CEO overconfidence not only on share repurchases but also on dividend payouts, providing a more comprehensive view of corporate payout behavior in a regulatory context.

Our analysis examines the differential impact of the good faith exception on firms characterized by high cash flows and excess cash compared to those led by overconfident CEOs. Existing literature suggests that the implementation of the good faith exception activates the firm's rent capture mechanism, making firms more likely to increase dividend payouts to mitigate agency problems, particularly in firms with high cash flows and substantial cash holdings (Dang et al., 2021). This performance is especially pronounced in cash-rich firms, where increased payouts help address the potential for rent extraction by employees.

Moreover, this transmission mechanism remains effective when CEOs are overconfident. On one hand, firms increase total expenditures to avoid rent extraction; on the other, overconfident CEOs may control expenditures due to their tendency to overinvest in past projects (Malmendier and Tate, 2005). Our research seeks to identify whether the effects of the good faith exception or CEO overconfidence dominate in firms with significant cash flows and holdings. We find that firms with strong cash flow positions experience fewer agency problems and less labor rent extraction,

suggesting that robust cash flows can help mitigate these issues regardless of CEO characteristics.

We also perform a battery of robustness tests to validate our study results. First, we conduct a pre-treatment analysis based on previous studies (Bertrand and Mullainathan, 2003) to examine whether the relationship between CEO overconfidence and corporate payouts differed in pre-treatment trends between the treatment and control groups. Second, we implement a placebo test to ensure that our findings were driven by the good faith exception and not influenced by other unobservable factors. Finally, following Serfling (2016), we employ propensity score matching combined with DID to rule out the possibility that observed factors were driving the treatment effect.

The remainder of this paper is organized as follows: Section 2 reviews the relevant literature and presents the main hypotheses. Section 3 discusses the data and outlines the empirical methodology. Section 4 presents the empirical results. In Section 5, we conduct several cross-sectional tests. Section 6 performs a series of robustness checks to validate our findings. Finally, Section 7 concludes the paper.

3.2 Literature and hypothesis development

3.2.1 Labor Protection Law

When firms dismiss workers, they can incur substantial firing costs, which include expenses associated with discharging employees, such as legal fees and settlements linked to lawsuits stemming from violations of employment protection laws (Autor et al., 2007). In the United States, the traditional ”at-will” employment rule allows employers to terminate employees without warning and for any reason, without facing legal repercussions. However, in response to unfair dismissal practices, legislation and common law developments over the last fifty years have established a legal framework that enables employees to litigate against employers for wrongful termination (Miles, 2000).

This shift in the legal landscape has led to a rise in dismissal-related lawsuits and associated costs, with nearly half of surveyed public firms expressing concerns about financial losses from such litigation (Autor et al., 2007). Since the 1970s, state courts have increasingly recognized exceptions to the at-will termination rule, known as wrongful discharge laws (WDLs), which apply to employees not covered by explicit contractual agreements or federal statutes protecting specific groups (Miles, 2000). These laws evolved into three main exceptions: the good faith, implied contract, and public policy exceptions, with state courts having the discretion to adopt none, any, or all of these exceptions (Dertouzos and Karoly, 1992).

The good faith exception mandates equitable treatment of employees, prohibiting termination without just cause. The implied contract exception protects employees against unjust dismissal when an implicit agreement suggests job security without valid grounds for termination. The public policy exception shields employees from being fired for upholding statutory mandates or refusing to engage in unlawful actions. Collectively, these legal provisions reinforce principles of fairness, contractual integrity, and compliance with regulatory norms within the employment context.

Among the exogenously and staggered state WDLs adopted by U.S. state courts, the good faith exception is the most far-reaching and influential, as it increases the cost of firing employees and reduces the risk of unemployment (Kugler et al., 2004; Serfling, 2016). Our study focuses on the impact of the good faith exception on the relationship between CEO overconfidence and corporate payouts.

The good faith exception protects employees from unfair dismissal by granting them the right to sue their employers for wrongful termination, requiring employers to treat employees fairly. We identify the year of adoption of the good faith exception from the literature (Serfling, 2016; Bai et al., 2020). Appendix B2 provides a detailed timeline of when each state adopted the good faith exception.

3.2.2 CEO overconfidence and corporate payout

Ben-David et al. (2007) analyze the impact of managerial overconfidence on corporate policy through a model. They find that overconfident managers tend to over-invest in projects, often believing that investors underestimate the company's value. Consequently, such managers are reluctant to use external funds and prefer to rely on internal financing, leading to a reduced likelihood of issuing cash dividends. Through their theoretical analysis and empirical investigation of CFOs from American companies, they confirm that overconfident managers are less inclined to pay dividends.

Cordeiro (2009) conduct an empirical study on the relationship between CEO overconfidence and corporate dividend policy, using the promptness of CEO stock option exercises and media evaluations as indicators of managerial overconfidence. The study finds that overconfident CEOs are generally reluctant to pay cash dividends, and even when they do, the level of dividends is lower compared to those paid by rational CEOs.

Deshmukh (2013) develop a model to examine the impact of CEO overconfidence on dividend policy and empirically tested several of its predictions. He finds that the reduction in dividends associated with CEO overconfidence is more pronounced in firms with fewer growth opportunities, lower cash flows, and higher information asymmetry. Additionally, firms managed by overconfident CEOs experience a less

positive market response to dividend increase announcements compared to firms with more conservative management.

Previous research has shown that strict employment protection laws encourage employees to file more wrongful termination lawsuits (Boxold, 2008) while increasing avoidance behavior and reducing firm productivity (Besley and Burgess, 2004; Riphahn, 2004; Autor et al., 2007; Francis et al., 2018). These dynamics ultimately lead to rent extraction behavior by employees. To discourage lawsuits and reduce rent extraction, firms may be incentivized to allocate cash flows to shareholders. Crane (2011) demonstrates that firms with higher litigation risk tend to pay more to reduce excess cash and deter wealth transfer from shareholders to potential litigants. However, CEO overconfidence often leads to a reduction in cash outflows, as overconfident managers tend to retain cash to fund investments. This creates a dual impact: exogenous policies drive cash flows toward shareholders, while overconfident managers tighten capital allocation to support investment.

From this analysis, we derive the following hypotheses:

Hypothesis 1a. The adoption of good faith exceptions can alleviate the impact of CEO overconfidence on the reduction of corporate dividends.

Similarly, building on Dang's (2021) study, we propose the following hypothesis regarding the relationship between CEO overconfidence and firm stock buybacks:

Hypothesis 2a. The adoption of good faith exceptions would mitigate the impact of CEO overconfidence on the reduction of company share repurchases.

Our alternative hypothesis is based on the idea that adopting good faith exceptions affects corporate payout policies by increasing employee termination costs, which in turn exacerbate operating leverage and financial distress. First, firms are more likely to terminate employees when cash flow is tight (Ofek, 1993; Kang and Shivdasani, 1997), so higher firing costs due to good faith exceptions can worsen liquidity problems. Second, these higher firing costs may restrict firms' ability to downsize during economic downturns (Bentolila and Bertola, 1990; Autor et al., 2007). Consequently, greater employment protection can make labor adjustment costs more fixed, increasing operational inflexibility and distress risk (Mandelker and Rhee, 1984; Mauer and Triantis, 1994; Serfling, 2016; Kahl et al., 2019). Donangelo et al. (2019) further suggest that the size and inflexibility of labor expenditures contribute to increased labor leverage, exposing firms to economic shocks.

Moreover, CEO overconfidence can exacerbate cash flow shortages through overinvestment (Malmendier and Tate, 2005). Overall, the adoption of good faith exceptions exacerbates operational inflexibility and the risk of financial distress, leading firms to adopt conservative financial policies to reduce payouts (Kulchania, 2016). Based on this reasoning, we propose the following alternative hypotheses:

Hypothesis 1b. The adoption of good faith exceptions can worsen the negative effects of CEO overconfidence on corporate dividends.

Hypothesis 2b. The adoption of good faith exceptions can exacerbate the negative effects of CEO overconfidence on company share repurchases.

This hypothesis suggests that labor protection laws moderate the relationship between CEO overconfidence and corporate payout policies, constraining excessive payout decisions. Agency theory provides a foundation for this hypothesis, as labor protection laws act as external governance mechanisms that mitigate agency conflicts by limiting managerial overreach. Similarly, the M&M framework highlights how market imperfections, such as institutional constraints, interact with managerial behaviors to influence corporate financial strategies.

3.3 Data and empirical methods

3.3.1 Sample selection

Our sample includes publicly traded companies headquartered in the United States, excluding financial and utility companies (SIC 6000-6999 and SIC 4900-4999). Following Bai, Fairhurst, and Serfling (2020), the sample period begins in 1969, five years before the first adoption of the good faith exception in New Hampshire in 1974, and ends in 2003, five years after the last adoption of the good faith exception in Louisiana in 1998 (Serfling, 2016; Bai et al., 2020). We matched the adoption of the law to the state where each company is headquartered. Consistent with Chemmanur et al(2013), we require each firm to have a positive book value of equity and include observations of leverage, market equity, average employee sales, market-to-book ratio, tangibility, and SIC code.

We winsorize all continuous variables at the 1st and 99th percentiles of their distributions to alleviate the potential impact of extreme values. All dollar amounts are adjusted to 1983 dollars using the consumer price index of Flannery and Rangan (2006). Our industry classification follows the Fama and French 48 industry categories. The final sample comprises 11,560 firm-year observations from 1969 to 2003, covering 1,726 publicly traded firms.

Table 3.1 reports the descriptive statistics of the main variables in this study. On average, firms repurchase 0.9% of their total assets and pay dividends amounting to 1.3% of their total assets annually, which is consistent with findings in the literature (Dang et al., 2021). The mean of the good faith dummy is 17.5%, aligning with previous studies (e.g., Acharya, Baghai, and Subramanian, 2014; Serfling, 2016). Overall, our summary statistics are consistent with the literature.

TABLE 3.1: Summary Statistics

Variable	N	Mean	St. Dev.	Pctl(25)	Median	Pctl(75)
Dependent Variables						
Repurchases over total assets (%)	11,560	0.009	0.025	0.000	0.000	0.001
Dividends over total assets (%)	11,560	0.013	0.016	0.000	0.000	0.018
Wrongful Discharge Laws (WDL) Variables						
Good faith	11,560	0.175	0.368	0.000	0.000	0.000
Implied contract	11,560	0.562	0.502	0.000	1.000	1.000
Public policy	11,560	0.496	0.498	0.000	0.000	1.000
Independent Variables						
Overconfidence	11,560	0.375	0.492	0.145	0.387	0.426
Control Variables						
Firm size	11,560	0.108	0.407	0.068	0.142	0.195
Growth	11,560	0.064	0.256	0.025	0.052	0.096
Profitability	11,560	0.085	0.137	0.037	0.058	0.092
Tangibility	11,560	0.826	0.415	0.452	0.816	0.998
Leverage	11,560	0.417	0.255	0.205	0.396	0.572
Market-to-Book	11,560	2.356	3.657	0.792	1.267	2.583
Board independence	11,560	0.532	0.429	0.000	0.000	1.000
Cash holdings	11,560	0.135	0.152	0.016	0.038	0.109

Note: This table presents summary statistics for the main variables in the regression models. The sample consists of 11,560 firm-year observations from Compustat over the period 1969 to 2003. Dependent variables include:- **Repurchases over total assets (%)**: Share repurchases scaled by total assets.- **Dividends over total assets (%)**: Dividends paid to common shareholders scaled by total assets.The key explanatory variables are based on wrongful discharge laws (WDL):- **Good Faith**: Dummy variable equal to 1 if the state where a firm is headquartered has adopted the good faith exception before the end of the fiscal year.- **Implied Contract**: Dummy variable equal to 1 if the state has adopted the implied contract exception.- **Public Policy**: Dummy variable equal to 1 if the state has adopted the public policy exception.Independent variables include CEO overconfidence, defined using Holder67 (Malmendier and Tate, 2008). Control variables include firm size, growth, profitability, tangibility, leverage, market-to-book ratio, board independence, and cash holdings. All continuous variables are winsorized at the 1st and 99th percentiles to mitigate outliers. Appendix B1 provides full variable definitions.

3.3.2 Empirical models

The adoption of state-level labor protection laws provides us with an opportunity to examine how the laws affect the relationship between CEO overconfidence and firm payments through a difference-in-difference (DID) test. One advantage of this test is that all treated companies fall into both the treated and control groups at different points in time, alleviating concerns that differences between the treated and control groups may drive our results. This paper extends the model of Dang et al. (2021) using a difference-in-difference test to investigate the impact of the implementation of state-level labor protection laws on the CEO overconfidence and firm payments

relationship:

$$\begin{aligned} \text{CP}_{i,s,t} = \alpha + \beta_1 \text{Good Faith}_{s,t} \times \text{Overconfidence}_{i,s,t} + \beta_2 \text{Overconfidence}_{i,s,t} \\ + \beta_3 \text{Good Faith}_{s,t} + \delta \mathbf{X}_{i,s,t} + \eta_j + \gamma_s + \upsilon_t + \epsilon_{i,s,t} \end{aligned} \tag{3.1}$$

Where subscripts i, j, s, and t denote the firm, industry, state, and year, respectively. Our main dependent variable is measured as the actual dollar volume of share repurchases divided by total assets (e.g., Brown et al., 2007; Hoberg et al., 2014; Bliss et al., 2015). The value of share repurchases is defined as the purchase of common and preferred shares less the reduction in the value of any issued preferred shares (e.g., Dittmar, 2000; Hoberg et al., 2014). Similarly, we measure the dependent variable of dividends as common dividends scaled by total assets (Dang et al., 2021). Good Faith is a dummy variable that equals one if the state where a firm is headquartered has adopted the good faith exception before the month that the current fiscal year ends, and zero otherwise.

We use Holder67 as an indicator of CEO overconfidence.[1] To test the effect of the labor protection approach on the relationship between CEO overconfidence and firm payments, we interact the integrity exception with overconfidence, Good_faith $\times$ Overconfidence. We expect the coefficient β_1 to be significantly negative if adopting the integrity exception mitigates the relationship between overconfidence and firm payments.

Following Chemmanur et al. (2013), we also control for firm size, average sales, market-to-book, and tangibility in the vector $\mathbf{X}$. Firm size is the natural log of the market value of equity (Chemmanur et al., 2013). Larger companies tend to have higher dividends and share repurchases than smaller companies. Average sales are the ratio of total sales divided by the size of the company, which standardizes sales figures by company size. Typically, higher sales are associated with higher payouts. Market-to-book is used as a proxy for growth opportunities and is measured as the ratio of the market value of equity to the book value of equity. Tangibility is the ratio of gross property, plant, and equipment to total assets.

As in Dang et al. (2021), we include year dummies (υ_t) to control for time-varying firm payments and industry dummies (η_j) to control for cross-industry heterogeneity in firm payments. We also control for state-specific fixed effects (γ_s) to ensure that our results reflect within-state changes over time rather than simple cross-sectional differences. Because integrity variables differ at the state level, we cluster standard errors at the state level. Appendix Table B1 provides detailed definitions and sources of the variables.

[1] See Chapter 2 for a detailed definition of CEO overconfidence (Holder67) and the method used to calculate it.

3.4 Main results

3.4.1 Baseline results of company share repurchases

The results of our baseline DID estimation on corporate stock repurchases are reported in Table 3.2, which tests Hypothesis H1(a). Column (1) shows the effect of firm-level CEO overconfidence on firm stock repurchases, with the coefficient of overconfidence being negative and statistically significant (-0.385). This indicates that overconfident CEOs are less likely to repurchase shares. This finding supports Hypothesis H1(a), which posits that CEO overconfidence negatively affects corporate stock repurchases, and is consistent with previous studies (Dang et al., 2021).

In Column (2), we interact the good_faith exception with overconfidence to test the effect of law adoption on overconfidence and firm payment policies. In Column (3), we also interact the implied contract with overconfidence to further examine the extent of the policy's impact. Column (4) is the full model, adding the good_faith exception, the implied contract, and public policy altogether, where we find that both policies, except the good_faith exception, have a relatively low impact in mitigating managerial overconfidence. This finding is consistent with previous research (Bai et al., 2020).

In all columns, the coefficient of our main variable of interest (good_faith exception $\times$ overconfidence) is negative and statistically significant, and the coefficient of the good_faith exception is positive and significant in all cases, which aligns with Dang et al. (2021). In Column (4), the coefficient of overconfidence is -0.324, suggesting that a one standard deviation increase in Overconfidence (0.492 as in Table 1) decreases the firm repurchase by 0.159 (= 0.324 $\times$ 0.492), which translates to a 15.9% decrease in repurchases. However, after accounting for the adoption of the good_faith exception, the coefficient on Good_faith $\times$ Overconfidence is negative (-0.294) but statistically insignificant. In short, the overall effect of managerial overconfidence is not significant after the adoption of the good_faith exception.

3.4.2 Baseline results of company dividends

Table 3.3 presents the results of the relationship between the effect of WDLs on CEO overconfidence and firm dividends, which tests Hypotheses H2(a) and H2(b). Similar to the regressions for stock buybacks, we use four columns to show the results of the regression analysis. Column 1 shows the relationship between firm-level CEO overconfidence and dividends, with a negative and statistically significant coefficient on overconfidence. This finding supports Hypothesis H2(a), which posits that CEO overconfidence negatively affects firm dividend payouts, and is consistent with the findings of Deshmukh et al. (2013).

Compared with Column 1, the interaction term of the good_faith exception and good_faith exception × Overconfidence is added in Column 2. Although the coefficient of the good_faith exception is positive, the result is insignificant, consistent with the findings of Dang (2021). The coefficient of the interaction between the good_faith exception and overconfidence is negative, and while the result is significant, its significance is reduced. This suggests that the inclusion of the good_faith exception diminishes the overall effect of CEO overconfidence.

Column 3 adds the policy of implied contract to Column 2, and the results remain insignificant. Column 4 regresses all policy effects and the interaction terms, showing that the coefficients of good_faith, implied contract, and public policy are positive but insignificant. Only the interaction term of the good_faith exception remains significant, which aligns with expectations and Dang's (2021) findings. Furthermore, none of the coefficients on good_faith × Overconfidence are significant, suggesting that the effect of CEO overconfidence on dividends is significantly reduced after the implementation of the good_faith exception.

3.4.3 Baseline results of company total payouts

To examine complete corporate payouts, we also explore the impact of WDLs on total payouts, defined as the sum of dividends and share repurchases, scaled by total assets (Dang et al., 2021). Similar to the previous regression tests, we divide this analysis into four sets of models. Column 1 shows that, at the firm level, overconfidence is significantly and negatively related to the firm's total payouts. The coefficients on the good_faith term are positive and significant in all models, while the coefficient on the good_faith × Overconfidence term is negative but with reduced significance. This suggests that the adoption of the good_faith exception mitigates the negative impact of overconfidence on total firm payouts. Our baseline empirical results align with previous literature (Dang et al., 2021; Deshmukh et al., 2013).

3.5 Cross-sectional analysis

3.5.1 Role of cash flow and excess cash

We conduct several cross-sectional tests to examine potential heterogeneity in the relationship between CEO overconfidence and corporate payout policy, providing evidence of the economic channels driving this relationship. Specifically, we investigate whether the impact of good faith exceptions on CEO overconfidence in a firm's payout policy varies depending on the firm's high cash flow and excess cash, using conditional variables similar to those in previous research (Dang et al., 2021).

If the increase in total corporate payouts results from stronger shareholder demands to prevent rent capture by better-protected employees, the effect of good faith exceptions should be more pronounced in companies with high cash flow and excess cash. These firms have ample financial resources that are more easily exploitable by employees. Concurrently, overconfident managers with substantial cash flow and reserves are more likely to increase share repurchases and dividends to satisfy shareholder demands for higher payouts.

To test this hypothesis, we use two conditional variables: high cash flow and high excess cash. These dummy variables are equal to 1 if the company's cash flow or excess cash is above the median, and 0 otherwise. High Cash Flow (High CF) is a dummy variable equal to one when cash flow is greater than or equal to its median value and zero otherwise. Excess Cash represents cash holdings that exceed the annual (three-digit SIC) industry average when scaled by total assets.

Building on Dang's (2021) methodology, we divide the sample into two subsamples: Panel A for high cash flow and Panel B for the excess cash sample group. We estimate Equation (1) across these subsamples, and the results align with our expectations. We find that the interaction term coefficients (Good faith $\times$ Overconfidence) are insignificant for both high cash flow and excess cash groups. This suggests that following the implementation of good faith exceptions, firms with greater financial resources strategically increase dividends and share repurchases. These actions appear to mitigate labor rent capture and address agency conflicts between overconfident CEOs and shareholders, even in the presence of CEO overconfidence.

3.6 Robustness tests

3.6.1 Pre-treatment trend analysis and placebo tests

One hypothesis of our difference-in-differences (DID) test is that firms headquartered in states that adopt the good faith exception (treated firms) and those that do not (control firms) exhibit similar pre-treatment trends in the relationship between CEO overconfidence and company payouts. To mitigate the potential endogeneity problem associated with this parallel trend hypothesis, we draw on the methodologies of Bertrand et al. (2003), Simintzi et al. (2015), and Serfling (2016) to conduct a pre-treatment trend analysis.

Specifically, we replace the Good Faith dummy variable in Equation (1) with a series of time-specific dummy variables: - **Good Faith (-2)** equals one if a firm is headquartered in a state that will adopt the good faith exception two years from the current period. - **Good Faith (-1)** equals one if a firm is headquartered in a state that will adopt the exception one year from now. - **Good Faith (0)** represents the

contemporaneous value of the good faith dummy. - **Good Faith (1)** equals one if the exception was adopted one year ago. - **Good Faith (2+)** equals one if the exception was adopted two or more years ago.

A negative and significant coefficient on the interaction terms Good Faith (-2) × Overconfidence or Good Faith (-1) × Overconfidence would indicate a problematic pre-treatment trend, suggesting that the impact of overconfidence on payouts was already changing before the adoption of the good faith exception.

Table 3.6 shows that the coefficients on Good Faith (-2) × Overconfidence and Good Faith (1) × Overconfidence are statistically insignificant. However, the coefficient on the interaction term Good Faith (2+) × Overconfidence is negative and statistically significant, consistent with findings by Serfling (2016) and Bai et al. (2020), which indicate that firms respond to the good faith exception two or more years after its adoption. Overall, Table 6 suggests that the mitigating effect on the overconfidence and company payouts relationship emerges only after the adoption of the good faith exception, confirming that pre-treatment trends do not drive our results.

3.6.2 Placebo Tests

Another potential concern is that our results may be driven by unobservable factors associated with the good faith exception that were not accounted for in our tests. To address this issue, we perform a placebo test to examine whether the relationship between CEO overconfidence and firm payout policies is influenced by pseudo-adoption. Following the approach of Cornaggia et al. (2015), we calculate the empirical distribution of actual adoption years and randomly assign these years to different states.

If our results were driven by unobservable shocks rather than the actual adoption of the good faith exception, the pseudo-adoption should demonstrate a significant effect. In results not presented here, we do not find any significant impact of pseudo-adoption on the relationship between overconfidence and corporate payout policies, suggesting that our findings are not merely artifacts of unobservable factors.

3.6.3 Propensity score matching

To address the alternative concern that observed factors may drive treatment effects, we follow the approach of Serfling (2016) using propensity score matching (PSM). Specifically, we employ the propensity score matching method to match treated firm-year observations (i.e., firm-years headquartered in states adopting the good faith exception) with control firm-year observations (i.e., firm-years headquartered in states not adopting the good faith exception) by implementing one-to-one

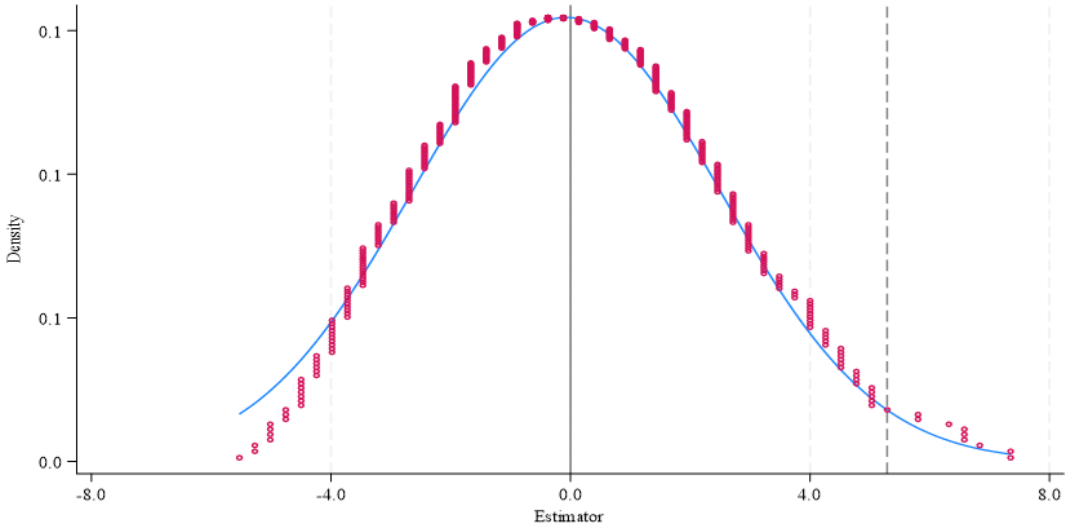

FIGURE 3.1: This graph plots the kernel density distribution of the coefficient t-statistic for the bona fide exception (bona fide) dummy from 500 placebo tests. In each iteration, we use the empirical distribution of years that adopted the bona fide exception and randomly assign states that never adopted this exception to each of these years (without replacement). The vertical line represents the true t-statistic from our regression of total payout on the goodwill dummy variable (GF) and controls.

nearest-neighbor matching with replacement. Firms in the treated group were matched with those in the control group in year $t-1$, where t is the year of the adoption of the good faith exception.

Using logistic regression, we estimate propensity scores by regressing the good faith exception dummy variable (*Good Faith*) on a carefully selected set of control variables from Equation (1) to estimate the likelihood of being a treated firm. The variables were chosen based on their theoretical relevance and empirical importance in determining dividend and repurchase policies, while avoiding the inclusion of irrelevant or weakly correlated variables that could reduce the precision of the matching process. Specifically, we included the following variables:

- **Overconfidence**: Captures the CEO's behavioral traits that influence decision-making and payout policies.
- **Leverage**: Reflects the firm's capital structure and financial constraints, both of which are pivotal for payout decisions.
- **Tangibility**: Represents the proportion of tangible assets, affecting financial flexibility and collateral availability.
- **Average Sales**: Serves as a proxy for firm size and operational scale, which correlate with payout policies.

- **Firm Size**: Measured as the natural logarithm of revenues, it is a critical determinant of a firm's resource availability for dividends or repurchases.
- **Market-to-Book Ratio**: Indicates growth opportunities and market valuation, which influence payout preferences.
- **Cash Holdings**: Represents the firm's liquid reserves, providing flexibility for dividend payouts or share repurchases.

The selection of these variables allows us to focus on key factors closely tied to treatment assignment and outcome variables. Including all possible variables, regardless of their relevance, could introduce noise and reduce the precision of the propensity score estimates, ultimately leading to less accurate matches.

To ensure comparability, we required a control firm to have a propensity score within 0.05% of the treatment firm's propensity score (Dang et al., 2021). Furthermore, we required that matched firms belong to the same year and industry (classified by the Fama-French 48 industries). We retained only treatment and control firms that have available data for at least one year in both the pre- and post-treatment periods.

Panel A of Table 3.7 reports the results of our matching process. Overall, we identify 168 pairs of treatment and control firms that meet the matching criteria.
Post-matching tests confirm that the characteristics of treatment firms are statistically similar to those of control firms, as indicated by the non-significant t-statistics in the post-matching test for differences in the means of these characteristics.

Next, we estimate the effect of adopting the good faith exception on the relationship between overconfidence and firm payout policy by applying Equation (1) to the matched sample. The results, reported in Panel B, indicate that the good faith exception significantly affects the relationship between overconfidence and firm payout policy in the matched sample. These findings provide robust support for our main results and demonstrate that the observed effects are not driven by differences between the treatment and control groups.

3.7 Conclusion

Previous research has identified the good faith exception within the Wrongful Discharge Law (WDL) as a critical regulation affecting corporate financial strategies, demonstrating that it significantly increases overall corporate payouts and share repurchases, without notably influencing dividend policy. Our study investigates how these exogenous policy changes, triggered by the enactment of WDLs at the state level, impact the relationship between managerial overconfidence and firms' payout strategies, including both share buybacks and dividends.

We observe that while overconfident managers tend to increase firm investment, which in turn reduces firm payments, the adoption of WDLs raises employee firing costs, leading to a transfer of wealth from shareholders to workers, thereby encouraging firms to increase stock buybacks (Dang et al., 2021). Our findings suggest that the implementation of WDLs mitigates the adverse effects of managerial overconfidence on firm payment policies.

While the existing literature has often emphasized the constraints that employment protection laws impose on firms by limiting their flexibility to adjust their workforce as needed, thereby potentially distorting firm-level decision-making, our study sheds light on a more nuanced impact of such regulations. In particular, we find that the implementation of employment protection laws, especially through wrongful discharge laws and the good faith exception, plays an important role in mitigating the negative effects of CEO overconfidence on firms' payout policies.

Our analysis, based on a comprehensive examination of dividends and total payouts in the context of CEO overconfidence, shows that the good faith exception acts as a counterbalance, reducing the propensity of overconfident CEOs to limit payouts in favor of reinvestment or other aggressive financial strategies. This moderating effect suggests that the relationship between labor protection laws and corporate governance is more complex than previously suggested. By tempering the adverse effects of CEO overconfidence, these laws may contribute to a more balanced approach to corporate payout strategies, ultimately serving the interests of both shareholders and employees more equitably.

Moreover, our findings provide new perspectives on how labor protection policies can be instrumental in resolving agency conflicts within firms, offering new avenues for corporate governance mechanisms to enhance firm value while maintaining strategic flexibility. In doing so, this research contributes to a broader understanding of the interaction between the regulatory environment, managerial personality traits, and corporate financial decision-making, highlighting the potential for labor protection laws to act as a moderating force in the relationship between corporate governance and agency conflicts.

This chapter highlights the moderating role of labor protection laws in curbing the potentially adverse effects of CEO overconfidence on corporate payout policies. The findings reveal that legal constraints can effectively align managerial behavior with shareholder interests. These conclusions provide a foundation for the final chapter, which synthesizes the insights from both chapters to present a comprehensive framework for understanding the multi-dimensional nature of corporate governance mechanisms and their implications for financial policies.

TABLE 3.2: Baseline DID Estimation on Corporate Stock Repurchases

	(1)	(2)	(3)	(4)
Good_faith × Overconfidence		-0.237*	-0.229	-0.294
		(-1.709)	(-1.392)	(-1.024)
Overconfidence	-0.385***	-0.415***	-0.426***	-0.324***
	(-3.173)	(-3.876)	(-3.965)	(-3.862)
Good_faith		0.038***	0.042***	0.056***
		(3.821)	(3.372)	(4.142)
Implied Contract × Overconfidence			-0.009	-0.029
			(-0.168)	(-0.378)
Implied Contract			0.013	0.017
			(0.042)	(0.165)
Public Policy				0.028
				(0.132)
Tangibility	0.166	0.167	0.168	0.167
	(1.326)	(1.346)	(1.396)	(1.330)
Profitability	0.126**	0.137**	0.109**	0.116**
	(2.071)	(2.112)	(1.981)	(1.994)
Board independence	0.023	0.036	0.043	0.039
	(1.027)	(1.003)	(1.129)	(1.095)
Leverage	0.026***	0.028***	0.032***	0.031***
	(4.158)	(4.728)	(4.658)	(4.356)
Growth	0.132*	0.145**	0.168**	0.173**
	(1.921)	(2.432)	(2.322)	(2.103)
Firm size	0.026***	0.026***	0.026***	0.026***
	(5.173)	(5.134)	(5.264)	(5.367)
Market-to-book	0.005	0.005	0.005	0.005
	(1.672)	(1.526)	(1.525)	(1.536)
Cash holdings	0.004***	0.004***	0.004***	0.004***
	(2.856)	(2.826)	(2.821)	(2.820)
State fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	11,560	11,560	11,560	11,560
Adjusted R^2	0.472	0.473	0.474	0.474

Note: This table presents the OLS estimation results for the baseline DID model investigating the impact of wrongful discharge laws (WDLs) on corporate stock repurchases. The dependent variable is **stock repurchases divided by total assets**. The sample consists of Compustat firms from 1969 to 2003.
- **Column (1):** Baseline model including control variables only.
- **Column (2):** Adds the interaction term between `Good_faith` and `Overconfidence`.
- **Column (3):** Includes interaction terms with `Implied Contract`.
- **Column (4):** Adds interaction terms with `Public Policy`.
The results indicate a consistently negative and statistically significant relationship between CEO overconfidence and corporate stock repurchases across all specifications. Interaction effects with `Good_faith` suggest a moderating role of WDL provisions on the negative impact of CEO overconfidence. Other interaction terms (`Implied Contract` and `Public Policy`) do not exhibit statistically significant results. All continuous variables are winsorized at the 1st and 99th percentiles to address potential outliers.
T-statistics reported in parentheses are based on heteroskedasticity-robust standard errors clustered at the state level. Significance levels are denoted as follows: * p ¡ 0.10, ** p ¡ 0.05, *** p ¡ 0.01.

TABLE 3.3: Effect of WDLs on CEO Overconfidence and Firm Dividends

	(1)	(2)	(3)	(4)
Good_faith × Overconfidence		-0.237*	-0.219	-0.229
		(-1.607)	(-1.472)	(-1.325)
Overconfidence	-0.362***	-0.415***	-0.426***	-0.475***
	(-3.673)	(-3.876)	(-3.965)	(-3.862)
Good_faith		0.039	0.028	0.042
		(0.672)	(0.732)	(0.815)
Implied Contract × Overconfidence			-0.0008	-0.003
			(-0.168)	(-0.378)
Implied Contract			0.0001	0.0002
			(0.026)	(0.165)
Public Policy × Overconfidence				-0.003
				(-0.378)
Public Policy				0.0001
				(0.209)
Tangibility	0.168	0.168	0.168	0.168
	(1.326)	(1.346)	(1.396)	(1.330)
Profitability	0.179**	0.167**	0.182**	0.196**
	(2.261)	(2.272)	(1.931)	(1.984)
Board independence	0.018	0.016	0.015	0.019
	(1.021)	(1.009)	(1.209)	(1.195)
Leverage	0.027***	0.025***	0.028***	0.029***
	(4.298)	(4.188)	(4.638)	(4.906)
Growth	0.142*	0.151**	0.167**	0.183**
	(1.932)	(2.232)	(2.022)	(2.043)
Firm size	0.026***	0.025***	0.027***	0.026***
	(5.173)	(5.134)	(5.264)	(5.367)
Market-to-book	0.005	0.005	0.005	0.005
	(1.672)	(1.526)	(1.525)	(1.536)
Cash holdings	0.004***	0.004***	0.004***	0.004***
	(2.856)	(2.826)	(2.821)	(2.820)
State fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	11,560	11,560	11,560	11,560
Adjusted R^2	0.507	0.510	0.511	0.512

Note: This table presents the OLS estimation results examining the effect of wrongful discharge laws (WDLs) on CEO overconfidence and firm dividends. The dependent variable is **firm dividends scaled by total assets**. The sample includes Compustat firms from 1969 to 2003. Columns reflect different model specifications:
- **Column (1):** Baseline model without interaction terms.
- **Column (2):** Adds interaction between `Good_faith` and CEO `Overconfidence`.
- **Column (3):** Includes interaction with `Implied Contract`.
- **Column (4):** Adds interaction with `Public Policy`.
All continuous variables are winsorized at the 1st and 99th percentiles to minimize the influence of outliers. The results suggest that CEO overconfidence has a consistently negative impact on dividend distributions, with evidence of moderation effects from certain WDL provisions (`Good_faith`). However, other interactions (`Implied Contract` and `Public Policy`) do not show statistically significant effects. T-statistics reported in parentheses are based on heteroskedasticity-robust standard errors clustered at the state level. Significance levels are denoted as follows: * p ¡ 0.10, ** p ¡ 0.05, *** p ¡ 0.01.

TABLE 3.4: Impact of WDLs on Total Payouts and CEO Overconfidence

	(1)	(2)	(3)	(4)
Good_faith × Overconfidence		-0.239*	-0.253*	-0.267
		(-1.647)	(-1.587)	(-1.183)
Overconfidence	-0.362***	-0.415***	-0.426***	-0.475***
	(-3.673)	(-3.876)	(-3.965)	(-3.862)
Good_faith		0.029	0.033	0.021
		(0.672)	(0.732)	(0.815)
Implied Contract × Overconfidence			-0.0008	-0.003
			(-0.168)	(-0.378)
Implied Contract			0.0001	0.0002
			(0.026)	(0.165)
Public Policy × Overconfidence				-0.003
				(-0.378)
Public Policy				0.0001
				(0.209)
Tangibility	0.168	0.168	0.168	0.168
	(1.326)	(1.346)	(1.396)	(1.330)
Profitability	0.169**	0.157**	0.193**	0.195**
	(2.281)	(2.022)	(1.811)	(2.014)
Board independence	0.016	0.015	0.017	0.018
	(1.011)	(1.021)	(1.019)	(1.105)
Leverage	0.023***	0.022***	0.029***	0.026***
	(3.988)	(3.928)	(4.158)	(4.136)
Growth	0.132	0.142*	0.138*	0.133*
	(1.580)	(1.718)	(1.658)	(1.832)
Firm size	0.026***	0.027***	0.024***	0.023***
	(5.173)	(5.134)	(5.264)	(5.367)
Market-to-book	0.004	0.004	0.005	0.005
	(1.672)	(1.526)	(1.525)	(1.536)
Cash holdings	0.002***	0.003***	0.003***	0.004***
	(2.856)	(2.726)	(2.841)	(2.810)
State fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	11,560	11,560	11,560	11,560
Adjusted R^2	0.507	0.510	0.511	0.512

Note: This table presents the OLS estimation results examining the impact of wrongful discharge laws (WDLs) on total payouts and CEO overconfidence. The dependent variable is **total payouts scaled by total assets**. The sample consists of Compustat firms from 1969 to 2003. Columns reflect different model specifications:
- **Column (1):** Baseline model including control variables only.
- **Column (2):** Adds the interaction term between `Good_faith` and `Overconfidence`.
- **Column (3):** Includes interaction terms with `Implied Contract`.
- **Column (4):** Adds interaction terms with `Public Policy`.
The results indicate that CEO overconfidence has a consistently negative and statistically significant impact on total payouts across all specifications. Interaction effects with `Good_faith` suggest a moderating role of certain WDL provisions on this relationship, while interactions with `Implied Contract` and `Public Policy` are not statistically significant. Other significant predictors include **Profitability**, which positively influences total payouts, and **Leverage**, which also has a positive and significant effect.
T-statistics reported in parentheses are based on heteroskedasticity-robust standard errors clustered at the state level. Significance levels are denoted as follows: * p ¡ 0.10, ** p ¡ 0.05, *** p ¡ 0.01.

TABLE 3.5: Cross-Sectional Analysis of CEO Overconfidence and Corporate Payout Policy

Panel A: High Cash Flow			
	Share Repurchases	**Dividends**	**Total Payouts**
Good_faith × Overconfidence	-0.183	-0.172	-0.192
	(-1.021)	(-1.132)	(-0.902)
Overconfidence	-0.368	-0.429*	-0.443
	(-1.472)	(-1.581)	(-1.612)
Good_faith	0.027**	0.018	0.032
	(2.311)	(1.084)	(1.102)
Control variables	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	7643	7643	7643
Adjusted R^2	0.491	0.483	0.471
Panel B: Excess Cash			
	Share Repurchases	**Dividends**	**Total Payouts**
Good_faith × Overconfidence	-0.162	-0.195	-0.174
	(-0.942)	(-1.031)	(-1.183)
Overconfidence	-0.376	-0.418	-0.396
	(-1.419)	(-1.532)	(-1.171)
Good_faith	0.017*	0.023	0.021
	(1.891)	(1.329)	(1.186)
Control variables	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	7754	7754	7754
Adjusted R^2	0.512	0.503	0.511

Note: This table presents the results of cross-sectional tests examining the impact of WDLs on CEO overconfidence and corporate payout policies. Panel A shows results for firms with high cash flow, while Panel B shows results for firms with excess cash. The dependent variables are share repurchases, dividends, and total payouts scaled by total assets. Control variables include firm-specific characteristics, state, industry, and year fixed effects. T-statistics are reported in parentheses and are based on heteroskedasticity-robust standard errors clustered at the state level. The significance levels of 10%, 5%, and 1% are represented by *, **, and ***, respectively.

TABLE 3.6: Pre-Treatment Trend Analysis of the Good Faith Exception and CEO Overconfidence

	(1)	(2)	(3)
Good_faith (-2) × Overconfidence	-0.175	-0.203	-0.257
	(-1.032)	(-0.926)	(-1.001)
Good_faith (-1) × Overconfidence	-0.096	-0.108	-0.132
	(0.816)	(-1.003)	(-1.152)
Good_faith (0) × Overconfidence	-0.312	-0.359	-0.407
	(-0.625)	(-0.732)	(-0.726)
Good_faith (1) × Overconfidence	-0.208	-0.246	-0.275
	(-0.759)	(-1.096)	(-1.265)
Good_faith (2+) × Overconfidence	-0.213***	-0.326***	-0.378***
	(-3.543)	(-3.851)	(-3.667)
Overconfidence	-0.395	-0.346***	-0.417***
	(-3.816)	(-3.463)	(-3.956)
Good_faith (-2)	0.0002	0.0001	0.0001
	(0.213)	(0.214)	(0.215)
Good_faith (-1)	0.001	0.0002	0.0003
	(1.240)	(0.320)	(1.420)
Good_faith (0)	0.003**	0.0002	0.0012
	(2.175)	(0.607)	(1.568)
Good_faith (1)	0.0028**	0.0003	0.0025**
	(2.184)	(0.726)	(1.993)
Good_faith (2+)	0.0029***	0.0003	0.0026**
	(3.358)	(0.956)	(2.584)
Control variables	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	11,560	11,560	11,560
Adjusted R^2	0.472	0.472	0.472

Note: This table presents the pre-treatment trend analysis examining the impact of the good faith exception on CEO overconfidence and firm payouts. The Good Faith variables represent the time-specific adoption of the good faith exception, with interactions tested against overconfidence. Control variables include firm-specific characteristics, and state, industry, and year fixed effects. T-statistics are reported in parentheses and are based on heteroskedasticity-robust standard errors clustered at the state level. The significance levels of 10%, 5%, and 1% are represented by *, **, and ***, respectively.

TABLE 3.7: Propensity Score Matching Analysis of the Good Faith Exception

Panel A: Pre- and Post-Matching Characteristics

	Pre-matching			Post-matching		
	Control	**Treatment**	**t-stat**	**Control**	**Treatment**	**t-stat**
Overconfidence	9248	0.375	-10.21***	168	0.382	-1.156
Leverage	9248	0.425	12.51***	168	0.452	0.802
Tangibility	9248	0.732	11.175***	168	0.743	0.916
Average sales	9248	0.682	8.635***	168	0.695	0.826
Firm size	9248	4.586	7.195***	168	4.762	0.639
Market-to-book	9248	1.629	-9.136***	168	1.919	0.862
Cash holdings	9248	0.108	-16.325***	168	0.115	0.965

Panel B: The Effect of the Good Faith Adoption for the Matched Sample

	Dependent: Share Repurchases	**Dependent: Dividends**	**Dependent: Total Payouts**
Good_faith × Overconfidence	-0.432***	-0.257*	-0.361**
	(-3.683)	(-2.013)	(-2.462)
Overconfidence	-0.359***	-0.482***	-0.343***
	(-4.267)	(-3.826)	(-3.924)
Good_faith	0.0016***	0.0003*	0.0018**
	(3.861)	(1.751)	(2.472)
Control variables	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Observations	1157	1157	1157
Adjusted R^2	0.632	0.635	0.633

Note: This table presents the results using the propensity score-matched samples. The treated firm-year observations are matched with control firm-years using one-to-one nearest-neighbor matching with replacement. Propensity scores are estimated based on overconfidence, leverage, tangibility, average sales, firm size, and market-to-book ratio, requiring the matched firms to be from the same year and industry classified by Fama-French 48 industries. Panel A shows pre- and post-matching characteristics of treatment and control firms. Panel B presents the effect of the good faith adoption on the relationship between overconfidence and company payouts for the matched samples. All continuous variables except macroeconomic variables are winsorized at the 1st and 99th percentiles. Appendix Table B1 provides the complete variable definitions. T-statistics reported in parentheses are based on heteroskedasticity-robust standard errors clustered at the state level. Significance levels of 10%, 5%, and 1% are represented by *, **, and *** respectively.

Chapter 4

Fiduciary Duty and Dividend Policy: Evidence from Corporate Opportunity Waiver

4.1 Introduction

The study of payout policy has long been a focus for market participants and researchers. This decision can convey to the capital markets and investors various information about the company's prospects (Michaely and Moin, 2022), including the company's growth opportunities (e.g., Miller and Rock, 1985), cash flow volatility (Michaely et al., 2021), corporate governance (e.g., Jensen, 1986; Chetty and Saez, 2010), and the impact on the share price and the discount rate (e.g., Shiller, 1981; Campbell and Shiller, 1988; Boudoukh et al., 2007). From the very beginning of Modigliani and Miller's (1961) theory of dividend irrelevance, many studies have investigated the dividend policy of firms from the perspective of agency theory, arguing that better-governed firms pay more dividends and share buybacks (Deshmukh et al., 2013; Dang et al., 2021) because corporate governance reduces agency costs and brings dividend policy closer to the maximization of shareholders' interests (Grossman and Hart, 1980; Easterbrook, 1984; Jensen, 1986; DeAngelo et al., 2006).Empirical studies should avoid endogeneity issues such as omitted variable bias or reverse causation when examining the complex relationship between a company's dividend policy and corporate governance. Further research is needed in this area.

In this study, we employ the staggered introduction of corporate opportunity waiver (COW) laws in US states since 2000 as a quasi-natural experiment to address the challenges posed by the endogeneity problem. COW is a corporate law introduced in Delaware in 2000, allowing corporate managers to waive their traditional fiduciary duty of loyalty during their employment. These laws were initially intended to assist startups and small businesses in seeking venture capital and other funding without considering fiduciary conflict issues. Their most immediate impact is to prevent executives and directors from pursuing new investments without first presenting them to the company (Rauterberg and Talley, 2017). The act has been adopted by nine US states, extending its scope to companies of all sizes.[1]

Some recent studies suggest that the implementation of the COW laws may lead to agency problems. The emergence of board capture and the decline in competition to attract and retain executives (Acharya and Volpin, 2010).[2] Therefore, when firms exempt directors from their duty of loyalty to potentially conflicted directors, they often extend the exemption to managers (Rauterberg and Talley, 2017). Simultaneously, the adoption of COW may lead to a decrease in R&D innovation, resulting in companies growing through low-quality acquisitions (Fich, Harford, and

[1]The states (effective year) that have adopted COW laws include: Delaware (2000), Oklahoma (2001), Missouri (2003), Kansas (2005), Texas (2006), Nevada (2007), New Jersey (2011), Maryland (2014), and Washington (2016). Please see Appendix B for details.

[2]See, e.g., Acharya and Volpin (2010). Stakeholders may manipulate the board of directors in decision-making, potentially impacting the company's compliance and balance of interests. To prevent adverse effects on corporate governance and business decisions, further research and measures may be necessary.

Tran, 2023). However, the weakening of company culture may also contribute to a decline in company acquisitions (Hu et al., 2023; Li and Ni, 2023). Thus, waiving the duty of loyalty may exacerbate potential agency conflicts. In this study, we examine the effect of this change in duty on firms' dividend policy for the first time.

The implementation of COW laws may impact a company's dividend policy in several ways. From an agency theory perspective, paying dividends reduces the amount of free cash flow available to managers, which can mitigate agency conflict and maximize shareholders' interests (Grossman and Hart, 1980; Easterbrook, 1984; Jensen, 1986; DeAngelo et al., 2006). Furthermore, according to Easterbrook (1984), dividend payments increase the probability of new share issuance.

However, adopting COW may mitigate the agency problem, as the increased employee mobility in firms adopting COW benefits managers, which would reduce many potential conflicts between managers and shareholders. Therefore, from this perspective, the adoption of COW is likely to lead to a reduction in corporate dividend policy due to managerial mobility and a weakening of the board's duty of loyalty.

In contrast, the opposing view is that implementing COW laws reduces a company's dividend payout. From the perspective of a company's free cash flow, adopting COW tends to forego internal growth opportunities and leads to greater reliance on mergers and acquisitions for growth. This shift reduces the cash flow available for dividends. Simultaneously, COWs can exacerbate agency problems. Studies have found that high-tech firms that lose key inventors or have more severe agency conflicts are more likely to experience substantial value loss within two years of adopting COW regulations (Fich et al., 2023). Therefore, the adoption of COWs can negatively impact firms' dividends and expenses.

To test our ideas empirically, we used a staggered DID estimation approach and employed an intention-to-treat (ITT) analysis instead of a treatment-on-the-treat (TOT) approach.[3] Our baseline results compare firms in states that have adopted COW laws (treatment group) and firms in states without COW (control group). The results show that firms pay significantly fewer dividends after adopting COW laws. These results remain robust to alternative dividend measures.

[3]Consistent with previous studies (e.g., Berger et al., 2020; Fich et al., 2023), we use intention-to-treat (ITT) analysis because randomizing firms to the exemption procedure is the optimal choice for the experimental setup. However, in practice, the state legislature's adoption of the corporate opportunity exemption law is exogenous to our sample of firms, while firms' decision to implement the exemption procedure is endogenous. Therefore, this paper employs an intention-to-treat (ITT) analysis by locating the empirical test in the process of state legislatures passing exemption laws, rather than individual firms actually implementing exemption procedures, in a reduced-form difference-in-differences (DID) setting. Our analysis may underestimate the true impact of the exemption law if firms incorporated in states located in the state that passed the law do not include the exemption process in their charter. This is because the exemption process may not be reflected in our analysis if it is not included in the charter of firms incorporated in the state where the law was passed.

To investigate the mechanism by which the corporate opportunity waiver (COW) method leads to a decline in corporate dividends, we conducted a cross-sectional variable test. Firstly, we examined whether the COW method affects corporate dividends by impacting firms' cash flows and cash holdings, with the expectation that the negative effect of the COW method on corporate dividends would be more pronounced for firms with low cash holdings or those in financial distress. Consistent with our expectations, we observe a more pronounced negative effect for firms with low cash holdings and severe financial problems.

Next, we explore the mechanism by which the implementation of COW affects corporate dividends from a corporate governance perspective. We use the percentage of independent directors as a measure of corporate governance strength. Numerous studies have shown that independent directors play a crucial role in corporate governance through monitoring and decision-making, which helps to constrain executive power, protect shareholders' interests, and enhance corporate transparency and ethics (Yermack, 2010; Edmans, 2014; Hilt, 2014).

Furthermore, the inclusion of independent directors can help reduce potential conflicts of interest between the company's owners and directors regarding decisions to pursue the company's opportunities. This alignment ensures that the company's mergers and acquisitions (M&A) activities are consistent with its overall strategy and interests, promoting sustainable growth (Fich et al., 2023).

Therefore, we expect that the impact of COW on dividends will be less significant for companies with a high percentage of independent directors than for those with a low percentage. The results indicate that companies with a strong focus on board independence, reflecting good corporate governance, experience fewer negative effects of COW.

In addition, we conduct a series of tests to ensure the robustness of our results. First, we perform a pre-treatment trend analysis to test whether there is a significant difference in company dividends before and after the implementation of COW, ensuring the validity of the DID method. Second, we use propensity score matching (PSM) to confirm that the treatment effect is not driven by observable factors. Third, we apply entropy balancing to ensure exact covariate balance. Fourth, we conduct a placebo test to verify that our results are driven by the implementation of COW and not by any unobservable factors associated with this law. Finally, to address the issue of potential treatment heterogeneity in staggered DID models, we follow the recommendations of Baker, Larcker, and Wang (2022) and Cengiz et al . (2019) by using stacked DID to address this concern.

Finally, we analyze stock repurchases and total payouts separately as complements to the firm's payment policy, as share buybacks serve as an important substitute for dividends. Our results demonstrate varying degrees of decreases in both stock

buybacks and total payouts following the implementation of COW, further highlighting the robustness of our findings.

Our paper contributes to the literature in several ways. First, we provide new evidence on the link between the corporate opportunity waiver (COW) law and corporate dividend policy. We construct the impact on corporate dividend policy following corporate exemption from liability from different time points in the implementation of COW, which contributes to a growing genre of literature on aspects such as corporate leverage (Matsa, 2010; Agrawal and Matsa, 2013; Kuzmina, 2013; Simintzi et al., 2015; Serfling, 2016; Schmalz, 2016; Chen et al., 2018; Klasa et al., 2018), cash holdings (Klasa et al., 2009; Ghaly et al., 2017; Cui et al., 2018; Karpuz et al., 2020), firm growth (Autor et al., 2007; Bai et al., 2020), and mergers and acquisitions (John et al., 2015; Chatt et al., 2017; Dessaint et al., 2017).

Second, our study contributes to the literature in the area of dividend policy. Consistent with the predictions of agency theory, managers who are left to their own devices are typically more inclined to keep more cash in the firm and distribute less to shareholders. However, more effective governance, such as greater board independence, forces managers to distribute more cash to shareholders, reducing the negative effects of COW (Fich et al., 2023) and the scope for capital misappropriation.

Third, we contribute to the literature on the impact of corporate opportunity exemption laws on corporate finance. Prior research on COW has focused on corporate decision-making, acquisitions, innovation, and corporate social responsibility (Rauterberg and Talley, 2017; Fich et al., 2023; Boyd et al., 2023). Our study broadens the understanding of the impact of corporate opportunity waiver laws on corporate finance.

The remainder of this paper proceeds as follows: Section 2 provides a literature review and hypothesis development. Section 3 describes the data and sample selection process. Section 4 presents the empirical results. Section 5 covers the cross-sectional analysis. Section 6 discusses various robustness tests, and Section 7 concludes the paper.

4.2 Literature review and hypothesis development

4.2.1 Corporate Opportunity Waiver

The corporate opportunity waiver is a legal improvement based on the corporate opportunity doctrine.[4] This doctrine requires directors and officers of a corporation to avoid occupying business opportunities that may benefit the corporation in their role

[4]Reference is made to the law review article by Rauterberg and Talley (2017).

as fiduciaries (Talley and Hashmall, 2001). The principle recognizes the existence of unavoidable conflicts of interest and firmly decides in favour of shareholders. Specifically, the COD provides for a breach of the duty of fiduciary loyalty if a board of directors member learns of a potential takeover that may benefit the company but usurps the company's opportunity by privately acquiring the target company.

This doctrine has been an unalterable part of company law in the common law system since the 1800s. However, over time, this doctrine has faced increasing criticism. For example, the corporate opportunity doctrine (COD) can lead to conflicts where companies share directors or officers, particularly in private equity and venture capital firms (Talley and Hashmall, 2001). The doctrine restricts companies from contracting specific loyalties, raising concerns about overlapping interests experienced by managers and board members.

The implementation of the corporate opportunity doctrine (COD) has been perceived as detrimental to directors and officers, prompting some states to adopt the corporate opportunity waiver (COW) as a response. Since Delaware first adopted the COW in July 2000, eight other states have followed suit: Oklahoma in November 2001, Missouri in October 2003, Kansas in January 2005, Texas in January 2006, Nevada in October 2007, New Jersey in March 2011, Maryland in October 2014, and Washington in January 2016. To date, nine U.S. states have adopted COW laws. Rauterberg and Talley (2017) estimate that more than 1,000 public companies have subsequently implemented the corporate opportunity waiver.

As states have implemented COW laws, empirical studies of their impact have emerged. Rauterberg and Talley (2017) find that firms adopting COW are typically large and profitable, contradicting the initial expectation that COW would benefit small and emerging firms. Fich et al. (2023) investigate COW's impact on innovation, revealing that COW adoption significantly decreases R&D expenditure, patent quantity, and patent value. This trend suggests that managers may usurp business opportunities discovered through R&D, thus lowering the returns on R&D investments. They also find an increase in equity-based CEO compensation following COW adoption.

Similarly, Geng et al. (2023) find that COW laws lead to increased board overlap, enhancing profitability but reducing competitive investment and innovation. Wang (2022) shows that firms potentially covered by COW experience lower shareholder support in director elections, reflecting an increased effort to monitor heightened agency costs. Li and Ni (2023) report that COW laws deter managers from pursuing large, risky investments favored by diversified shareholders.

Boyd et al. (2023) find a negative correlation between the adoption of corporate opportunity waiver (COW) laws and corporate social responsibility (CSR), and this effect persists even after the implementation of the laws. Finally, Hu et al. (2023) find

that COW laws enable more overlapping boards, exacerbating agency conflicts and eroding corporate culture, particularly in firms with weaker governance or more external directorship opportunities.

4.2.2 Related literature and hypothesis development

Miller and Modigliani (1961) introduce the dividend irrelevance theorem, which posits that in perfectly efficient capital markets, dividend payouts do not affect a firm's value. This is because investors can create homemade dividends by selling a portion of their equity holdings if they need cash, thus maintaining their investment strategy. Despite this theoretical proposition, firms continue to distribute substantial dividends, leading to what Black (1976) terms the "dividend puzzle."

Several theories are proposed to explain this phenomenon, including signaling theory, catering theory, and the agency costs of free cash flow theory. Signaling theory suggests that managers use dividends to convey information about a firm's profitability and future prospects to investors (Lintner, 1956; Hobbs and Schneller, 2012; Benartzi, Michaely, and Thaler, 1997). Catering theory, proposed by Baker and Wurgler (2004), argues that managers pay dividends to cater to investor demand for dividends. The agency costs of free cash flow theory, developed by Easterbrook (1984) and Jensen (1986), posits that dividends help reduce agency costs by limiting the free cash flow available to managers, thus curbing their potential to invest in unprofitable projects.

Agency theory, introduced by Jensen and Meckling (1976), addresses the conflicts of interest between managers and shareholders due to information asymmetry. Managers, who possess more information about the firm, may prioritize their interests over those of the shareholders, leading to agency costs. Mechanisms such as takeover threats, market scrutiny, disclosure practices, corporate governance structures, and dividend policies are employed to mitigate these costs (Grossman and Hart, 1980; Fama and Jensen, 1983; Easterbrook, 1984; Jensen, 1986).

In the context of dividends, La Porta et al. (2000) propose two hypotheses: the outcome hypothesis and the substitution hypothesis. The outcome hypothesis suggests that dividends are paid because managers succumb to pressure from minority shareholders for cash distributions, leading well-governed firms to offer higher dividends. Conversely, the substitution hypothesis posits that managers pay dividends to establish a reputation for fair treatment of minority shareholders, thereby facilitating future equity financing. This hypothesis implies that poorly governed firms may pay higher dividends to compensate for weak governance, while well-governed firms may pay lower dividends. Empirical studies on the relationship

between dividends and corporate governance provide mixed results, reflecting variations in governance measurements.

Studies supporting the outcome hypothesis include La Porta et al. (2000), Faccio et al. (2001), and Francis et al. (2007), among others. For example, Faccio et al. (2001) find that firms in tightly controlled environments with a higher risk of expropriation pay higher dividends to reassure investors. Adjaoud and Ben-Amar (2010) use a corporate governance index to show that firms with robust governance structures tend to distribute higher dividends. Lin et al. (2014) demonstrate that firms with better disclosure practices pay higher dividends.

On the other hand, studies supporting the substitution hypothesis include Rozeff (1982), Jensen et al. (1992), and Officer (2007). Rozeff (1982) finds that firms with higher insider ownership, which mitigates agency costs, tend to pay lower dividends. Hu and Kumar (2004) report a negative relationship between managerial equity ownership and dividend payouts. Jiraporn and Ning (2006) document that stronger shareholder rights are associated with lower dividends in the U.S. market.

Some studies, such as Sawicki (2009) and Brockman and Unlu (2011), provide evidence supporting both hypotheses. Sawicki (2009) finds a substitution effect between dividends and governance mechanisms before the Asian financial crisis but an outcome effect post-crisis. Brockman and Unlu (2011) identify a U-shaped relationship between dividend payouts and disclosure quality.

Given the mixed evidence, this study leverages the quasi-natural experiment provided by the staggered adoption of Corporate Opportunity Waiver (COW) laws across U.S. states to examine their impact on corporate dividend policies. COW laws, by allowing managers to waive their fiduciary duty of loyalty, offer a unique setting to analyze the effects of reduced managerial accountability on dividend distributions.

We hypothesize that the adoption of COW laws exacerbates agency conflicts, leading to reduced dividend payouts. These laws effectively allow managers greater discretion over firm resources, which may incentivize retaining cash for internal or speculative uses rather than distributing it to shareholders. This aligns with agency theory, which predicts that reduced oversight or accountability can result in behaviors that deviate from shareholder value maximization.

Firms with weaker governance structures, such as fewer independent directors or concentrated managerial control, are particularly vulnerable to these effects. Conversely, firms with strong governance mechanisms may counterbalance the potential increase in agency costs associated with COW laws by enforcing stricter monitoring and accountability.

Based on these considerations, we propose the following hypotheses:

- **Hypothesis 1a**: The adoption of COW laws leads to a decrease in dividends, especially in firms with weaker financial conditions and corporate governance.
- **Hypothesis 1b**: The negative impact of COW laws on dividends is less pronounced in firms with strong corporate governance, as measured by the percentage of independent directors.

These hypotheses are grounded in agency theory and supported by empirical evidence on the relationship between governance mechanisms and payout policies. By empirically testing these hypotheses, this study aims to contribute to the literature on corporate governance and dividend policy, providing insights into how changes in fiduciary duty obligations affect corporate payout practices.

4.3 Sample selection and data description

4.3.1 Sample selection

Our sample consists of all publicly traded U.S. firms from 1995 to 2021.[5] This period is advantageous as it covers the timeframe during which all corporate opportunity waiver (COW) laws were passed, allowing us to use the implementation of the law as an exogenous shock. We exclude utilities (SIC codes 4900-4949) and financial firms (SIC codes 6000-6999) from the sample because utilities have a cash flow structure that is highly influenced by interstate regulation, and financial firms hold high levels of marketable securities. The final sample consists of 28,532 observations for 3,695 unique firms from 1995 to 2021.

4.3.2 Variables

4.3.2.1 Dividend variables

We use three different dividend measures. In the primary empirical analysis, we calculate dividends by scaling them to total assets. For the alternative measures, we calculate dividends by scaling them to sales and by dividing dividends by market capitalization equity, respectively.

[5]We refer to Fama-French 49 industry classification. The industries in the sample are as follows: Agricultural Production (SIC 100), Technical (SIC 1000-1799, 8711), Manufacturing (SIC 2000-3999), Transportation (SIC 4000-4899), Trade (SIC 5000-5999), and Service (SIC 7000-8710, 8712-8720, 8722-8999). The first COW law was adopted by Delaware on July 1, 2000, and the last adoption was by Washington on January 1, 2016. To ensure comprehensive coverage, we extend the sample period to include five years before 2000 and five years after 2016.

4.3.2.2 COW variable

We construct a COW dummy variable to indicate whether the state in which the firm is located has enacted a corporate opportunity waiver (COW) law, following Fich et al. (2023). This law allows managers to waive their duty of loyalty and prioritize their interests over those of shareholders when faced with a new business opportunity. The dummy variable takes a value of 1 if the state where the firm is located has enacted a COW law and 0 otherwise.

4.3.2.3 Control variables

The sample comprises firms that end their fiscal year with CRSP or Compustat Annual Data Project data. Profitability is calculated as operating income before depreciation divided by total assets. Firm size is represented by the logarithm of total assets (Item 6). Tangible assets are calculated as net tangible assets (Item 13) divided by total assets (Item 6). Cash holdings (Item 162) indicate a firm's willingness and ability to pay cash dividends and are closely related to its cash levels. Companies with higher levels of cash have a greater ability to pay dividends. The ratio of total cash and cash equivalents to total assets at the end of the period is expected to have a positive coefficient on the likelihood of paying cash dividends. Additionally, highly leveraged firms tend to pay fewer dividends, so we also control for leverage (total debt divided by total assets).

Based on financial theories, companies experiencing growth are less likely to distribute cash dividends because firms with good growth opportunities require cash to exploit these opportunities, develop markets, and expand production operations. Therefore, the coefficient of this variable is expected to be negative. The price-to-book ratio, a measure of growth opportunities, is calculated by dividing the market value of equity by the book value of equity.

Board independence is calculated annually as the ratio of non-executive directors to the total number of directors on a company's board. The use of independent directors is a crucial aspect of modern corporate governance, aimed at preventing major shareholders and management from abusing control and neglecting the interests of smaller shareholders. Independent directors supervise management and help reduce agency costs, which can lead to an increased likelihood of distributing and paying higher cash dividends. All continuous variables are winsorized at the 1% and 99% levels to mitigate the effects of outliers.

4.3.3 Summary statistics

Table 4.1 briefly summarises the data used in this paper. On average, firms have a dividend-to-total-assets ratio of 1.2%, which is close to the 1.3% reported in Chintrakarn et al. (2022) for the same variable. Notably, the mean value of the COW dummy is 0.58, indicating that more than half of the firm-years in our sample are covered by this waiver provision.

TABLE 4.1: Summary Statistics

Variable	Mean	Min	Median	Max	Std. Dev.	N
Dividends	0.012	0.000	0.005	0.027	0.031	32,103
COW	0.580	0.000	0.540	1.000	4.920	32,103
Profitability	0.072	-0.525	0.073	0.169	0.139	32,103
Firm size	6.140	5.923	6.219	8.643	1.877	32,103
Tangibility	0.130	0.089	0.174	0.416	0.256	32,103
Cash holdings	0.116	-0.421	0.035	0.039	0.127	32,103
Growth	0.061	-1.162	0.003	0.004	0.321	32,103
Board independence	0.620	0.000	0.000	1.000	0.468	32,103
Market-to-Book	1.962	-1.342	1.309	2.801	3.181	32,103

Note: This table shows the summary statistics for our variables. The sample includes 32,103 firm-year observations over the period 1995-2021. Variable definitions are provided in Appendix C1. All continuous variables are winsorized at the 1% and 99% levels.

4.4 Empirical results

To test the impact of COW laws on the firm's dividend policy, we conducted a difference-in-differences (DID) analysis following previous studies (Basu and Liang, 2019; Chen et al., 2020; Fich et al., 2023) using the following specification:

$$\begin{aligned}\text{Dividends}_{i,t} = \beta_0 + \beta_1 \text{COW}_{s,t} + \beta_2 \mathbf{X}_{i,t-1} + \beta_3 \text{Firm FE}_i \\ + \beta_4 \text{State} \times \text{Year FE}_{h,t} + \beta_5 \text{Industry} \times \text{Year FE}_{j,t} + \epsilon_{i,t}\end{aligned} \tag{4.1}$$

Where:

- i represents the firm, s represents the state of incorporation, t represents the year, h represents the state of headquarters, and j represents the industry based on the 3-digit SIC code.
- $\text{Dividends}_{i,t}$: The dependent variable, measured as dividends divided by total assets for firm i in year t.

- $\text{COW}_{s,t}$: The treatment variable, which is a dummy equal to 1 if the firm is incorporated in a state s that has adopted a corporate opportunity waiver (COW) law in year t, and 0 otherwise.
- $\mathbf{X}_{i,t-1}$: A vector of firm-level control variables, lagged by one year, including profitability, leverage, firm size, growth, tangibility, and cash holdings.
- Firm FE_i: Firm fixed effects to control for time-invariant unobservable characteristics specific to each firm.
- State $\times$ Year $\text{FE}_{h,t}$: State-by-year fixed effects for the firm's headquartered state, capturing state-specific economic or regulatory shocks over time.
- Industry $\times$ Year $\text{FE}_{j,t}$: Industry-by-year fixed effects based on the firm's 3-digit SIC industry classification, accounting for time-varying industry-wide factors.
- β_1: The DID estimator, capturing the causal effect of COW adoption on dividend payouts by comparing the differences in dividends between treated and control firms before and after the adoption of COW laws.
- $\epsilon_{i,t}$: The error term, clustered at the state of incorporation level to account for potential correlation within states.

The treatment group comprises firms incorporated in states where COW laws have been adopted, while the control group includes firms in states without such laws. By including firm fixed effects, we control for unobserved, time-invariant characteristics of firms that could influence dividend policies. Additionally, the inclusion of state-by-year and industry-by-year fixed effects ensures that our results are not confounded by time-varying state-level economic conditions or industry-specific shocks. The clustering of standard errors at the state of incorporation level accounts for within-state correlation, enhancing the robustness of our inference.

This specification allows us to isolate the impact of COW laws on dividend policies, providing a clear framework for understanding how reduced managerial accountability under COW laws influences corporate payout decisions.

Table 4.2 reports our results. Column (1) shows the baseline model without control variables, while Column (2) includes all control variables. The coefficients on COW are negative and statistically significant at the 1% level, indicating that dividends are significantly lower after the adoption of COW laws. This result is consistent with the prediction of increased agency costs. Economically, the coefficient on COW in Column (2) of Table 4.2 is -0.253, indicating that dividends for firms covered by COW are 5.14% (-0.253/4.92) lower than for non-covered counterparts.

In terms of control variables, we find that higher profitability, lower leverage, higher growth, and larger firm size are all significantly and positively associated with firm

dividends. These results are consistent with previous studies, such as Francis et al. (2007), Petrasek (2009), Abdallah and Goergen (2008), Kowalewski et al. (2008), Adjaoud and Ben-Amar (2010), Jiraporn et al. (2011), Bae et al. (2012), Bartram et al. (2012), Lin et al. (2014), and Jiraporn and Lee (2017).

In addition, since Delaware incorporations account for more than half of the entire sample, we examine whether Delaware incorporations primarily drive our main findings. Following Boyd et al. (2023), we construct two dummy variables, *COW_DE* and *COW_NonDE*, which denote the year of incorporation in Delaware and other states after the adoption of COW, respectively. The results are reported in Columns (3) and (4) of Table 4.2. We find that the coefficients on *COW_DE* and *COW_NonDE* are both negative and statistically significant, indicating that our main results are not primarily driven by Delaware firms.

4.5 Cross-sectional analysis

4.5.1 Role of cash flow and financial constraints

We conduct several cross-sectional tests to investigate the potential heterogeneity in the relationship between COW and corporate dividends. Additionally, we present evidence on the economic channels through which this relationship is mediated. First, we examine whether the effect of COW on dividends varies according to a firm's cash flow and financial constraints. If the reduction in dividends is driven by diminished cash flows and increased financial constraints, we would expect the decline in dividends to be more pronounced for firms holding lower cash flows or facing financial constraints under the influence of COW.

Following the methodology of Chemmanur et al. (2013) and Dang et al. (2021), we use firm size and cash flow as measures of financial constraints. Specifically, firms with market equity below (above) the annual median are classified as small (large), while firms with cash flow above (below) the median are categorized as high (low) cash flow firms.

The results in Table 4.3 indicate that the coefficient of COW is insignificant for large firms and those with high cash flow but remains significantly negative for small firms and those with low cash flow. This suggests that the dividend policies of low cash flow firms and smaller firms are more susceptible to the implementation of COW laws. These findings are consistent with previous studies, which indicate that COW has a reduced impact on larger firms (Fich et al., 2023).

4.5.2 Role of governance: Board independence

Next, we examine the mechanism of the effect of COW on corporate dividends from a corporate governance perspective. According to related studies, board independence is an important measure of good corporate governance; firms with more independent directors are associated with higher innovation (Lu and Wang, 2018), and increasing board independence increases corporate dividends (Chintrakarn et al., 2022). Therefore, we expect that firms with better corporate governance have more aligned managerial and shareholder interests, which may weaken the effect of COW on dividends. To test this, we construct a dummy variable for board independence, which takes the value of 1 for independent directors above the sample median and 0 otherwise.

The results in Table 4.4 show that the coefficient of COW × board independence is significantly positive, indicating that higher board independence makes the effect of COW on dividends positive, i.e. in firms with high board independence, the firm's dividends still increase after the implementation of the COW law. This is consistent with previous findings that COW has a smaller impact on firms with good corporate governance. Furthermore, increasing board independence increases firm dividends (Fich et al., 2023; Chintrakarn et al., 2022).

4.6 Robustness tests

4.6.1 Pre-treatment trend analysis

The validity of the Difference-in-Differences (DID) approach relies on a crucial assumption: that the adoption of COW laws is exogenous and that there are parallel pre-existing trends between firms adopting COW (treated) and firms not adopting COW (controlled). However, econometric literature (Goodman-Bacon, 2021) raises concerns that the DID estimator may be affected by variations in treatment location and timing. Specifically, the interpretation of the DID coefficients can be challenging, as they are numerically equal to the weighted average of all possible DID estimates. These estimates may reflect comparisons between treatment firms from different locations and times, rather than between treatment and control firms.

To address this issue, we employ Propensity Score Matching (PSM) followed by a parallel trend test, which allows us to control for both unobserved heterogeneity and observable differences in firm-level characteristics, resulting in cleaner treatment effects.

We estimate a dynamic model, building on prior studies (e.g., Bertrand and Mullainathan, 2003; Acharya et al., 2014; Serfling, 2016), and treat the time of COW

adoption as a dummy variable. Specifically, we re-estimate our main model by including lags and leads of the treatment indicator for COW adoption: *COW (-4 and earlier)*, *COW (-3)*, *COW (-2)*, *COW (0)*, *COW (+1)*, *COW (+2)*, *COW (+3)*, and *COW (+4 and later)*. *COW (-1)* serves as the baseline or intercept in the regression (Baker et al., 2022).

The results in Table 4.5 show that the coefficients on all pre-COW variables are not statistically significant, suggesting no evidence of dividend reduction for firms before the introduction of COW. This supports the validity of the parallel trend hypothesis in the DID analysis. Furthermore, the coefficients on *COW (+2)*, *COW (+3)*, and *COW (+4 and later)* are significant and negative, indicating that the impact of COW becomes significant and stable after two years. This suggests that COW laws have a delayed but persistent effect on dividend policy.

4.6.2 Propensity score matching

To address the potential impact of selection bias on our findings, we employed a propensity score matching (PSM) approach to mitigate this endogeneity issue. For each firm that receives treatment (i.e., a firm incorporated in the state where the exemption is in effect), we identify candidate control firms. These are firms incorporated in the same headquarters state and operating in the same industry as the receiving firm, with similar characteristics such as firm size, leverage, profitability, growth rate, tangible assets, independent directors, book-to-market ratio, and cash holdings. We then use model (1) to estimate a probit model that matches each treated firm to the control firm with the closest propensity score derived from the probit model.

We employed a one-to-two nearest neighbor matching algorithm (1:2 matching) with replacement to enhance the robustness of the matched sample. This approach ensures that each treated firm is matched with two control firms with the closest propensity scores, increasing the statistical power while maintaining a high level of comparability between treated and control groups. The matching process also includes a caliper of 0.01, restricting the maximum allowable difference between propensity scores to further improve match quality.

We re-estimated our main specification using the matched sample, and the results presented in Table 4.6 show that the coefficient on *COW* is still negative and significant at the 1% level. This further confirms our main finding, addressing the endogeneity of the state of incorporation.

4.6.3 Entropy Balancing

In observational studies, covariate imbalance between treatment and control groups can lead to endogenous bias, affecting the credibility of the results. Entropy balancing is a reweighting method that achieves covariate balance, making the treatment and control groups comparable on key characteristics, thus reducing the impact of endogenous bias. In this study, we employ entropy balancing tests to ensure the robustness and reliability of our findings on the impact of Corporate Opportunity Waiver (COW) laws on corporate dividend policies.

We define the treatment and control groups as firms located in states that have adopted COW laws and those in states that have not, respectively. Key covariates for balancing include firm size, profitability, leverage, cash holdings, market-to-book ratio, and board independence. Entropy balancing is applied to the control sample by assigning weights to each observation, ensuring that the moments of the covariate distributions match between the treatment and weighted control groups. Specifically, we generate weights based on Hainmueller's (2012) method to ensure comparability. After achieving covariate balance, we re-estimate the impact of COW laws on corporate dividend policies using the weighted sample. The regression model remains unchanged but incorporates the weights obtained from the entropy balancing procedure.

Panel A of Table 4.7 shows the means and standardized differences of covariates before and after entropy balancing. The results indicate that after entropy balancing, the means of the covariates in the control group match those of the treatment group, and the standardized differences are close to zero, indicating that covariate balance has been achieved. Panel B of Table 4.7 presents the regression results using the weighted sample. The results show that the coefficient of the COW variable is -0.263 and is significant at the 1% level, indicating that the adoption of COW laws significantly reduces corporate dividends.

4.6.4 Placebo test

To ensure that our results are not driven by unobserved factors, we conduct a placebo test by randomly assigning hypothetical implementation years to create pseudo Corporate Opportunity Waiver (COW) dummy variables. This approach helps to validate that the observed effects are indeed due to the actual adoption of COW laws and not due to other time-varying factors. Specifically, we randomly assign each state a hypothetical COW implementation year between 1995 and 2021. This pseudo COW year is used to construct a placebo COW dummy variable (COW_PSEUDO), which equals 1 if the state is in the pseudo implementation year or later, and 0 otherwise. We replace the actual COW variable with the COW_PSEUDO variable in our main

regression model and re-estimate the regression. This process is repeated 100 times to generate a distribution of coefficients and t-statistics for the placebo tests.

Table 4.8 presents the distribution of coefficients and t-statistics for the 100 placebo tests. The mean values of the coefficients and t-statistics are -0.013 and -0.853, respectively, which are significantly different from the actual values obtained in our baseline regression (-0.253 and -3.176). This implies that unobserved factors do not influence our results.

4.6.5 Stacked difference-in-differences estimation

Recent studies on causal inference argue that interleaved DID models may produce biased estimates under certain circumstances (e.g., Borusyak and Jaravel, 2020; Callaway and Sant'Anna, 2020; Sun and Abraham, 2021). The source of this bias is the use of observations from later treatments as controls before the treatment group is applied and from earlier treatments as controls after the treatment group is applied, a phenomenon referred to as the heterogeneity problem. This issue can occur, for example, when a state that passes a law subsequently reverses its initial decision.

To mitigate this problem, we follow Baker, Larcker, and Wang (2022) and Cengiz, Dube, Lindner, and Zipperer (2019), using a stacked DID approach. The stacked DID design generates an event-specific queue of treated firms and "clean control matches." These matched control firms are selected based on two conditions: they have never experienced a significant change within the event estimation window, and they have never experienced a significant change outside of the same window. These requirements for entering the treated and matched control groups prevent the problem of heterogeneous treatment by ensuring that earlier-treated firms are not used as effective controls for later-treated firms.

The stacked DID estimates, presented in Table 4.9, are consistent with the findings from our baseline tests.

4.6.6 Alternative measures of dividends

To further validate the robustness of our findings on the effects of COW on dividends, we employ two alternative dividend measures. Following Fenn and Liang (2001), we first calculate dividend payments as the ratio of common stock dividends to the market value of equity. As a second alternative, we compute the ratio of common stock dividends to sales. The results, presented in Table 4.10, indicate that the coefficient on COW remains negative and statistically significant at the 1% and 5% levels, even after using these alternative dividend measures.

4.6.7 Additional analyzes

Share repurchases are also a crucial component of corporate payouts, and many firms use share repurchases as an alternative to dividend payments. To more comprehensively assess the impact of Corporate Opportunity Waivers (COWs) on corporate payout policies, we conduct additional tests examining the effects of COWs on share repurchases and total payouts.[6]

Table 4.11 presents the regression results of COW on firms' share repurchases and total payouts. The findings indicate that the effect of COW is negative and significant for both share repurchases and total payouts. This aligns with our expectation that the introduction of COW reduces the overall amounts firms distribute to shareholders.

4.7 Conclusion

In this study, we examine the impact of Corporate Opportunity Waiver (COW) adoption on corporate dividend policy at the state level and find a negative relationship between COW adoption and corporate dividends. This negative relationship holds true for both Delaware and non-Delaware firms. Additionally, we conduct a series of robustness checks to validate our findings. The results from the dynamic effects test confirm the validity of the difference-in-differences (DID) model used in this study. We further mitigate potential selection bias through propensity score matching (PSM), and our placebo test demonstrates that our findings are not driven by unobserved variables. Furthermore, we employ alternative measures for dividends, and all results consistently support the robustness of our conclusions.

Moreover, we investigate the mechanism through which COW affects dividends from the perspective of firms' financial conditions and corporate governance. The negative relationship between COW adoption and dividends is more pronounced in firms with weaker financial conditions and less robust corporate governance. This aligns with previous studies, which suggest that COW reduces dividends when firms face lower cash flows and significant financial constraints (Fich et al., 2023; Chintrakarn et al., 2022). Similarly, in firms with fewer independent directors, COW negatively affects shareholders' interests by reducing the cash distributed to shareholders.

Lastly, we find that COW also reduces firms' share repurchases and total payouts, indicating that COW impacts the overall corporate payout policy. Overall, this study contributes to the literature on corporate governance and dividend policy by using

[6]Following Banyi et al. (2008), we compute share repurchases as the purchase of common and preferred stock (PRSTKC) minus any reduction in the value of preferred stock. Total payout is the sum of repurchases (PRSTKC minus the reduction in PSTKRV) and dividends (DVC), all scaled by total assets (AT).

COW as a quasi-natural experiment for causal inference. Our findings highlight the role of COW laws in exacerbating agency conflicts and the firm-specific characteristics that influence the impact of COW on corporate policies, providing important insights for future legal implementations.

TABLE 4.2: COW and Dividend Policy: Baseline Results

Dependent Variable:	Dividend/Total Assets			
	(1)	**(2)**	**(3)**	**(4)**
COW	-0.269***	-0.253***		
	(-3.296)	(-3.176)		
COW_DE			-0.226***	-0.215**
			(-3.165)	(-2.862)
COW_NonDE			-0.732**	-0.705**
			(-2.728)	(-2.823)
Tangibility		0.176		0.179
		(1.317)		(1.412)
Profitability		0.167**		0.196**
		(2.872)		(2.944)
Board independence		0.016		0.019
		(1.009)		(1.195)
Leverage		-0.017***		-0.019***
		(-4.234)		(-4.106)
Growth		0.132**		0.147**
		(2.822)		(2.843)
Firm size		0.021***		0.023***
		(4.134)		(4.387)
Market-to-book		0.004		0.003
		(1.026)		(1.136)
Cash holdings		0.003		0.003
		(1.026)		(1.132)
Constant	0.0354	3.173***	-0.092	3.267
	(0.172)	(4.138)	(-0.083)	(4.967)
Firm FE	Yes	Yes	Yes	Yes
State × Year FE	Yes	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes	Yes
Observations	32,103	32,103	32,103	32,103
Adjusted R^2	0.501	0.503	0.505	0.508

Note: This table presents the baseline results examining the impact of corporate opportunity waivers (COW) on corporate dividend policies. The dependent variable is dividends, defined as dividends divided by total assets. The sample includes 32,103 firm-year observations from 1995 to 2021.

- **COW**: Indicates whether the state of incorporation has enacted a COW law (1 = yes, 0 = no).

- **COW_DE** and **COW_NonDE**: Interaction terms to distinguish between Delaware (DE) and non-Delaware states that have enacted COW laws.

- **Control Variables**: Include tangibility, profitability, board independence, leverage, growth, firm size, market-to-book ratio, and cash holdings. All continuous variables are winsorized at the 1st and 99th percentiles.

Key Results: - **COW** has a consistently significant negative impact on dividend policies, suggesting that firms in states with COW laws tend to distribute fewer dividends. - Interaction terms **COW_DE** and **COW_NonDE** indicate that both Delaware and non-Delaware states experience a reduction in dividends under COW laws, with a stronger effect observed in non-Delaware states.

The regression models include firm fixed effects, state × year fixed effects, and industry × year fixed effects to account for unobserved heterogeneity. Robust t-statistics, clustered by the state of incorporation, are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Full variable definitions can be found in Appendix C1.

TABLE 4.3: Cross-sectional analysis: Role of cash flow and financial constraints

Dependent Variable:	**Dividend/Total Assets**			
	High CF	**Low CF**	**Large**	**Small**
	(1)	(2)	(3)	(4)
COW	-0.216	-0.294***	-0.194	-0.362***
	(-0.931)	(-3.372)	(-0.876)	(-3.528)
Control variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
State × Year FE	Yes	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes	Yes
Observations	11,362	17,170	14,300	14,232
Adjusted R^2	0.582	0.523	0.603	0.548

Note: This table reports the impact of COW on dividends conditional on cash flow and firm financial constraints. Columns (1) and (2) represent the high (low) cash flow group, divided at the median, and columns (3) and (4) represent the large (small) firm size group, divided by median market value of equity. All continuous variables are winsorized at the 1% and 99% levels. All regressions include firm fixed effects, headquarters state × year fixed effects, and industry × year fixed effects. The reported t-statistics are based on robust standard errors clustered by the state of incorporation. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 4.4: Cross-sectional analysis: Board independence

Dependent Variable	**Dividend/Total Assets**	
	(1)	(2)
COW	-0.257***	-0.216***
	(-3.942)	(-3.149)
Board independence	0.086	0.079
	(0.932)	(0.926)
COW × Board independence		0.056**
		(2.039)
Control variables	Yes	Yes
Firm FE	Yes	Yes
State × Year FE	Yes	Yes
Industry × Year FE	Yes	Yes
Observations	32,103	12,329
Adjusted R^2	0.538	0.614

Note: This table reports the effect of COW on firm dividends (using board independence as a proxy for corporate governance), where the variable takes the value 1 if the number of independent directors is above the sample median and 0 otherwise. All continuous variables are winsorized at the 1% and 99% levels. All regressions include firm fixed effects, headquarter state × year fixed effects, and industry × year fixed effects. The reported t-statistics are based on robust standard errors clustered by the state of incorporation. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 4.5: Dynamic effects of COW on dividends– pre-treatment trend analysis

Dependent Variable	**Dividend/Total Assets**
COW (-4 and earlier)	0.193
	(0.639)
COW (-3)	0.207
	(0.721)
COW (-2)	0.184
	(0.932)
COW (0)	0.231
	(1.028)
COW (+1)	-0.093
	(-0.198)
COW (+2)	-0.201***
	(-3.207)
COW (+3)	-0.308***
	(-4.128)
COW (+4 and beyond)	-0.429***
	(-4.573)
Control variables	Yes
Firm FE	Yes
State × Year FE	Yes
Industry × Year FE	Yes
Observations	32,103
Adjusted R^2	0.527

This table reports the regression results of dynamic effects. We re-estimate our main model by incorporating leads and lags of the treatment indicator: COW (-4 and earlier), COW (-3), COW (-2), COW (0), COW (+1), COW (+2), COW (+3), and COW (+4 and beyond). All continuous variables are winsorized at the 1% and 99% levels. All regressions include firm fixed effects, headquarter state × year fixed effects, and industry × year fixed effects. The reported t-statistics are based on robust standard errors clustered by the state of incorporation. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 4.6: Propensity score matching

Dependent Variable	Dividend/Total Assets
COW	-0.865***
	(-3.928)
Tangibility	0.163
	(1.326)
Profitability	0.235***
	(3.145)
Board independence	0.017
	(1.095)
Leverage	-0.023***
	(-4.636)
Growth	0.183***
	(3.853)
Firm size	0.037***
	(3.637)
Market-to-book	0.002
	(0.966)
Cash holdings	0.002
	(1.012)
Constant	7.267***
	(3.927)
Control variables	Yes
Firm FE	Yes
State × Year FE	Yes
Industry × Year FE	Yes
Observations	13,432
Adjusted R^2	0.527

Note: This table presents the results using the propensity score matched samples. Firms are matched by all control variables in model (1). All continuous variables are winsorized at the 1% and 99% levels. All regressions include firm fixed effects, headquarter state × year fixed effects, and industry × year fixed effects. The reported t-statistics are based on robust standard errors clustered by the state of incorporation. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 4.7: Entropy Balancing

Panel A: Entropy Balancing Results	Treatment Group Mean	Control Group Mean (Unweighted)	Control Group Mean (Weighted)	Std. Diff (Unweighted)	Std. Diff (Weighted)
Firm Size	6.142	5.923	6.142	0.219	0.000
Profitability	0.073	0.081	0.073	-0.008	0.000
Leverage	0.432	0.407	0.432	0.025	0.000
Cash Holdings	0.117	0.127	0.117	-0.010	0.000
Market-to-Book	1.967	1.883	1.967	0.084	0.000
Board Independence	0.617	0.598	0.617	0.019	0.000

Panel B: Regression Results Using Weighted Sample	**Coefficient**	**t-Statistic**
COW	-0.263***	-3.284
Profitability	0.173**	2.934
Leverage	-0.021***	-4.218
Firm Size	0.024***	4.391
Market-to-Book	0.003	1.103
Cash Holdings	0.003	1.129
Board Independence	0.018	1.187

Note: The table comprises two panels: Panel A shows the results of the entropy balancing process, demonstrating that it effectively equalized covariate distributions between the treatment group (firms in states with COW laws) and the control group (firms in states without COW laws), reducing standardized differences to zero. Panel B presents the regression results using the weighted sample, indicating that the adoption of COW laws significantly reduces corporate dividends, with the coefficient for the COW variable being -0.263 and significant at the 1% level. These results confirm that the observed treatment effects are due to the actual impact of COW laws, not spurious differences from latent variables. All regressions include firm fixed effects, headquarter state × year fixed effects, and industry × year fixed effects. The reported t-statistics are based on robust standard errors clustered by the state of incorporation. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 4.8: Placebo test

	Coefficient of COW_PSEUDO	**T-statistic of COW_PSEUDO**
Actual	-0.253	-3.176
Mean	-0.013	-0.853
1%	-0.632	-3.864
5%	-0.523	-2.742
10%	-0.363	-2.193
25%	-0.192	-1.023
50%	-0.005	-0.032
75%	0.163	0.912
90%	0.412	1.734
95%	0.538	2.083
99%	0.631	2.983

This table presents regression results from placebo tests in which we randomly assign hypothetical COW adoption years. The series of indicator variables COW_PSEUDO represent randomly generated timing of placebo COW laws rather than the actual year of passage. We then replace COW in our baseline specification with COW_PSEUDO, rerun the regression and repeat the process 100 times. All continuous variables are winsorized at the 1% and 99% levels. All regressions include firm fixed effects, headquarter state × year fixed effects, and industry × year fixed effects. The reported t-statistics are based on robust standard errors clustered by the state of incorporation. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 4.9: Stacked difference-in-differences estimation

Dependent Variable	**Dividend/Total Assets**
COW	-0.218***
	(-3.519)
Control variables	Yes
Firm FE	Yes
State × Year FE	Yes
Industry × Year FE	Yes
Observations	9,360
Adjusted R^2	0.491

This table shows the impact of COW laws on dividends when stacked DIDs are used. We create nine event-specific datasets corresponding to nine COW channels. Each event dataset consists of COW-treated firms and "clean" control firms that have never experienced any COW pass-through in the nine-year panel within an event time (t -4 to t +4) around t of the corresponding COW pass-through year. We ensure that firms in the early treatment are not used as effective controls for firms in the later treatment. We then stack all event-specific datasets by relative time to estimate the average treatment effect across the nine COW channels. All continuous variables are winsorised at the 1% and 99% levels. All regressions include firm fixed effects, headquartered state × year fixed effects, and industry × year fixed effects. Reported t-statistics are based on robust standard errors clustered by state of incorporation. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 4.10: Alternative measures of dividends

Dependent Variable	Dividend/Market value of equity	Dividend/Sales
COW	-0.307***	-0.132**
	(-3.695)	(-2.019)
Tangibility	0.137	0.126
	(1.019)	(1.023)
Profitability	0.152*	0.173***
	(1.972)	(3.192)
Board independence	0.014	0.009
	(0.923)	(0.825)
Leverage	-0.021***	-0.037**
	(-3.221)	(-2.194)
Growth	0.132*	0.173**
	(1.982)	(2.193)
Firm size	0.019***	0.023***
	(3.234)	(3.831)
Market-to-book	0.003	0.004
	(1.025)	(0.942)
Cash holdings	0.003	0.004*
	(1.037)	(1.873)
Constant	-0.931***	-3.287***
	(-3.918)	(-4.192)
Firm FE	Yes	Yes
State × Year FE	Yes	Yes
Industry × Year FE	Yes	Yes
Observations	32,103	32,103
Adjusted R^2	0.521	0.527

Note: This table reports regression results using alternative dividend measures as dependent variables. The sample comprises 28,532 firm-year observations over the 1995–2021 period. Variable definitions are provided in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All regressions include firm fixed effects, headquarter state × year fixed effects, and industry × year fixed effects. The reported t-statistics are based on robust standard errors clustered by the state of incorporation. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 4.11: Additional Analyses: Share Repurchases and Total Payouts

Dependent Variable	**Share Repurchases**	**Total Payouts**
COW	-0.207***	-0.192**
	(-3.197)	(-1.989)
Control Variables	Yes	Yes
Firm FE	Yes	Yes
State × Year FE	Yes	Yes
Industry × Year FE	Yes	Yes
Observations	32,103	32,103
Adjusted R^2	0.491	0.509

Note: This table reports difference-in-differences (DID) estimates of the effects of COW on stock repurchases and total payouts of the firm. The dependent variables are stock repurchases and total payouts, respectively. The control variables are the same as those in Table 2. All continuous variables are winsorized at the 1% and 99% levels. All regressions include firm fixed effects, headquarters state × year fixed effects, and industry × year fixed effects. The reported t-statistics are based on robust standard errors clustered by the state of incorporation. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Chapter 5

Conclusions

5.1 Overview

This dissertation has explored the impact of various governance and regulatory mechanisms on corporate payout policies, focusing on three core areas: board independence, labor protection laws, and Corporate Opportunity Waiver (COW) laws. By integrating insights from corporate finance, law, and behavioral economics, the thesis provides a comprehensive understanding of how different factors shape dividend policies and corporate governance.

The three essays offer empirical evidence on key mechanisms that influence corporate behavior, specifically targeting managerial overconfidence, the role of independent directors, labor protection, and fiduciary duties. By addressing the nuances of these mechanisms, this research contributes to the broader field of corporate governance and finance.

Integrating the findings across the chapters, this study underscores the interconnected roles of CEO overconfidence, labor protection laws, and corporate opportunity waivers in shaping corporate payout policies. Chapter 2 highlights the direct effects of CEO overconfidence, demonstrating how psychological traits influence financial decision-making. Chapter 3 extends this analysis by revealing the moderating impact of labor protection laws, emphasizing the importance of institutional constraints. Together, these insights provide a comprehensive framework for understanding corporate governance dynamics and inform future policy and managerial strategies.

5.2 Concluding Remarks and Policy Implications

This dissertation explores the intersection of corporate governance, legal frameworks, and corporate payout policies, focusing on the role of board independence, labor protection laws, and Corporate Opportunity Waiver (COW) laws. Each chapter uncovers significant insights into how these factors influence corporate decisions regarding dividends and shareholder value. Below, we discuss the key findings and policy implications from each chapter.

5.2.1 Chapter 2: Board Independence and Dividend Policy

Chapter 2 investigates the relationship between board independence and dividend policy, particularly in firms led by overconfident managers. Contrary to some expectations, the study does not find evidence that a greater proportion of independent directors directly leads to higher dividend payouts. Instead, the results

suggest that independent directors play a moderating role in mitigating the agency conflicts associated with overconfident managers.

Overconfident managers are often prone to withholding cash for potential investment opportunities, which can increase agency costs. Independent directors, by providing oversight, help ensure that managerial decisions are better aligned with shareholder interests. While the presence of independent directors does not directly increase dividend payouts, it reduces the likelihood of cash being retained for speculative or value-destroying projects, thereby promoting more efficient capital allocation.

Furthermore, the findings indicate that independent directors enhance transparency and corporate governance by serving as a check on managerial overreach. They encourage a disciplined approach to capital allocation and reduce the risks associated with excessive managerial discretion, particularly in firms led by overconfident CEOs. This oversight ensures that corporate resources are utilized in a manner that maximizes shareholder value, even if it does not always translate into higher dividend payouts.

Policy Implications: These results have clear implications for corporate governance reforms. Regulators and policymakers should encourage the appointment of independent directors, particularly in firms with overconfident management. This could be achieved through policies that promote greater board diversity and ensure the independence of board members from the influence of corporate executives. Moreover, governance guidelines could be strengthened to mandate higher levels of board independence in firms with large amounts of free cash flow, as these firms are more vulnerable to managerial overreach. By doing so, agency conflicts can be mitigated, and shareholder value can be maximized.

5.2.2 Chapter 3: Labor Protection Laws and Corporate Payouts

Chapter 3 focuses on the effect of labor protection laws, specifically the Wrongful Discharge Laws (WDL), on the relationship between CEO overconfidence and corporate payout policies. The analysis reveals that in states with strong labor protections, overconfident CEOs tend to reduce dividends. Labor protection laws increase the cost of terminating employees, leading firms to retain more cash to cover potential employment-related liabilities. This constraint on cash flow results in reduced corporate payouts, particularly in firms led by overconfident CEOs, who already prefer to reinvest earnings into the firm rather than distribute them to shareholders.

The study finds that labor protection laws act as a moderating factor that influences the way overconfident CEOs manage corporate finances. In firms subject to these laws, the liquidity requirements imposed by labor protections limit the CEO's ability

to hoard cash for speculative investments. This suggests that labor laws not only protect employees but also inadvertently shape corporate payout policies by constraining managerial discretion.

Policy Implications: The findings highlight the complex interplay between labor regulations and corporate governance. While labor protections are designed to safeguard employees, they also affect corporate financial behavior by increasing the need for liquidity. Policymakers should consider the broader implications of labor laws on corporate governance and financial policies. Striking a balance between protecting workers and ensuring that companies maintain healthy payout policies is crucial. There may be a need to revisit labor laws to ensure that they do not inadvertently reduce shareholder returns, especially in firms with overconfident CEOs. Policymakers might also consider introducing complementary governance reforms that mitigate the negative impact of labor laws on dividend payments.

5.2.3 Chapter 4: Corporate Opportunity Waiver (COW) Laws

In Chapter 4, the analysis shifts to the effects of Corporate Opportunity Waiver (COW) laws on corporate dividend policies and overall payout strategies. COW laws, which allow managers to pursue personal opportunities without offering them to the firm first, significantly alter the fiduciary duties of corporate directors and officers. The findings show that the adoption of COW laws leads to a significant reduction in corporate dividends and share repurchases. This reduction is attributed to the increased discretion granted to managers under COW laws, which exacerbates agency conflicts between shareholders and executives.

The study reveals that by waiving the duty of loyalty, COW laws allow managers to prioritize personal gains over the interests of the firm, which can result in fewer payouts to shareholders. This is particularly evident in firms with weaker corporate governance structures, where the lack of sufficient oversight allows managers to exploit the leeway provided by COW laws. The findings suggest that COW laws not only diminish dividends but also reduce the total payout to shareholders, including share repurchases, by giving managers greater freedom to divert corporate resources for personal benefit.

Policy Implications: The results have important implications for the future of corporate governance reform. While COW laws were initially intended to encourage entrepreneurship and investment, they may have unintended negative consequences for shareholders. Policymakers should consider implementing safeguards that limit the extent to which COW laws can be exploited by managers. For example, stricter disclosure requirements regarding managerial use of personal business opportunities could help mitigate the adverse effects of COW laws. Additionally, requiring boards

to actively monitor and review managerial decisions related to COW provisions could help align managerial behavior with shareholder interests. As COW laws continue to be adopted by more states, it is crucial to strike a balance between fostering innovation and protecting shareholders from potential abuses of managerial discretion.

5.3 Policy and Practical Recommendations

5.3.1 Policy Recommendations

- **Strengthen Labor Protection Laws**: Policymakers should consider implementing or enhancing labor protection laws to limit excessive managerial discretion and ensure better alignment of CEO decisions with long-term shareholder value. For example, introducing stricter regulations on layoffs or mandating employee representation on boards could help mitigate overconfident decision-making.
- **Tailor Regulations to Governance Structures**: Different governance frameworks require context-specific approaches. For instance:
  - In countries with weaker board independence norms, promoting mandatory board evaluations and increased transparency can enhance oversight.
  - In markets with high CEO autonomy, such as the U.S., policies linking CEO compensation more closely to performance metrics can align managerial incentives.

5.3.2 Industry-Specific Recommendations

- **High-Tech Sector**: Given the innovation-driven nature of this sector, overconfident CEOs may undertake excessively risky projects. Establishing risk management committees within these firms can help balance innovation with prudence.
- **Manufacturing Sector**: Labor-intensive industries could benefit from policies that balance CEO discretion with labor protections, ensuring that strategic decisions consider workforce sustainability.

5.3.3 Corporate Governance Recommendations

- **Mandate Board Independence Audits**: Regularly assess board independence and ensure compliance with governance standards to reduce the potential adverse effects of CEO overconfidence.

- **Adopt Performance-Linked Compensation Structures**: Incentivize CEOs with long-term equity-based rewards to align their decisions with sustainable corporate growth.

5.4 Contributions

This dissertation makes several key contributions to the existing literature on corporate governance, payout policies, and the legal frameworks that influence managerial decisions. Each chapter addresses distinct but interconnected areas of study, offering new insights into how governance structures, managerial traits, and legal changes shape corporate behavior. Below, the contributions of each chapter are outlined in detail.

5.4.1 Chapter 2: Board Independence and Dividend Policy

The first major contribution of this dissertation lies in its examination of how board independence moderates the relationship between managerial overconfidence and corporate dividend policy. While prior research has explored the role of board independence in mitigating agency conflicts (Fama and Jensen, 1983; Lin et al., 2014), this study goes further by focusing specifically on firms led by overconfident CEOs. Overconfident managers often retain earnings for speculative investments (Malmendier and Tate, 2008; Deshmukh et al., 2013), leading to potential agency conflicts. This chapter shows that board independence plays a crucial role in reducing these conflicts by moderating the adverse effects of managerial overconfidence, even though it does not necessarily lead to higher dividend payouts.

Unlike studies that suggest a direct positive relationship between board independence and dividend payouts (Lin et al., 2014; Adjaoud and Ben-Amar, 2010), this research demonstrates that independent directors primarily act as a corrective mechanism to curb managerial overreach. They ensure more efficient capital allocation and reduce the risk of value-destroying investments (Jiraporn and Ning, 2006). This nuanced finding highlights the contingent role of governance structures in moderating the impact of managerial traits on corporate policies.

5.4.2 Chapter 3: Labor Protection Laws and Corporate Payouts

Chapter 3 provides a novel perspective on the relationship between labor protection laws, managerial behavior, and corporate payout policies. While much of the existing literature on labor laws focuses on their implications for employment or firm

performance (Autor et al., 2006; Acharya et al., 2013), this chapter connects labor protection laws to financial decision-making in firms led by overconfident managers.

The study reveals that stronger labor protections, such as Wrongful Discharge Laws (WDL), constrain payout policies by increasing firms' liquidity requirements. This effect is particularly pronounced in firms led by overconfident CEOs, who prioritize cash retention to cover potential employment-related liabilities. This finding contributes to the literature by identifying a previously underexplored channel through which labor regulations influence corporate governance and financial decisions.

Additionally, the research extends the understanding of agency theory (Jensen and Meckling, 1976) by showing that labor protection laws may unintentionally exacerbate agency conflicts. While these laws aim to protect employees, they limit the cash available for shareholder distributions, particularly in firms with weaker governance mechanisms. By incorporating managerial behavior into the analysis, this chapter broadens the scope of research on the interplay between labor regulations and corporate governance.

5.4.3 Chapter 4: Corporate Opportunity Waiver (COW) Laws and Dividend Policy

Chapter 4 contributes to the literature by investigating the impact of Corporate Opportunity Waiver (COW) laws on corporate payout policies. Unlike earlier studies that focus on the effects of governance mechanisms on firm performance (Fich et al., 2023; Chen et al., 2020), this chapter examines how changes in legal frameworks alter managerial accountability and influence financial policies.

The findings show that COW laws, by reducing managerial fiduciary duties, lead to a significant decline in dividend payouts and share repurchases. This suggests that while these laws provide managers with greater flexibility, they also increase agency costs by allowing managers to prioritize personal interests over shareholder returns. These results extend the literature on agency theory (Easterbrook, 1984; Jensen, 1986) by highlighting the potential risks of legal reforms that reduce managerial accountability.

Moreover, this chapter demonstrates that the negative effects of COW laws are amplified in firms with weaker governance structures. In contrast, firms with stronger governance mechanisms, such as a higher proportion of independent directors, are better able to mitigate these effects. This underscores the importance of maintaining robust governance frameworks in mitigating the unintended consequences of legal changes that grant managers greater discretion.

5.4.4 Overall Contributions

Together, these chapters provide a comprehensive analysis of how corporate governance, managerial traits, and legal frameworks interact to shape corporate payout policies. This dissertation offers several key insights that extend the existing literature:

- It highlights the nuanced role of independent directors in moderating managerial behavior, particularly in firms led by overconfident CEOs (Deshmukh et al., 2013; Malmendier and Tate, 2008).
- It identifies a novel channel through which labor protection laws influence corporate governance and financial decision-making (Autor et al., 2006; Acharya et al., 2013).
- It provides one of the first empirical analyses of the impact of COW laws on payout policies, emphasizing the interplay between legal frameworks and corporate governance (Chen et al., 2020; Fich et al., 2023).
- It employs a rigorous methodological framework, combining difference-in-differences (DID) estimation with propensity score matching (PSM), to ensure robust causal inference (Rosenbaum and Rubin, 1983; Serfling, 2016).

By addressing these areas, this dissertation advances the academic discourse on corporate governance, managerial behavior, and legal frameworks while offering practical implications for policymakers and practitioners. It underscores the importance of tailoring governance mechanisms to address the challenges posed by managerial traits and evolving regulatory environments.

5.5 Research Limitations

Despite the significant contributions made by this dissertation, several limitations must be acknowledged. These limitations, stemming from data constraints, model specifications, and other methodological issues, are discussed below in relation to each chapter.

5.5.1 Chapter 2: Board Independence and Dividend Policy

One key limitation of Chapter 2 lies in the availability and accuracy of data related to board independence. While the study relies on publicly available data from financial

reports, there may be unobserved variations in the true level of board independence that are not captured by the data. For example, the classification of independent directors is based on criteria outlined in corporate governance reports, but in practice, these directors may not always act independently. This introduces potential measurement error that could affect the accuracy of the results.

Additionally, the study is limited by the sample size and coverage of firms. The analysis focuses on publicly traded firms, which may not be fully representative of private or smaller firms where board structures and governance dynamics can differ significantly. Furthermore, while the study attempts to capture the moderating effects of board independence on managerial overconfidence, it does not account for other governance mechanisms, such as shareholder activism or executive compensation structures, that could also influence payout policies.

5.5.2 Chapter 3: Labor Protection Laws and Corporate Payouts

Chapter 3 faces certain data constraints related to the state-level adoption of labor protection laws, specifically Wrongful Discharge Laws (WDL). The staggered implementation of these laws across different states introduces challenges in accurately capturing their effects, as variations in enforcement and legal interpretation are difficult to quantify. Moreover, the study assumes that labor protection laws are applied uniformly across states, but in reality, the degree of enforcement may differ, leading to potential discrepancies in the analysis.

Another limitation arises from the focus on U.S. firms and labor laws. The findings may not be generalizable to firms operating in countries with different labor regulations and legal environments. For instance, in countries with stronger labor protections or more centralized enforcement mechanisms, the relationship between labor laws and corporate payout policies could differ significantly from what is observed in the U.S. context.

Moreover, while the study uses financial indicators such as cash flows and leverage to assess the financial health of firms, it may not fully capture other firm-specific factors, such as market power or industry-specific labor dynamics, which could influence the effect of labor laws on payout policies.

5.5.3 Chapter 4: Corporate Opportunity Waiver (COW) Laws and Dividend Policy

The main limitation in Chapter 4 stems from the relatively recent adoption of Corporate Opportunity Waiver (COW) laws. Because these laws were implemented over the last two decades, the available data may not fully capture the long-term

effects of these legal changes on corporate governance and payout policies. The study focuses on a relatively short timeframe, and longer-term trends in managerial behavior or payout strategies may emerge as more data become available in the future.

Additionally, the data used to analyze COW laws is limited to publicly available corporate filings, which may not provide detailed information on the full scope of managerial decisions related to business opportunities. Many of the nuances of how COW laws influence managerial behavior—such as whether managers are actively exploiting these waivers to pursue personal opportunities—are not easily observable from the data, which constrains the analysis.

Another limitation is the geographical scope of the study. The research is focused on the U.S., where COW laws have been adopted in a handful of states. The findings may not be applicable to firms in other jurisdictions where similar laws do not exist or where legal frameworks governing fiduciary duties are structured differently. Furthermore, the study does not account for potential spillover effects across state lines, where managers operating in multiple jurisdictions may face conflicting fiduciary obligations.

5.5.4 General Limitations

Across all chapters, a general limitation is the potential endogeneity between corporate governance mechanisms, managerial behavior, and payout policies. While this dissertation uses various econometric techniques, including propensity score matching (PSM) and difference-in-differences (DID) analysis, to address endogeneity concerns, it is difficult to entirely rule out the possibility of omitted variable bias. Factors such as changes in market conditions, regulatory environments, or firm-specific shocks may simultaneously influence both the independent and dependent variables, complicating causal inference.

Lastly, this dissertation focuses primarily on quantitative data, which limits the ability to capture more qualitative aspects of managerial decision-making and corporate governance. Future studies could benefit from integrating qualitative research methods, such as interviews with board members or case studies of firms, to better understand the nuanced dynamics of governance and payout decisions.

5.6 Future Research Directions

This dissertation opens several avenues for future research. Each chapter provides distinct insights into the intersection of corporate governance, managerial behavior, and payout policies. However, the limitations discussed in the previous section

suggest that additional research could enhance our understanding of these relationships. Below, we outline potential areas for future exploration based on the findings and limitations of each chapter.

5.6.1 Integrating Sector-Specific Studies

Future research could explore how sectoral dynamics, such as capital intensity or innovation requirements, influence the effectiveness of policy recommendations. For instance, examining the interaction between CEO overconfidence and governance in industries with varying levels of technological reliance could provide deeper insights.

5.6.2 Cross-Jurisdictional Analysis

Investigating the applicability of these recommendations in diverse regulatory environments would help determine their global relevance. Cross-country comparisons could identify how differences in legal and cultural frameworks affect the implementation and impact of the proposed measures.

5.6.3 Future Research Directions: Broader Perspectives

This study provides a foundation for several future research directions, addressing specific unanswered questions and exploring broader perspectives. These include:

- **Emerging Markets**: Future studies could extend the analysis to emerging markets, where institutional frameworks and governance practices differ significantly from developed economies. Understanding how CEO traits interact with less stable regulatory environments would provide valuable insights.
- **Other Managerial Traits**: While this research focuses on CEO overconfidence, exploring other managerial characteristics, such as risk aversion, narcissism, or emotional intelligence, could offer a more comprehensive understanding of their impact on corporate financial decisions.
- **Alternative Regulatory Frameworks**: Investigating how corporate governance mechanisms function under varying regulatory frameworks—such as those in Asia, Europe, or other regions—can validate the findings and enhance their generalizability.
- **Longitudinal Analysis of Governance Evolution**: Examining how governance structures evolve in response to economic and legal reforms over extended periods would shed light on the dynamic interplay between regulations and managerial behaviors.

These avenues for future research not only build on the current study's contributions but also address critical gaps in understanding governance dynamics across different contexts.

5.6.4 Chapter 2: Board Independence and Dividend Policy

Future research on board independence and dividend policy could explore the following directions:

- **Board Composition Beyond Independence**: While this study focuses on the proportion of independent directors, future research could examine how the diversity of board members, such as gender, ethnicity, and professional background, impacts corporate payout decisions. Studies could investigate whether more diverse boards align with shareholder interests differently compared to boards composed solely of independent directors.
- **Longitudinal Effects of Board Independence**: The study captures a snapshot of the relationship between board independence and dividends. However, the long-term effects of sustained changes in board composition could provide deeper insights. Research could examine how changes in board independence over time impact dividend policies and whether these changes are associated with broader governance reforms within firms.
- **The Role of Shareholder Activism**: Another promising area for future research would involve exploring the interaction between shareholder activism and board independence. As shareholders, particularly institutional investors, play an increasingly active role in corporate governance, it would be valuable to study how their pressure affects the board's role in dividend decisions. Investigating whether shareholder proposals on governance lead to more independent boards and higher dividends would enhance understanding in this area.
- **Private Firms and Board Independence**: Future research could extend the study of board independence to private firms, where governance structures may differ significantly from publicly traded companies. Understanding whether independent directors influence payout decisions in private firms, which typically have more concentrated ownership, would provide a broader perspective on the role of governance in dividend policy.

5.6.5 Chapter 3: Labor Protection Laws and Corporate Payouts

Research on the relationship between labor protection laws and corporate payouts could be expanded in several key ways:

- **Cross-Country Comparisons**: This dissertation focuses on the U.S. context, where labor protection laws vary by state. Future research could explore how labor protection laws in other countries influence corporate payout policies. Cross-country comparative studies could reveal how differences in labor market regulations, union strength, and legal enforcement affect dividends and share repurchases in different economic environments.
- **Sectoral Differences**: While the current study examines firms across industries, future research could explore how the effects of labor protection laws differ across specific sectors, particularly those with varying levels of labor intensity and employee mobility. For example, labor protection laws may have a more pronounced impact on manufacturing or technology sectors compared to service industries.
- **Employee Voice and Corporate Governance**: Another area for future research would involve investigating how employee representation on boards or other governance mechanisms impacts the relationship between labor protection laws and payout policies. With growing interest in stakeholder governance, examining how labor laws interact with employee influence on the board could provide a more comprehensive understanding of how firms balance the interests of shareholders and employees.
- **Firm-Specific Labor Market Dynamics**: Future studies could delve deeper into firm-level labor market conditions, such as the degree of employee mobility, skill specialization, or reliance on human capital. Understanding how these factors mediate the effect of labor protection laws on corporate payout policies would offer more nuanced insights into the mechanisms at play.

5.6.6 Chapter 4: Corporate Opportunity Waiver (COW) Laws and Dividend Policy

Future research on the impact of COW laws on dividend policy and corporate governance could investigate the following:

- **Long-Term Effects of COW Laws**: The current study provides an early examination of COW laws, but the long-term implications of these laws on corporate governance and payout policies remain unexplored. Future research

could extend the analysis to a longer time horizon to observe how sustained adoption of COW laws affects firms' financial decisions, governance structures, and overall performance.

- **The Impact on Corporate Innovation and Risk-Taking**: While this dissertation focuses on the effect of COW laws on dividend policy, future research could explore how these laws influence other corporate outcomes, such as innovation and risk-taking. Since COW laws allow managers to pursue opportunities that may not benefit the firm, it would be interesting to examine whether these laws lead to more aggressive corporate strategies, acquisitions, or changes in R&D spending.
- **COW Laws and Managerial Compensation**: Another potential research avenue involves exploring how COW laws impact executive compensation structures. Since these laws alter the fiduciary duties of managers, future studies could investigate whether firms adjust executive compensation packages—such as bonuses, stock options, or equity-based pay—to align managerial incentives with shareholder interests after adopting COW laws.
- **The Role of Legal Enforcement and Variation Across States**: Future research could also explore the variation in how COW laws are enforced across states. Differences in legal interpretation, court rulings, and regulatory environments could lead to divergent outcomes for firms adopting COW laws. Investigating how these variations impact the effectiveness of COW laws in influencing governance and payout policies would provide valuable insights.
- **Comparisons with Other Governance Reforms**: COW laws represent one specific type of governance reform, but future research could compare their impact with other recent reforms, such as the adoption of proxy access, say-on-pay, or enhanced shareholder rights. Such comparative studies could help identify the relative effectiveness of different governance mechanisms in addressing agency conflicts and protecting shareholder interests.

5.6.7 General Directions for Future Research

While Holder67 provides a valuable starting point for examining CEO overconfidence, its limitations highlight the need for a more nuanced approach. Future studies could combine multiple proxies to capture a broader spectrum of overconfidence behaviors. For instance, integrating textual analysis of CEO communications with traditional financial indicators may provide a more comprehensive understanding of overconfidence and its implications for corporate governance.

Across all chapters, there are several general areas where future research could further contribute to the literature:

- **Mixed-Methods Approaches**: While this dissertation primarily relies on quantitative data and econometric analysis, future research could integrate qualitative methods, such as case studies, interviews with board members, or surveys of corporate executives. This mixed-methods approach would offer deeper insights into the decision-making processes behind corporate governance and payout policies.
- **Corporate Governance and Stakeholder Theory**: As corporate governance models evolve to incorporate the interests of a broader range of stakeholders (employees, customers, communities), future studies could examine how these shifts influence payout policies. Investigating how firms balance the interests of shareholders with those of other stakeholders in the context of dividends, share repurchases, and corporate governance reforms would provide important insights into the future of corporate finance.
- **Technological Change and Governance**: With the rise of automation, artificial intelligence, and digital transformation, future research could explore how technological advancements impact corporate governance and payout decisions. Understanding how firms adjust their governance structures in response to technological disruption would add an important dimension to the current literature.

Appendix A

Supplement to Chapter 2

TABLE A.1: Variable Definitions

Variable	Definition
Dependent Variables	
Whether the company distributes dividends	Dummy variable: 1 if the company distributes dividends in the current year, 0 otherwise.
Dividend payout	Dividend divided by the market value of the company's equity.
Dividend/Total Assets	Dividends paid to common shareholders deflated by total assets.
Dividend/Sales	Dividends paid to common shareholders deflated by total sales.
Independent Variables	
Moneyness	Average percentage of option moneyness: Realizable value per option (RV) / Average exercise price (AEP).
CEO Overconfidence	Dummy variable: 1 for CEOs holding exercisable options >67% in the money in a given year, 0 otherwise.
High Optimism	Dummy variable: 1 for CEOs holding exercisable options >100% in the money for at least two years.
Holder67MAX	Dummy variable: 1 for CEOs holding exercisable options >67% in the money at least once during tenure.
Control Variables	
Profitability	Operating income before depreciation / total assets.
Firm size	Natural logarithm of revenues.
Tangibility	Net property, plant, and equipment / total assets.
Cash holdings	Cash holdings scaled by total assets.
Growth	Year-on-year change in sales.
Leverage	Ratio of total assets minus the book value of equity to total assets minus the book value of equity plus the market value of equity.
Board independence	A dummy variable equal to 1 if the proportion of independent directors on the board is above the sample median for the given year, and 0 otherwise.
Market-to-book	Firm market value over total assets: total assets minus book equity plus market capitalization.

Appendix B

Supplement to Chapter 3

TABLE B.1: Variable Definitions and Descriptions (Compustat variable names are in bold)

Variable	Definition
Dependent variables	
Repurchases over total assets	Purchase of common and preferred stock (PRSTKC) nus the reduction in the book value of preferred s (PSTKRV), all scaled by total assets (AT).
Dividends over total assets	Ordinary dividends (DVC) over total assets (AT).
Total payout over total assets	The sum of repurchases (PRSTKC minus the reductio PSTKRV) and dividends (DVC), all scaled by total a (AT).
Wrongful discharge laws (WDL) variables	
Good faith	Binary variable set to one if the state of the firm's headq ters has adopted the good faith exception by the end o current fiscal year; otherwise, zero.
Implied contract	Binary variable set to one if the state of the firm's headq ters has adopted the implied contract exception by the of the current fiscal year; otherwise, zero.
Public policy	Binary variable set to one if the state of the firm's headq ters has adopted the public policy exception by the en the current fiscal year, otherwise zero.
Firm-specific controls	
Leverage	The ratio of total assets (AT) minus the book value o uity to total assets minus the book value of equity plu market value of equity (prcc_f * csho).
Firm size	The natural log of the market value of equity (prcc_f * cs
Market-to-book ratio	The ratio of the market value of equity (prcc_f * csho) t book value of equity.
Tangibility	The ratio of gross property, plant, and equipment (PP total assets (AT).
Cash holdings	Cash and short-term investments (CHE) over total a (AT).
Overconfidence	Dummy variable taking one for CEOs who hold e cisable options that are more than 67% in the mo in a given year (i.e., moneyness >67%), otherwise z The average percentage of option moneyness is the alizable value per option (RV) divided by the mated average exercise price of the option (AEP). is the total realizable value of the exercisable opt (OPT_UNEX_EXER_EST_VAL) divided by the total nur of exercisable options (OPT_UNEX_EXER_NUM). AE the stock's closing price at the fiscal year-end minus RV
Average sales	Total sales (SALE) divided by firm size: natural log o market value of equity (prcc_f * csho).
Board independence	A dummy variable equal to 1 if the proportion of inde dent directors on the board is above the sample median the given year, and 0 otherwise.

Appendix B2: The Year of Adopting the Good Faith Exception

State	Adopted
Alabama	-
Alaska	1983
Arizona	1985
Arkansas	-
California	1980
Colorado	-
Connecticut	1980
Delaware	1992
D.C.	-
Florida	-
Georgia	-
Hawaii	-
Idaho	1989
Illinois	-
Indiana	-
Iowa	-
Kansas	-
Kentucky	-
Louisiana	1998
Maine	-
Maryland	-
Massachusetts	1977
Michigan	-
Minnesota	-
Mississippi	-
Missouri	-
Montana	1982
Nebraska	-
Nevada	1987
New Hampshire	1974 (Repealed 1980)
New Jersey	-
New Mexico	-
New York	-
North Carolina	-
North Dakota	-
Ohio	-
Oklahoma	1985 (Repealed 1989)
Oregon	-
Pennsylvania	-
Rhode Island	-
South Carolina	-
South Dakota	-
Tennessee	-
Texas	-
Utah	1989
Vermont	-
Virginia	-
Washington	-
West Virginia	-
Wisconsin	-
Wyoming	1994

Appendix C

Supplement to Chapter 4

TABLE C.1: Appendix C1. Variable Definitions (Compustat variable names are in bold)

Variable	Definition
Dependent variables	
Repurchases over total assets	Purchase of common and preferred stock (**PRSTKC**) minus the reduction in the book value of preferred stock (**PSTKRV**), all scaled by total assets (**AT**).
Dividend over sales	Ordinary dividends (**DVC**) over total sales (**SALE**).
Dividends over market value of equity	Ordinary dividends (**DVC**) over the market value of equity (**PRCC_F** * **CSHO**).
Dividends over total assets	Ordinary dividends (**DVC**) over total assets (**AT**).
Total payout over total assets	The sum of repurchases (**PRSTKC** minus the reduction in **PSTKRV**) and dividends (**DVC**), all scaled by total assets (**AT**).
COW Variables	
COW	Dummy variable that equals 1 if the focal firm-year's state of incorporation has passed the Corporate Opportunity Waiver by the fiscal year, and 0 otherwise.
COW_DE	Dummy variable that equals 1 if the focal firm-year's state of incorporation is Delaware and has passed the Corporate Opportunity Waiver by the fiscal year, and 0 otherwise.
COW_NonDE	Dummy variable that equals 1 if the focal firm-year's state of incorporation is not Delaware and has passed the Corporate Opportunity Waiver by the fiscal year, and 0 otherwise.
Firm-specific controls	
Leverage	The ratio of total assets (**AT**) minus the book value of equity to total assets minus the book value of equity plus the market value of equity (**PRCC_F** * **CSHO**).
Firm size	The natural log of the market value of equity (**PRCC_F** * **CSHO**).
Growth	Annual growth rate of sales.
Profitability	Operating income before depreciation divided by total assets (**AT**).
Market-to-book ratio	The ratio of the market value of equity (**PRCC_F** * **CSHO**) to the book value of equity.
Tangibility	The ratio of gross property, plant, and equipment (**PPE**) to total assets (**AT**).
Cash holdings	Cash and short-term investments (**CHE**) over total assets (**AT**).
Board Independence	Dummy variable that equals 1 if the fraction of outside directors on the board is above the sample median.

TABLE C.2: Appendix C2. State Adoption of Corporate Opportunity Waiver Laws

State	**Implementing Statute**	**Effective Date**
Delaware	Del. Code Ann. Tit. 8, §122(17)	July 1, 2000
Oklahoma	Okla. Stat. Ann. Tit. 18, §1016(17)	November 1, 2001
Missouri	Mo. Ann. Stat. §351.385(16)	October 1, 2003
Kansas	Kan. Stat. Ann. §17-6102 (17)	January 1, 2005
Texas	Tex. Bus. Orgs. Code Ann. §2.101(21)	January 1, 2006
Nevada	Nev. Rev. Stat. Ann. §78.070(8)	October 1, 2007
New Jersey	NJ Stat. Ann. 14A:3-1(q)	March 11, 2011
Maryland	Md. Code Ann., Corps. & Ass'ns §2-103(15)	October 1, 2014
Washington	Wash. Rev. Code Ann. §23B.02.020(5)(k)	January 1, 2016

Note: Data on the adoption of the Corporate Opportunity Waiver laws come from Rauterberg and Talley (2017).

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