Essays on Corporate Misconduct

by

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Abstract

This thesis aims to contribute to the literature on corporate misconduct by examining the influence of CEO's relative performance evaluation (RPE) contracts, the adoption of majority voting rules in director elections, and the adoption of pay transparency laws. It provides evidence from three key aspects. The first chapter analyses the incentive effect of a tournament-like competition in an RPE contract, and I find that the tournament incentives motivate interim losing firms to improve short-term performance by committing more violations. In the second empirical design, I introduce the staggered adoption of Majority Voting Rules (MVR) in director elections, and I find that wage theft violations significantly increase after the adoption of the new voting rules, suggesting that the career concern raised from the increase of shareholder control power motivates executives to make long-term harmful decisions for short-term benefits. In the third empirical design, I shift the focus from managerial incentives to the role of employees and introduce the state-level adoption of pay transparency laws (PTL) to examine the change in employee protection. I find that wage theft violations significantly increase after the PTL is adopted, and this change is likely due to the protection alleviating the fear of retaliation and encouraging employee whistleblowing.

By investigating how incentives from the management and employees shape a firm's decisions in committing violations, this thesis generates insights into understanding the drivers of corporate misconduct from a dynamic view of agency problems, and it suggests that future regulations could balance governance reforms to avoid unintentionally encouraging opportunistic behaviours.

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List of Abbreviations and Acronyms

Centre for Research in Security Prices	CRSP
Economic Policy Institute	EPI
Environmental, Social, and Governance	ESG
Financial Conduct Authority	FCA
Fair Labour Standards Act	FLSA
Institutional Shareholder Services	ISS
Majority Voting Rules	MVR
Non-Financial Misconduct	NFM
Personally Identifiable Information	PII
Plurality Voting Rules	PVR
Pay Transparency Laws	PTL
Relative Performance Evaluation	RPE
Securities and Exchange Commission	SEC
Standard Industrial Classification	SIC
Unemployment Insurance	UI
Wage and Hour Division	WHD
Wage and Hour Investigative Support and Reporting Database	WHISARD

Chapter 1: Introduction

1.1 Background and motivation

Corporate misconduct is rapidly emerging as a critical threat to business integrity and the credibility of modern capitalism. As former SEC Chair Harvey Pitt declared after the WorldCom scandal in 2002: 'What happened at WorldCom…isn't a mistake, it's a fraud. The problems that keep surfacing now are deeper than any one person or any one company…', the prevalence of corporate misconduct appears to be increasing even when firms are regularly caught, face significant financial and reputational cost, experience executive turnover, and suffer long-term operational and market performance declines. SEC Division of Enforcement Annual Report (2023) shows that SEC and DOJ combined regularly impose $10-15 billion per year in fines and penalties, which underscores the urgent need for stronger regulatory accountability and oversight.

Meanwhile, regulations against misconduct activities have developed in both scope and intensity. Former U.S. President George W. Bush said, 'CEOs who profit by betraying the public trust will be forced to return those gains to investors', when signing the Sarbanes-Oxley Act. Soon after, Dodd-Frank Wall Street Reform and Consumer Protection Act was passed in 2010, which implemented whistleblower provisions that offer rewards for reporting corporate violations and enhanced the oversight of financial institutions. These regulatory changes and enforcement trends are not merely legal technicalities; they have direct implications for investors, and more broadly, nonfinancial stakeholders, who ultimately subject to the sustained financial and operational risks.

While financial misconduct often dominates enforcement narratives, non-financial misconduct (NFM), such as environmental and labour violations, are increasingly recognised as critical dimensions of corporate accountability. With the prevalence of NFM in the UK market, the Financial Conduct Authority (FCA) reported in their latest survey in 2024[1] and pointed out a 72% increase in non-financial misconduct claims from 2021 to 2023. The FCA calls on firms to strengthen controls to address the emergence of any incidence of non-financial misconduct activities, considering that more than 33% of the firms that are under investigation do not have a formal governance structure to solve violation cases. On the other side, unlike financial fraud that is uncovered by the great effort of auditing expertise, NFM is more relatable to day-to-day work and directly linked to individual benefits of the public. The rise of media also greatly improves social awareness about a firm's non-financial performance-for example, the #MeToo movement in 2017 or the Boeing's safety scandal in 2024, which spread widely through media and led not only to severe fines but significant reputation costs for companies that are related to the scandals.

In line with the above discussion, a growing body of research highlights the significance of non-financial misconduct in shaping long-term corporate risk and stakeholder trust. A recent report from Heese (2024) reviews and compares the recent studies in non-financial corporate misconduct, and they state that there is an increasing demand for information in firms' environmental, social, and governance (ESG) performance from stakeholders. The public now place rising expectations on firms to uphold ethical standards across all facets of their operations. According

[1] Full report available at: https://www.fca.org.uk/data/culture-non-financial-misconduct-survey-findings.

to the description on the trends of overall violations from Heese (2024), among the five violation categories of NFM[2], violations against employees remain dominant from 2000 to 2021, followed by government-related violations, while the number of government violations experienced a dramatic increase in 2015 and overtook employee-related violations. As the most prevalent violation category, employee-related violations mainly include offences against wage and hour laws and workplace safety laws, which are directly linked to employee well-being and welfare. While workplace safety focuses more on employee health and safety regulations, wage theft focuses more on employee rights regarding wages and other benefits, which are more hidden and rarely punished. Workers are always unaware of afraid to challenge it, and the burden of proof for workers to claim the complaints are very high.

Because of the low visibility and hard enforcement, wage theft violation, as the most frequent violation type, has the unique features to create incentives for firms to violate rules and pursue benefits. Only in 2025, the frequency of wage theft violations has increased 39.04%, while the average detected violations increased 21%[3]. With the increasing attention to protect the rights and earnings of workers, the U.S. Department of Labor's Wage and Hour Division has announced that only in the fiscal year of 2025, they have successfully recovered more than $259 million in back wages. However, wage theft violations still persist even under the pressure from the public and the regulator, for example, Disney was sued for underpayment

[2] The five violation categories are: Competitor, Customer, Employee, Environment, and Government.

[3] According to the data available on Violation Tracker database.

and agreed to a $233 million settlement over the claims, and New York Attorney General sued UPS in 2025 for manipulating time records and denying overtime pay.

Why do firms engage in wage theft violations? 'This is not a literal strategy of, "Let's do wage theft,"' Raghunandan says. 'It's, "Let's find ways to cut costs, and we're going to look the other way if you cut some corners."'[4]. According to the report from the National Employment Law project in 2009[5], among 1.64 million workers taking part in the survey, 68% of workers experienced at least one pay-related violation in a given week, including Minimum Wage Violations, Overtime Violations, and Off-the-clock Violations, and overall workers lose more than $56.4 million per week in stolen wages. Beyond the widespread violations, the report also reveals the reality that workers are facing severe retaliation and fear, as 43% of those who attempt to claim their rights face illegal retaliation from their employers, including being fired, threatened with immigration status, pressured not to file claims, or hours cut at work. As mentioned in the latest report from the Economic Policy Institute (EPI) in 2025, even though great efforts have been made by the U.S. Department of Labour Wage and Hour Division (WHD) to strengthen the enforcement of wage the hour protections, the worker rights crisis persists because of the low capacity of enforcement, politically threatened protections, etc[6].

Additionally, a survey from Verfico in 2023 highlights a critical transition in public engagement with wage theft violations. It reports a growing public concern

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[4] Speech available at: https://journalistsresource.org/economics/wage-theft-earnings-pressure/

[5] Full report available at: https://www.nelp.org/insights-research/broken-laws-unprotected-workers-violations-of-employment-and-labour-laws-in-americas-cities/.

[6] Full report available at: https://files.epi.org/uploads/Wage-payment-State-solutions-to-the-workers-rights-crisis-Economic-Policy-Institute.pdf

about wage theft at workplace, and 72% of respondents states that they are concerned of firm behaviours and worry that firms would be more likely to commit other unethical decisions if they commit wage theft violations. Google Trend data in search activity for labour exploitation topics also shows that there's about 30% growth rates during media disclosure about firm's misconduct behaviors. Given that corporate misconduct remains the centre of public concerns, and with wage theft becoming increasingly prevalent, this study seeks to dive into the discussion and examine its potential underlying drivers from the aspect of internal and external corporate governance.

We aim to explore the plausible incentives that shape corporate decisions to commit violations under three different settings. On the one side, we firstly examine whether managerial incentives would affect executives' decisions to misconduct. As emphasised in Jensen & Meckling (1976), bonding costs reduce agency problem by aligning the agent's benefits with the principals. However, while executives may share the same benefits with shareholders in some dimensions (e.g., increase stock price), the bonding also creates distortions for executives' self-interest opportunistic behaviours. We consider two settings where executives' interests are better aligned with shareholders. The first setting is from the perspective of the effect of the incentives of CEO, who has significant effect in corporate policy and decision making. Specifically, we focus on the usage of relative performance evaluation (RPE) contracts in executive pay, which compensate executives with an extra payment for outperforming peer groups. The second setting is from the perspective of the executives, following the discussion that coporate decisions are often made by teams (Aggarwal and Samwick, 2003). Specifically, we use the adoption of majority voting rules in director elections in our analysis, which reflect

the changes of performance pressure for the executives in the board. On the other side, we think about the role of other stakeholders in corporate operations. Employees play an important role in corporate governance rather than a function of labour demands. Studies have shown how employee bargaining power, individual skills, and option-based monitoring shape a firm's capital structure and risk-taking. In line with the prevalence of wage theft violations, we then introduce the third setting where employees as stakeholders could affect a firm's decisions in committing wage theft violations. We use the state-level staggered adoption of pay transparency laws in our empirical design, where employees are protected from illegal punishment from their employers by discussing wages with peers freely.

We discuss the relation between the incentives and the firm's misconduct behaviours in the following three chapters. In the second chapter, we discuss whether the tournament introduced by RPE contracts could incentivise CEOs' engagement in corporate misconduct. Specifically, we measure the tournament incentive by comparing the relative performance between the target firm and its peers at the interim point of a contract. We find that poorly performing firms tend to commit more severe violations after the interim point, as a strategy to win the competition. This negative effect of tournament incentives on corporate misconduct is more pronounced when winning the awards is more financially meaningful to the CEO or when managerial power is stronger. Overall, this chapter contributes to the understanding of the CEO's risk-taking in unethical activities under RPE contracts.

In the third chapter, we examine the incentives of a firm's unethical behaviours from the increased career concern during board elections. Using the staggered enactment of Majority Voting (MV) legislation in director elections as an experiment of shareholder empowerment, this chapter explores the relation

between director career concern and wage theft violations under a difference-in-differences identification. We measure directors' career concern according to the adoption of the MV rules in board re-election. We find that wage theft violations are more prevalent after MV legislation, and firms are associated with higher violation penalty amounts after the enactment. This effect would be strengthened by the presence of financial constraints, and it would be mitigated by labour mobility and unionisation. Also, the effect could be attenuated in a collaborative corporate culture where employee involvement is high. Overall, our results show that directors' career concern appears to have a negative effect on employee treatment and is associated with higher wage theft violations in the workplace.

The fourth chapter examines the effect of adopting pay transparency laws on firms' wage theft violations. We find that the state-level staggered adoption of pay transparency laws is significantly related to an increase in wage theft, and we reason that this effect is related to increased employee whistleblowing following the improved awareness and protection of pay-related matters. We also demonstrate that the effect of pay transparency laws adoption would be more pronounced when employees are under better union protection, when a firm's corporate governance is weak, or when corporate culture values employee treatment. Overall, this chapter supplements the recent studies in PTL implementations and provides further evidence of its possible impact on corporate violations.

1.2 Main contribution

This study highlights the persistent issue of corporate misconduct, especially the recent prevalence of wage theft violations. We explore how performance-based compensation, performance pressure from stricter director election rules, and

employee rights protection would affect a firm's decisions in corporate misconduct activities, in the wake of public attention in firm's ESG-related performance.

Our findings are consistent with the following views: Firstly, executive compensation is closely related to managerial short-termism behaviours. Though previous studies from Cheng (2004) and Farber (2005) argue that granting stock-based compensations to executives greatly improves monitoring and mitigate managerial short-termism, our findings are consistent with the 'dark side' of executive compensation (Bolton et al., 2006; Burns and Kedia, 2006), which states that executives could be strongly motivated to self-benefit and 'boost' performance in the short term. Secondly, shareholder empowerment does not necessarily improve shareholder benefits. Consistent with the review that shareholder empowerment intensifies the conflicts between shareholders and other stakeholders (McDonald et al., 2008; Lan and Heracleous, 2010), we provide evidence of an unexpected side-effect of shareholder empowerment that increasing board control over the management could motivate firms to cut corners by committing wage theft violations. Thirdly, the adoption of the pay transparency law is associated with an increase of corporate misconduct. Consistent with the view that employees play an important role in internal governance (Dyck et al., 2011; Call et al., 2016), we find that employees who are better protected from retaliation tend to be more encouraged to claim the unfair treatment and pay related issues after the law adoption, and therefore, is associated with a direct increase in the detected wage theft violations.

The thesis makes several contributions both to the study of corporate misconduct and its incentives. In this section, we focus on the main contributions to our focal topic - corporate misconduct. Firstly, the study extends the series of

research on the influencing factors of corporate misconduct. Evidence has been provided that both internal and external factors would affect firm's likelihood of committing violations, for example, increased monitoring from manager's visits significantly mitigates facility misconduct (Heese and Perez-Cavazos, 2020), local newspaper closure undermines potential reputation cost form corporate wrongdoing and leads to more violations (Heese et al., 2022), the boost of social media activity increases the pressure of firm's unethical activities and mitigates violations (Heese and Pacelli, 2024), and introducing Enterprise Resource Planning (ERP) System increases internal monitor, which alleviates misconduct from the facilities (Heese and Pacelli, 2025). We contribute to this strand of literature by providing new evidence from the perspective of corporate governance. We show that the incentive effect from a tournament-based RPE contract could bring strong performance pressure to firms and incentivise managerial opportunistic behaviours. And we also present that the top-down pressure from director elections could also motivate executives to cut corners and pursue an increase of short-term performance. With corporate misconduct becoming increasingly prevalent, the new findings contribute to corporate regulations in a broader way that regulatory design should not only focus on the direct financial measures, but also the indirect incentives that could affect executive decision-making.

Secondly, this study contributes to the heated discussion of corporate wage theft violations. Survey data from the EPI in 2017 have shown that wage theft violations are almost always hidden[7], as employees are less aware of their own rights for payments, and they are held back from reporting wage theft issues due to

[7] Full report available at: https://www.epi.org/publication/employers-steal-billions-from-workers-paychecks-each-year/

the difficulty in enforcement and the fear of retaliation. The unique features of wage theft violations make it an underexplored area in academia. Recent studies have provided evidence that the firm's financial features are closely related to its tendency to commit wage theft violations, especially when the financial performance is under pressure from financial analysts or other third parties (Raghunandan, 2021). Our third chapter extends this relation between financial performance and wage theft violations and shows that director election could also be a source of performance pressure that leads to executives' short-termism behaviours. On the other side, Chircop et al. (2024a) find that the increased political risk is related to an increase in wage theft violations, as firms tend to increase cash holdings for future uncertainty by stealing wages from employees. Moreover, Chircop et al. (2024b) point out that by having more government contracts, firms are less likely to commit violations due to the increase in monitoring and more potential reputation cost. Our fourth chapter provides new evidence that as the protection of employee rights increases, employees would be more active in claiming unfair treatment and revealing misconduct activities, which further amplify the key role of employees in internal corporate governance.

1.3 Thesis structure

The thesis studies the influencing factors of corporate misconduct and proceeds as follows: Chapter 2 discusses the role of tournament incentives in influencing corporate misconduct, using a relative performance evaluation contract to identify a firm's relative performance to its peer groups. Chapter 3 explores managerial incentives on corporate misconduct under a sudden increase in directors' job insecurity, with a special focus on wage theft violations. Chapter 4 reviews the role of rank-and-file employees in influencing a firm's wage theft violations,

through the staggered adoption of pay transparency laws. Chapters 2, 3, and 4 have their own introduction, literature review, hypothesis development, empirical design, result analysis, and conclusion. Chapter 5 concludes the thesis, outlines the overall findings and implications, and proposes ideas for future research. Together, these chapters illustrate the incentives from both the management and employees on corporate misconduct and present the findings and implications for theory, policy, and practice.

Chapter 2: Tournament incentives and strategic corporate misconduct

2.1 Introduction

Compared with regular pay, uncertain pay (e.g., bonuses) is closely linked to a firm's future performance and provides incentives for agents to seek riskier strategic options (Wiseman and Gomez-Mejia, 1998). We focus on a tournament-like competition between the target firm and its peers introduced by relative performance evaluation (RPE) contracts. Under the competition, the target award for a focal firm is defined by its position in performance relative to its peer groups. By comparing the target firm's stock performance with its peers at the interim point of an evaluation period, executives from poorly performing firms would show strong motivation to take riskier decisions to catch up with their peers and win the competition, while executives from winning firms are less incentivised to seek excessive risk to preserve their status.

In support of the prediction that tournaments provide executives incentives to improve performance, existing research provides evidence that individuals are incentivised to achieve top positions in competitions among professional athletes (Brown, 2011; Grund et al., 2013), car racers (Becker and Huselid, 1992), fund managers (Brown et al., 1996; Kempf and Ruenzi, 2008; Schwarz, 2012), and analysts (Yin and Zhang, 2014). However, the performance pressure in competitions would also lead to a spread of criticised unethical behaviours (Shleifer, 2004). In this notion, tournament incentive might motivate executives to report better performance to increase the possibility of winning, and the firm's concern about the relative position in the competition would then affect CEOs' risk-taking behaviours (Nam, 2020), especially ethical dilemmas (Thanassoulis, 2023).

On the other side, corporate misconduct can bring about substantial financial and reputational damage to firms as well as threats to society and the environment (Karpoff et al., 2005; Fich and Shivdasani, 2007; Holzman et al., 2021). Given such negative consequences, examining the motivations that lead to misconduct in corporations is essential. According to the model of crime from Becker (1968), a firm's propensity to commit violations is higher when the anticipated benefits outweigh the costs. The basic trade-off for executives is between the costs to be penalised and the benefits from all forms of manipulation. Prior literature has investigated that executives are motivated by equity-based incentives to engage in accounting irregularities as they expect higher benefits by selling shares in the future, and executives could be tempted by tournament incentives to take on riskier corporate policies or even unethical or illegal decisions in order to attain the reward (Cheng and Warfield, 2005; Shi et al. 2016; Do et al., 2022).

In line with this literature, Amiram et al. (2020) hand-collect discovered corporate misconduct and compare the estimated benefits and costs, and they find that the benefits from financial misconduct do pay off for perpetrators. If so, will poorly performed firms engage in misconduct as a strategy to take risks to win the competition among their peers? We examine whether and to what extent tournament incentives could be associated with CEOs' engagement in strategic misconduct, measured by severe violations with large penalties.

To test our prediction, we collect detailed information about CEOs' compensation grants from S&P 500 firms available in the ISS Incentive Lab database, and we then construct a sample of 2,613 unique RPE contracts from 126 unique firms over the period from 2000 to 2021. We focus on the RPE grants with three-year lengths and only keep those with clearly identified peer groups. In

addition, our research only uses stock return as the performance metric so that the focal firm's relative performance is more observable and comparable during the evaluation period. For example, according to the DEF 14A proxy statement of MICROSOFT CORP. in 2024, the payout for the three-year Relative TSR measure is adjusted based on Microsoft's relative percentile ranking: a relative ranking at or below the 20th percentile results in a 75% modifier, and a maximum 150% modifier will be granted for rankings at or above the 80th percentile. Following Do et al. (2022), we use the end of the first half of the evaluation period as the interim point of performance evaluation, and we define interim loser (winner) firms by comparing the firm's relative performance to the median value among its peers. Alternatively, we measure the firm's interim performance according to its rankings among peer firms.

To measure corporate misconduct, we collect data on violations from the Violation Tracker database. We then combine this sample with the RPE contract data and estimate an OLS regression to predict the tournament incentives on the CEO's propensity for corporate misconduct. The results show that changes in the number of violations and penalty amounts among severe violations between the first and second half of the evaluation period are significantly negatively correlated to the firm's interim performance, meaning that interim-losing firms are more likely to be incentivised to commit violations.

While the baseline results are robust to alternative measures of interim performance, we then draw on two cross-sectional predictions about the correlation between a firm's interim performance and its propensity to commit violations. Firstly, as one implication of tournament theory is that the managerial pay difference provides incentives for better corporate performance, and the incentives

tend to be stronger when the prize size is larger. We thus predict that if the tournament incentives are stronger, executives may be more tempted by the award and take on excessive risks. Our results show that the financial importance of winning the award does stimulate the effect of tournament incentives on the firm's propensity to commit violations.

The second prediction is that the tournament incentives for interim-losing firms to increase risk-taking behaviours would be enhanced if managerial power is stronger. We use board independence as the indicator of managerial power and find that the correlation between interim performance and corporate misconduct is more pronounced when boards are less independent, which is consistent with the previous studies that the board structure affects the management's decision-making and firm's performance.

There are also possible alternative explanations for a firm's propensity to commit violations towards its interim performance. Firstly, a firm's absolute performance such as stock price might affect managers' behaviours, as they would concern about future losses on share value and take extra risks consequently, even when controlling for other firm policies (Coles et al., 2006). In this notion, we include the firm's stock performance, together with the sensitivity of the CEO's wealth to stock price (delta), and the sensitivity of the CEO's wealth to stock volatility (vega) as control variables in the main regression. Moreover, to exclude the possibility that the existing results are solely contributed by firms with extremely poor performance, we further include the firm's performance deviation and find that the significant correlations in the baseline test are not led by firms with extremely poor performance. The consistent results suggest that the interim-losing firms have strong incentives to engage in violations to win the tournament.

Our study makes three contributions. Firstly, our work contributes to a growing literature studying the determinants of corporate misconduct. According to Becker's (1968) model of crime, firms are more likely to commit violations when expected benefits exceed expected costs. Recent studies indicate that the monitoring role of corporate culture (Liu, 2016), corporate social responsibility reports (Christensen, 2016), social norms (Parson et al., 2018), managers' site visits (Heese and Pérez Cavazos, 2020), local newspaper (Heese et al., 2022) and social media (Heese and Pacelli, 2023) increase the potential cost of misbehaviour, and thus reduce firm's propensity to commit violations. However, while the theory provides explanations for the motivation of crime, it falls short in addressing the substance of observed criminal activities and the diversity and fluctuations over time and space (Glaeser et al., 1996). Our research extends the current studies by providing evidence that tournaments could also serve as motivations for executives to engage in misconduct. More importantly, our study finds that a firm's propensity to commit misconduct is not unconditional - executives are likely to engage in severe misconduct as a strategy and take risks to pursue higher returns in the competition.

Secondly, this chapter extends research on the economic consequences of tournament incentives under RPE contracts. While prior literature documents the improvements in corporate performance after implementing RPE contracts in executive compensation design (Vrettos, 2013; Park and Vrettos, 2015), there is evidence that the introduction of RPE could also lead to inefficient investment decisions and accounting irregularities (Haß et al., 2015; Gong et al., 2019; Infuehr, 2022). Our findings are in line with the argument from Murphy (1999) that RPE might not bring optimal tournament rewards for executives or lead to better

corporate performance. And we provide evidence that managerial decision-making could be substantially affected by their peers' performance in pursuing competitive advantages, which also extends the literature on how tournaments incentives associated with corporate policies in risk-taking (Do et al., 2022).

Thirdly, we extend the studies of the incentive effects of a tournament. Early research refers to tournament incentives as the motivation for internal promotion based on the comparison of payments between executives and non-executives (Kale et al., 2009; Bebchuk et al., 2011; Kini and Williams, 2012). Later studies start to refer to the term "tournament" to the external comparison between a firm's executives and the executives from industry peers (Coles et al., 2018), or between a firm and compensation peers (Do et al., 2022). While tournament incentives could bring positive effects and motivate employees to work harder for promotion, they could also create incentives for firms' short-termism behaviours, considering the potential bonuses from beating the targets. Our results extend the studies of tournament incentives based on the comparison between the focal firm and its peer groups, and we provide new evidence that the tournament incentive could lead to unethical activities and affect firm performance.

The remainder of this chapter is structured as follows: Section 2 reviews the literature and provides theoretical analyses and develops the predictions. Section 3 describes sample construction and descriptive statistics, and Section 4 shows the empirical design. Section 5 discusses the main results and robustness tests. Section 6 explores cross-sectional heterogeneity and alternative explanations in the relation between interim performance and a firm's propensity to commit violations. Section 7 concludes.

2.2 Literature review and hypothesis development

In this section, we firstly introduce a thorough discussion on corporate misconduct, executive compensation, and tournament incentives, and then come up with the proposed hypothesis based on the literature.

2.2.1 Corporate misconduct

As societal expectations have increased greatly around transparency, accountability, and social responsibility, discussion around corporate misconduct has become an increasingly prominent topic in recent years. Heightened awareness of unethical corporate activities, financial scandals, and violations of stakeholder rights has brought public attention to intensify the scrutiny of corporate misconduct behaviours. In the following section, we will discuss the corporate misconduct and related studies from both financial and non-financial perspectives.

2.2.1.1 The discussion of financial misconduct and related studies

Corporate misconduct represents an economic threat to a wide range of institutions and leads to significant financial and legal repercussions. For example, as one of the largest bankruptcies of all time, WorldCom went bankrupt after adjusting earnings and exaggerating incomes by nearly $79.5 billion. The significant amount of fraud caused vast wealth destruction for WorldCom's shareholders, while the SEC announced a $6.1 billion settlement for related parties. The great influence of this financial violation is closely linked to the passage of the Sarbanes–Oxley Act, which greatly prevents accounting fraud by increasing transparency in reporting and prohibits retaliation costs for whistleblowing.

While knowing the potential significant financial losses, what makes firms decide to engage in misconduct anyway? The core concept to answer this question

is to understand agency costs in corporate governance. Based on the two tenets that there is information asymmetry and interest conflicts between principals and agents, Jensen and Meckling (1976) discussed the potential agency costs in a firm, which include monitoring costs, bonding costs, and residual loss. They argued that changing the ownership structure to optimal would balance the incentive alignment and risk-taking behaviours of the agencies, which revealed the possibility that while the agents are more advanced in information or under pressure, they would become self-interested and tend to make unethical decisions to build on their own wealth.

Even though the principals could increase their control towards the agents by hiring external parties such as auditors, the presence of information asymmetry is still the main cause of adverse selection and moral hazards (Akerlof, 1970; Alchian and Demsetz, 1972). At the same time, the interest divergence between the two parties is the driving force of the agents' opportunistic behaviours. As to propose that shareholder rights maximization could help the principals monitor the agents' decisions, Eisenhardt (1989) argues that increasing the executives' shareholdings would align their interests more with the shareholders, and therefore, mitigate the self-interested decisions from the management.

Based on the above discussion about the dynamic trade-off between ownership and control, we take a further look at what is the cost and benefit and how they contribute to forming the firm's self-interested decisions. Prior study from Becker (1968) proposed a model of crime which suggests that individuals or organizations are more likely to commit violations when the potential gain exceeds the potential cost, and they also discussed the cost of resources to catch a crime and how much punishment should be applied to reduce future violations. The expected utility of crime, as presented in their paper, is the total value of two components: the

possibility of not being caught times the potential gain, and the possibility of being caught and incurring a negative cost.

Based on the idea that the crime is a decision based on expected costs and benefits, Klein and Leffler (1981) proposed a new framework to analyse what drives fraud. Different from Becker (1968), in the Klein-Leffler model, the possibility of being caught is 100%, which means the decision of cheating is based on the comparison between the present value of possible gains (w3 in their equation) and the present value of providing quality products (w2 in their equation). And based on this simple seller-consumer market, organizations will cheat if w3 exceeds w2 and will not cheat if w2 exceeds w3. The trade-off situation could be applied to a firm's decisions regarding committing violations, as the cost of providing high-quality goods in the product market could be referred to as the cost of capital in the firm's operations. Thus, firms would compare the present value of future gains and costs when it comes to the decisions of misconduct, especially while holding the assumption that the violation would be detected eventually in the future.

If so, while the potential cost of a crime could come from either the loss of future contracts, the fines, or the reputation cost, which kind of cost is more concerning by the firm? Even though the optimal penalty of a crime should equal to the total social cost, the judicial sanction only accounts for a small amount of the total social cost, while the reputational cost either brought by press reports or other parties forms a larger part of the overall cost (Karpoff and Lott, 1993). And the loss for firms under investigation of military procurement is even larger, as it has a subsequent negative effect on government-related revenues. Because of reputational cost is relatively indirect to measure, existing studies use the loss of the stock value after the fraud announcement from the press to represent the future

loss. However, while comparing the reputation cost, which is measured by the change of a firm's share values and the legal penalties for environmental violations, Karpoff et al. (2005) find that legal penalties are the primary cost that deters environmental violations. And this is because the firm's customers will not necessarily stop purchasing the products if the quality remains the same, while the main victims of pollution - the nature and environment - do not cause direct loss to the business.

Moreover, instead of analysing the effect of the overall cost for a firm in a crime, would individual cost for executives be a deterrent to corporate misconduct? Early studies have provided evidence that the management turnover rate increases significantly after misconduct (Feroz et al., 1991; Agrawal et al., 1999; Desai et al., 2006). However, these studies either incorrectly account for innocent managers who are not responsible for the misconduct or omit the dismissal of responsible managers for the wrongdoing. Using the hand-collected accounting misrepresentation data, Karpoff et al. (2008) first accurately identify the culpable managers for the misrepresentation, and they find that not only more than 93.6% of managers lose their jobs for the misconduct, but those liable managers also face strong governance control, legal penalties, and direct loss of share values. A recent study by Amiram et al. (2020) argues that misreporting can still pay off after detection, even with large costs on both firms and individuals. By hand-collecting severe SEC and securities class action violations, they find that 33% of the managers come out with positive income after the violation detection. Their findings indicate that misconduct is still rational for executives, even with large potential fines, because of the high bonuses resulting from performance boosts and

the low detection rate, which together make the potential gains easy to outweigh the cost.

The above discussion about the motives of a firm's decision in committing violations is from the perspective of related-party enforcement. At the same time, a recent paper from Dupont and Karpoff (2020) first proposes a new framework- 'The Trust Triangle', to analyse the forces other than related-party enforcement that encourage individuals to engage in misconduct. While the top of the triangle represents related-party enforcement, the left leg of the triangle encompasses third-party enforcement (law and regulations), and the right leg represents first-party enforcement (personal ethics and culture). The framework was proposed based on the basic concept that trust is the foundation of all production activities, and trust disciplines bad behaviours (Shapiro, 1983). The new framework emphasises the role of reputation and culture, and it also helps explain, in Becker's (1968) model of crime, why firms behave honestly even when the legal environment is weak - because of the concern for potential reputational costs.

In line with the discussion of the motives, we then review existing studies about the constraints of firm's misconduct in the following. According to the multidisciplinary review of financial reporting fraud, Amiram et al. (2018) conclude the main constraints of financial misconduct as: (1) firm governance, (2) ownership structure, (3) transparency, and (4) external monitoring. The role of internal and external control in firm misconduct is debatable. At the same time, early studies provide evidence that CEO duality and greater proportion of insiders in the board are related to more financial misconduct (Dechow, 1996), Larcker et al. (2007) provide opposite evidence that corporate governance does not have strong associations with a firm's abnormal returns, by constructing governance

indices from 14 dimensions. Others provide evidence of constraints to corporate misconduct from related parties, such as independent directors (Klein, 2002; Brochet and Srinivasan, 2014), short sellers (Karpoff and Lou, 2010), and non-traditional actors, including employees and the media (Dyck et al., 2011).

2.2.1.2 The prevalence of non-financial misconduct and related studies

While the preceding discussion mainly focused on the decision-making process regarding financial misconduct and cost-benefit calculus, the same logic applies to non-financial misconduct, as executives would go through the same procedure when deciding to engage in violations. Non-financial misconduct has received less focus from scholars and legal parties, partly due to the predominance of financial fraud cases. This is because fraud and other misreporting often lead to immediate changes in corporate and individual wealth. Additionally, there is less attention on a firm's social performance from the public compared with its financial performance.

Non-financial corporate misconduct could also bring harm that extends further than just shareholders but a collective risk to global public health. As one of the most significant environmental violations, Volkswagen was found to have cheated on nitrogen oxide (NO_x) emissions during laboratory tests in 2015, violating the Clean Air Act. Their vehicles ended up causing 40 times more NO_x emissions while driving and brought awful effects to the global environment. Consequently, Volkswagen was fined $2.8 billion for a DOJ criminal fine, and more than $25 billion for other penalties, buybacks, financial settlements, and consumer compensation. As a template of corporate environmental violation, Volkswagen's scandal exposes the weakness of the regulatory system in environmental protection,

and it also raises the awareness that environmental violations could be treated as seriously as securities fraud.

According to recent studies, non-financial misconduct includes violations of environmental, labour, health and safety, and consumer protection regulations, and it is becoming increasingly prevalent as corporate operations are facing growing concerns about sustainability. And as Heese (2024) mentioned, another reason that non-financial misconduct has not been given enough attention in academic studies is due to the lack of accessible data. One important change in data availability is the access to the Violation Tracker database by Good Job First, which compiles violation cases from more than 60 U.S. federal and state regulatory agencies, greatly improves the potential in related studies. Specifically, non-financial violations are categorised into five groups in Violation Tracker database: (1) competitor violation, (2) customer violation, (3) employee violation, (4) environment violation, and (5) government violation.

As non-financial violations are seen as the outcome of a firm's non-financial performance, do the rules of making decisions in committing misconduct apply? To answer this, we need to clarify the potential benefits and costs of non-financial misconduct. While the benefits from committing non-financial violations are similar with financial violations, the costs are mainly from: (1) penalties, (2) media coverage, (3) and correlation with ESG ratings. According to the study from Heese (2024), the legal penalties for non-financial violations are much lower than securities class-action related violations, while at the same time, the increased monitoring from the social media coverage brought much higher reputation costs for a firm's wrongdoings. Those findings are consistent with the findings about financial misconduct by Karpoff et al. (2008) and Karpoff (2021).

In the preceding discussion, we examined the motives and constraints for both financial and non-financial misconduct. We argue that both types of misconduct would stem from a rational decision-making process, where executives weigh the potential gain - whether in the form of immediate financial profit or operational advantages - against the loss they may incur, including individual wealth destruction, career concerns, legal penalties, and regulatory scrutiny. As a result, the motives for engaging in either type of misconduct and the constraints that limit such behaviour should be assessed under the same framework, as the trade-off driven by self-interest, risk assessment, and organisational pressures remain consistent across both financial and non-financial domains. For example, utilising the model of crime from Becker (1968), Heese and Pacelli (2024) find that 3G access significantly increases Tweet activities, and this increased scrutiny for unethical behaviours in social media leads to higher reputational costs, which outweigh the potential gains. In this case, firms choose to commit fewer violations to avoid future loss. Similarly, the implementation of an enterprise resource planning (ERP) system for facilities also leads to a significant reduction in the firm's overall corporate misconduct, due to increased information transparency and enhanced compliance (Heese and Pacelli, 2025). Evidence regarding how increased scrutiny helps curb corporate misconduct has also been found from major customers in a firm's supply chain (Chen et al., 2025), and from taxpayers to firms awarded with government subsidies (Raghunandan, 2024).

Additionally, it is worth noting that there is also an increasing attention in studies of corporate social irresponsibility (CSI), which concerns a sequence of practices that harm stakeholders and society (Strike et al., 2006; Campbell, 2007). For example, under the perspective of stakeholder-agency theory, Bouslah et al.

(2018) examines the relationship between CEO's risk-taking and firm's involvement in irresponsible activities from seven dimensions, and they find that firms tend to involve in more CSI due to the increased financial performance pressure and the underestimate of the negative consequences. Jain and Zaman (2020) find that higher board-level governance (e.g., higher portion of independent directors and gender diversity) is associated with less irresponsible behaviours. Similarly, one recent study from Richter (2025) discusses how long-term management compensation could curb CSI by aligning managers with stakeholder interests. Differentiate from this strand of studies, our research focuses on corporate misconduct, which is measured by firm's violation against laws and regulations instead of firm's overall ratings in different dimensions of irresponsible behaviours. This distinction matters methodologically because misconduct is observed through enforcement records rather than controversies. It is also of importance that corporate misconduct entails immediate and measurable financial impacts of corporate wrongdoings and enables us to study the more direct causal inferences.

2.2.2 The role of executive compensation

Executive compensation is multi-dimensional, including base salary, performance-based bonuses, stock options and equity, long-term incentive plans, and other benefits. Jensen and Murphy (1990) have thoroughly discussed how equity ownership and option grants can bring meaningful incentives to executives to improve the firm's performance. On the other hand, Murphy (1999) further argues that the primary role of optimal contracting in executive compensation is to align executives' interests with those of shareholders. Even though the performance-based payment may reflect managerial power and thus lead to potential rent-extraction behaviours, the effect would be greatly mitigated as the

firm enhances its governance. As compensation packages are commonly introduced to alleviate the managerial agency problem, Bebchuk and Fried (2004) criticise that the misuse of compensation arrangements is widespread. They find that while compensation packages provide financial incentives for executives, many pay practices would be better explained by managerial self-interested behaviours and thus leads to 'pay without performance'. A new strand of literature in explaining the increased usage of executive compensation package argues that the increase in optimal contracting is caused by improved CEO effort in intense competition. For example, the managerial effort would increase when firm size is larger (Baker and Hall, 2004), when firms adopt more technologies in operations (Garicano and Rossi-Hansberg, 2006), or when the moral hazard problem is more severe (Gayle and Miller, 2009).

As a result of distinguishing the nature of executive compensation, studies then focused on how to measure the incentive effects of executive compensations. The direct measurement of the incentives would be firm performance, as any changes in it would reflect how executives are incentivised by different compensation packages. However, most executives are holding stocks and options of the firm, which ties their own wealth to the firm's overall performance. Thus, the sensitivity of CEO wealth to firm performance was proposed to further discuss the incentive effects (Murphy, 1999; Core and Guay, 2002). The measurement captures the relative value changes in executive wealth for the changes in firm value. A higher value of pay performance sensitivity (PPS) indicates strong incentives that the executives are willing to take risks for value-enhancing activities, which aligns with shareholders' interests. The incentives are directly affected by factors like the executive's risk-aversion, personal wealth, and ability to hedge risk (Becker, 2006).

Even though the intended goal of introducing a compensation package is to align managers' interests with shareholders and financially incentivise the management to perform better, a growing body of research provides evidence that there are also unintended consequences of using compensation packages in executive pay. As earnings targets are directly linked to stock-based rewards under compensation schemes, it is assumed that executives would have stronger incentives to manipulate earnings. Studies provide evidence that when the CEO's potential compensation is closely tied to the value of stock and option holdings, there is more earnings manipulation to boost or reduce income (Cheng and Warfield, 2005; Bergstresser and Philippon, 2006). Additionally, executives could also be motivated to conduct financial fraud (Shi et al., 2017) or selectively disclose earnings restatements (BenYoussef and Khan, 2018). A recent paper from Nienhaus (2022) show that equity incentives lead managers to manipulate earnings to meet-or-beat financial analysts' forecasts. They observe an increase in firms failing analysts' forecasts after FAS 123R, as the potential gain of earnings manipulation is greatly decreased with the increased cost of options.

Regarding the relation between incentive effects of compensation and executive behaviours, Coles et al. (2006) argue that there is a strong causal relation between the executives' pay performance sensitivity and excessive risk-taking behaviours. They find that firms with high PPS tend to invest more in research and development (R&D) and less in property, plant, and equipment (PPE), and they also have higher leverage. They test and show that policy decisions from executives under compensation schemes have significant explanatory power to stock volatility, which explains why high PPS indicates higher firm risk. CEO compensation also affects other corporate policies, such as corporate cash holdings (Liu and Mauer,

2011), share repurchases (Cheng et al., 2015), socially irresponsible activities (Bouslah et al., 2018), and corporate innovation (Biggerstaff et al., 2019). Li et al. (2021) find that the long-term compensation plan leads to worse acquisition performance and brings value destruction to acquiring shareholders, because the long duration of future pay would amplify the motivation for self-interested behaviours, thereby increasing the agency cost between executives and shareholders.

There are also studies showing the factors that could relieve the opportunistic incentives of executive compensation. For example, a study from Minnick and Rosenthal (2014) find that the long-term firm performance for firms allow paying dividends on unvested stocks are increasing, due to the improved interest alignment between executives and shareholders. Clifford et al. (2016) show that firms targeted by block holders (e.g., mutual funds) have higher equity-based reward for CEO pay, and the active monitoring from block holders improves performance-related CEO pay. Similarly, Hoi et al. (2019) find that social capital around a firm's headquarter helps mitigate the managerial rent-extraction incentives, and it also moderates the CEO power on CEO compensation.

2.2.3 Relative performance evaluation and tournament incentives

According to the traditional view in agency theory, compensation is structured to align the benefits of CEOs and shareholders (Jensen and Meckling, 1976; Holmström, 1979), and the usage of performance-based incentives could promote firm performance in the long term (Core and Guay, 1999; Hanlon et al., 2003; Cheng and Farber, 2008; Kale et al., 2009). According to the study from De Angelis and Grinstein (2015), accounting-based measures (e.g., EPS and EBIT) of

performance-based executive compensation are the most common metrics among several measures. However, market-based metrics, especially equity-based grants, contributes significantly to explaining firm risk (Bettis et al., 2018).

Prior literature has extensively studied how and to what extent the structure of performance-based compensation motivates CEOs to perform better and thus bring optimal benefits to firms (Healy, 1985; Core et al., 2003; Shleifer and Vishny; 2003; Betis et al., 2010; Chen et al., 2013). Nevertheless, existing studies provide mixed evidence on how executive compensation affects firm performance. For example, Guay (1999) suggests that the incentives tied to CEO's stock options significantly affect their investment decisions and lead to excessive risk-taking behaviours. Further, if CEOs have the flexibility to choose the extent of risk as well as the effort they exert, a performance-based incentive system may encourage them to take excessive risks while putting in minimal effort (Hvide, 2002; Bennett et al., 2017). While CEOs' wealth is sensitive to a firm's stock price, they could also be induced to take opportunistic actions and boost short-term performance for personal interests. For example, CEOs with high equity incentives are more incentivised to sell shares and manipulate earnings (Cheng and Warfield, 2005), or they would take aggressive accounting practices such as restatements especially when investor optimism is high (Burns and Kedia, 2006). Armstrong et al. (2013) provide evidence that when risk-averse CEOs face the trade-off between risk and return, the performance-based compensation incentives significantly affect their decision on financial misreport.

While performance-based compensation better aligns the interests between executives and shareholders, relying on the absolute performance measurements for performance-based compensation would lead to biased reward or punishment

to executives, as the outcomes might not straightly related to the executives' contributions but caused by external conditions. To relive the concern of using performance-based measurements in executive pay, Holmström (1982) argue that using relative performance evaluation (RPE) could exclude the common noise and better measure executives' efforts. Gibbons and Murphy (1990) find that RPE in executive compensation contracts positively affect a firm's relative accounting performance in competition with its peers. However, Dye (1992) provides further evidence that the use of RPE is not as effective in reducing moral hazard because managers' discretion is limited in project selections. Similarly, Aggarwal and Samwick (2002) find that the use of RPE lowers the return to shareholders, and the sensitivity of compensation to rival firm's performance is positively related to the competitiveness within the industry.

More recent studies have also provided mixed evidence regarding the use of RPE contracts in executive compensation. For example, Park and Vrettos (2015) argue that adopting RPE helps to shift CEO's risk-taking from systematic risk to firm specific risk, as RPE filters out the common noise. On the contrary, Haß et al. (2015) argue that RPE in executive compensation amplify executive's short-termism and increase the incentives of performance manipulation. Gong et al. (2019) show that using RPE contract in executive payments motivate the managers to delay the disclosure of financial report than its peers, as to conduct last-minute discretion.

Based on a peer-based benchmark, relative performance evaluation generates incentives from comparisons. Tournaments incentives links executives' pay with not only the internal relative rank-order performance between each other, but also the external relative performance between firms. In an internal tournament of a firm,

agents would compete to attain the highest outcome and win the prize (Lazear and Rosen, 1981), and the larger pay difference between executives on different levels forms stronger incentives to enhance their performance (Lazear,1999; Bognanno, 2001). Kale et al. (2009) argue that executive pay disparity has a positive effect on firm performance, as it better aligns the management's interests. However, Bebchuk et al. (2011) indicate that CEO pay slice would negatively relate to a firm's future performance measured by Tobin's Q if the pay gap is too large, because the unbalanced pay disparity motivates rent-extraction behaviours than incentives to perform better. Similarly, Kini and Williams (2012) also provide evidence that larger pay gaps would lead to excessive risk-taking, such as increase R&D investment and leverage.

On the other hand, the introduction of relative performance evaluation contract in CEO pay also creates a tournament-like external competition between firms, which decouples executives' compensation from external shocks that may concurrently influence the performances of their peers. Coles et al. (2018) are the first to apply the basic logic of tournament theory for firm's internal executives to a broader level, and they measure the tournament incentives as the difference of CEO pay between the focal firms and the highest-paid CEO in peer groups from the same industry. Consistent with the tournament theory proposed in Lazear and Rosen (1981), the industry pay gap is positively associated with firm's risk-taking, and the incentive effects are stronger when the gap is larger. Accordingly, Do et al. (2022) introduce and define tournament incentives as the potential pay based on relative performance evaluation contract. They find that the tournament incentives significantly explain the focal firm's risk-taking behaviours, especially after the midpoint of the evaluation period.

Given the inconclusive findings, does the competitive pressure brought by tournaments necessarily lead to censured behaviours? Shleifer (2004) suggests that individuals and companies might find themselves more tempted by unethical strategies in the pursuit of securing a competitive advantage. Similarly, Du and Shen (2018) find that the compensation pressure between the focal firm and its peers incentivise firms to manipulate earnings to meet investors' expectations, which is measured by financial analysts' revision. Recent evidence from Ma et al. (2020) examines tournament incentives among the firm's local competitors could motivate CEOs to take riskier decisions and increase their engagement in financial misreporting, after controlling for other determinants of risk-taking policies. Wruck and Wu (2022) discuss how RPE would affect CEO's decision-making by comparing corporate policies after a firm switch from absolute performance evaluation to relative performance evaluation. They find that the deviation between the firm and the industry's financial polices (e.g., cash leverages, default risk) increased significantly following the change, because CEOs respond by pursuing more idiosyncratic strategies. Thanassoulis (2023) theoretically analyses the link between competition and misconduct rising from moral dilemmas based on studies in brain functions. He finds that misconduct is more likely to happen among large competing firms and trigger a thinking-slow reasoned response, causing the agent to behave like a consequentialist who pays more attention to the outcomes of their actions rather than adhering strictly to rules or principles. Moreover, firms may also engage in misconduct as a strategic choice when facing financial pressure. Eaglin (2023) finds that the mini-bus operators in Africa would break the rules for more revenue to win the competition in the industry. By studying small firms prioritising

survival, the findings uncover novel insights indicating that some companies view regulatory violations as a strategic means to achieve long-term profitability.

2.2.4 Hypothesis development

Agency theory suggests that the usage of RPE brings optimal benefits in compensation contracts by aligning executives' benefits with shareholders' (Lazer, 1989). Along with this notion, Shleifer (2004) argues that an RPE contract provides a tournament-like pay-off structure; instead of the fixed salary, it is the variable component in the award that brings convexity to executives' compensation. In the tournament, a firm's position in the competition depends on the performance of its peer groups, meaning that the CEO's motivations in making risky decisions are affected by how well peers perform instead of its absolute performance.

Tournament theory predicts that the competitive pressure to win the uncertain awards motivates executives to indulge in unethical practices (Lazear and Rosen, 1981). Early evidence has shown that the incentives to improve performance may tempt executives to take excessive risks and sabotage each other's output (Burgstahler and Dichev, 1997), and even though risk-taking does not necessarily cause harm to firm performance, inefficient decisions may lead to lower effort for executives and cause damage to a firm's productivity (Hvide, 2002). Johnson et al. (2009) provide evidence that executive compensation is greatly associated with CEO's unethical decisions. They find that executives attempt to avoid the loss caused by the decline of the stock price through fraud. Shi et al. (2016) also find that top executives may be tempted to cover up existing issues, such as failing to disclose potential problems or providing over-optimistic statements to outperform

their peers, leading to an increase in lawsuits. And the increase is particularly high in the presence of high firm diversification or high environmental uncertainty.

Furthermore, the risk-taking incentives in a tournament vary across different stages within the competition and become stronger when the focal firms are close to underperform their peer groups (Brown et al., 1996). For example, using the evidence from mutual fund managers, Kempf and Ruenzi (2008) find that mutual fund managers adjust their risk-taking according to their relative positions at midyear among their fund families. And they may enhance their chances of winning the top position by increasing their holdings of risky assets after the midpoint. Similar risk adjustments around the evaluation point in a tournament could also be found among race-car drivers (Becker and Huselid, 1992), lawyers (Price, 2003), National Basketball Association (NBA) players (Grund et al., 2013), and financial analysts (Yin and Zhang, 2014).

On the other hand, building on the model of crime from Becker (1968), a large body of research finds that a firm tend to misconduct when the potential private benefits to managers are higher than the potential cost. For example, higher equity-based compensation has been linked to earnings manipulation and opportunistic reporting (Burns and Kedia, 2006), and Karpoff et al. (2008) document that executives with stronger personal stakes are more prone to securities violations. Recent studies also find that the boost of social media activity and introducing Enterprise Resource Planning (ERP) increases the potential reputation cost of firm's unethical activities and thus mitigates violations (Heese and Pacelli, 2024; Heese and Pacelli, 2025).

Given the strong incentive to outperform their peers in relative performance evaluation contracts, we conjecture that CEOs engage in corporate misconduct to enhance the chance of winning the awards, especially after the assessment of performance at the interim point. We extend the research by Do et al. (2022) that demonstrates that tournaments incentivise CEO's risk-taking behaviours and riskier firm policies, and we show that tournament incentives also lead to a higher propensity for CEOs to strategically commit violations. Accordingly, we hypothesise as follows:

H1: Interim loser firms are more incentivised to commit violations after the interim point in a tournament.

2.3 Data source and sample selection

We collect data on corporate misconduct from the database Violation Tracker, which is produced by the Corporate Research Project of Good Jobs First. The database records 557,000 civil and criminal cases from more than 400 agencies with total penalties of $917 billion since 2000, and it removes violations with penalty amounts below $5,000 as well as those with no dollar penalties. For data integrity, the database covers agency enforcement records, all parts of the Justice Department, and information on settlements that are announced in press releases. Following Heese and Pacelli (2023), we keep violation data from publicly traded firms only, and our sample excludes violations by utility and financial industries[8].

To gain information about executives' RPE grants, we collect data from ISS Incentive Lab about the compensation payout structure, grants duration and dates,

[8] Standard Industrial Classification (SIC) codes 4900-4999 and 6000-6999.

compare methods, and peer group information, while the database covers more than 750 largest U.S. firms in market capitalisation. To compile data on executive compensation, we then collect executive compensation data from the ExecuComp database and match them with our RPE contracts. In our sample, each RPE grant represents a rank-order competition for a set of approximately 15 peers, which is consistent with the sample selection in Gopalan et al. (2014), Gong et al. (2019), and Do et al. (2022).

Following Gong et al. (2011, 2019), each performance metric is regarded as a unique grant while there is more than one performance metric in the same RPE contract. We start with 20,244 unique RPE grants that meet our requirement at this step, among which 42% are stock-based RPR grants while 58% are accounting-based performance metrics. After requiring the evaluation period of each grant to be three years, we drop observations that do not have self-selected peer groups or have missing information, leaving 5,198 remaining grants. To define performance targets, we only keep RPE grants that use ordinal rank or relative percentile. After compelling the data on corporate misconduct, RPE grants, and also control variables with non-missing values, the current sample contains 2,613 grants from 126 unique firms. The average threshold payout in our sample is 29.5%, indicating that no payout will be given unless the focal firm's relative performance reaches at least 25% of the target level specified for that metric. The average payout target for the grants in our sample is 98.64%, meaning that the average expected or goal performance for executives in our sample is just under the target pay. The detailed sample construction is shown in Appendix 2-3.

2.4 Empirical design

We construct the corporate misconduct variables in their absolute values first by aggregating the facility-level violation records at the firm level, and then we calculate the differences in the violations between the first and the second evaluation periods. We use two measurements of corporate misconduct in our study. The first one, $\Delta Num_Violations_t$, captures the changes in the number of violations between the two periods. As it only reflects the firm's decisions to commit violations without conditions, we further introduce the second measurement of corporate misconduct that captures misconduct severity. $\Delta Penalties_t$ shows the changes in the penalty amount between the two evaluation periods, and the penalty amount is calculated in the natural logarithm of one plus the total penalties of a firm during one evaluation period. Similar with Heese and Perez Cavazos (2020), in our sample, both the number of violations and penalty amount are equal to 0 if the Violation Tracker does not include any offence in the year of the firm.

Following Do et al. (2022), we construct our main independent variable *Interim Loser* by comparing the stock performance of the focal firm with its peers in the middle of the evaluation period, which is the interim assessment date. *Interim Loser* equals 1 if the focal firm's stock return is below the median value of the stock returns among its peer groups, and 0 otherwise. As it takes time for managers to make adjustments, it is reasonable to set up the interim point in the middle of the evaluation period. Similar settings could be found in studies examining fund managers' decisions on portfolio holdings (Kempf and Ruenzi, 2008; Schwarz, 2012; Jin and Noe, 2022). Additionally, we also introduce alternative measures on the firm's interim performance for robustness checks.

We follow prior literature on executives' risk-taking incentives and the determinants of corporate misconduct to identify control variables. We include

ROA, *R&D*, *Sales Growth*, and *Tobin's Q* as control variables since an individual's attitude towards risk is associated with the changes in wealth and growth opportunities (Wurgler, 2000; Paravisiniet al., 2017). Secondly, a firm's risk-taking incentives are affected by the number of corporate resources (John et al., 2008; Da, 2009). We include *Cash Flow*, *Leverage*, and book-to-market ratio *BM* to control for the effects of the firm's fundamental financial characteristics on risk-taking preference. We also introduce stock return volatility to control the direct effect of a firm's risk on corporate policies. Consistent with dependent variables, the control variables are calculated as the changes from one month/quarter before the evaluation period to one month/quarter after the midpoint. They are lagged for one period as the changes could not directly affect the firm's incentives to take risks. We also introduce the firm's stock return performance, CEO pay-performance sensitivity, and the sensitivity of the CEO's wealth to stock volatility as a control variable to test alternative explanations of tournament incentives. Detailed definitions of variables are listed in Appendix 2-1.

Following Do et al. (2022), we employ a difference-in-differences methodology. The first difference is the change in misconduct between the two evaluation periods, measured by the number of violations and the total amounts of penalties aggregated on the firm level. The second difference lies in the differences between the interim winner and interim loser firms. To test whether a firm's interim performance relative to its peers improves the firm's propensity to commit violations, we use the ordinary least squares (OLS) regression model as follows:

$$\Delta Misconduct_{i,t} = \alpha_0 + \alpha_1 \times Interim\ Loser_{i,t-1} + \alpha_2 \times \Delta Controls_{i,t-1}$$

$$+Year \times StateFE + IndustryFE + \varepsilon_{i,t-1} \quad (2\text{-}1)$$

where *i* indexes each unique grant, *t* indexes the second half of the evaluation period, and *t-1* indexes the first half of the evaluation period. $\Delta Misconduct_{i,t-1}$ is the change of corporate misconduct between the first and the second evaluation period, and $Interim\ Loser_{i,t-1}$ is our main independent variable that indicates the focal firm's interim performance relative to its peers. $\Delta Controls_{i,t-1}$ are a series of control variables mentioned above, and they are lagged by one period for consistency. . Considering that firm fixed-effect would control for time-invariant firm characters while also absorb the substantial variations for our explanatory variable, we therefore include Industry fixed-effect that controls differences in corporate misconduct across industries[9] We also control for state-by-year fixed effects. This means we hold the economic environment constant and only allow for variations across the firm's RPE grants. We predict α_2 to be positive, meaning that poorly performed firms are likely to be more incentivised to commit violations after the interim point.

Table 2-1 provides summary statistics for all variables in the main analysis. On average, both the number of violations and total amounts of penalties increase during the second half of the evaluation period, and the largest change in the number of violations is 9. On the other side, 48.2% of firms with RPE grants in our sample perform worse than their peer groups, which means around half of the firms with ROE contracts are winning the tournaments. Overall, 73.4% of RPE grants, covering 92 of the 126 unique firms in our sample, involve violations. Notably, the zero values of *ΔNum_Violations and ΔPenalties* reflect cases in which the number

[9] Industries are defined following the Fama-French 48 industry classifications.

of violations and the level of penalties did not change between the two evaluation periods.

For firm characteristics, as the ISS Incentive database covers S&P 500 firms, only relatively large firms are included in our sample, the median value of firm size is 9,376 ($m), and the median Leverage is 0.287. Our sample has a Tobin's Q of 1.753 and a book-to-market ratio of 0.458. As our control variables are monthly/quarterly data at the interim point, it shows a similar annual description similar with Do et al. (2022) and smaller compared with the annual description from Gong et al. (2019). Additionally, Appendix 2-2 shows the correlation coefficient pairs in the matrix, suggesting that there are no severe multicollinear issues among the variables in our setting.

[Insert Table 2-1 here]

2.5 Main results

In this section, we first test our main prediction that poorly performed firms at the interim point are more likely to commit violations during the second half of the evaluation period. We then conduct two robustness checks by introducing alternative measurements of interim performance.

2.5.1 Baseline analysis

We test our prediction following estimation equation (2-1). Column 1 and Column 2 in Table 2-2 report the baseline regression results on violations with all penalty amounts. The estimated coefficient on *Interim Loser* is not significant if the dependent variable shows changes in the number of violations, but it is significant in column 2 if the dependent variable shows changes in penalties. Specifically, the

penalties for loser firms are 2.18[10] times higher during the second evaluation period than winner firms. This provides further evidence to our prediction that a firm's propensity to commit misconduct is not unconditional, and executives from poorly performed firms are more likely to engage in severe violations to win the tournament.

Evidence could also be found from Karpoff and Lou (2010), which states that short sellers prefer severe misconduct to pursue a higher short-term interest. As higher returns are expected for more severe misconduct, executives from poorly performing firms might be more desperate and thus take more extreme decisions on those violations. Figure 2-1 shows the coefficient estimations when we limit the violations to a certain penalty amount in the regressions. The Y-axis plots the coefficient estimates and corresponding statistical significance in *t* values on the tournament incentives. The X-axis shows the range of penalty amount of violations included in the group. Instead of measuring corporate misconduct behaviours according to violation type, we control for the penalty amount of violations (Egan et al., 2019). The figure shows a weak relation between the firm's relative performance and its propensity to misconduct when the violations are not severe. Nevertheless, the coefficient estimates on the change of violation numbers between the first and second evaluation period rises steeply and stay high when the penalty amount exceeds $500,000, suggesting that poorly performing firms are more motivated to commit severe violations to win the current situation.

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[10] Calculated as $(e^{1.158}-1) \times 100\%$. Notably, we interpret the effect in log points as percentage changes where the coefficient is exponentiated, and we adopt the same rules in the rest of the thesis for continuity.

Column 3 and column 4 from Table 2-2 show the results when we only include violations with penalty amounts above $500,000. Both the number of violations and the amount of penalty are significantly negatively correlated with the firm's performance. The coefficient estimates suggest that poorly performing firms commit 0.397 more violations in the second half of the evaluation period, and the amount of penalties are 5.08[11] times higher, correspondingly. Our estimates are comparable to the studies that explore corporate misconduct under various settings. For example, Heese et al. (2022) show that the number of violations and the penalty amount increased 15.2% and 1.1% for treated firms following the closure of a local newspaper. And a recent study from Heese and Pacelli (2024) find that treated firms with higher 3G internet accessibility conduct 1.8% less violations compared to control firms, and the penalties decrease 13% after the increase of 3G accessibility. It's notable that our sample is based on firms with RPE-based executive compensation packages, which, as a result, are more sensitive to performance, which may lead to higher magnitudes of changes in corporate misconduct behaviours. Moreover, our estimated coefficients are larger than those reported also because the dependent variables in our setting are constructed over 18 months before and after the interim point instead of the annual amount. By aggregating violations across an extended period, our measure captures more instances of corporate misconduct, thereby leading to higher average magnitudes of effect. Overall, our results are consistent with other findings and further show that companies are more sensitive to corporate misconduct behaviours with more severe penalties.

[11] Calculated as $(e^{1.805}-1) \times 100\%$.

For control variables, the coefficient estimate on lagged *ΔROA* is significantly negative, meaning that the firm's propensity to commit severe misconduct would increase when facing a drop in ROA. The coefficient estimate on lagged *ΔLeverage* is significantly positive, which shows that the firm's decisions on misconduct are associated with its financial resources. Overall, the findings in Table 2-2 are consistent with our conjecture that tournament incentive is associated with more severe violations, as executives are motivated to engage in misconduct as a strategy for winning the prize.

[Insert table 2-2 here]

2.5.2 Robustness tests

2.5.2.1 Alternative measurement of firm's relative performance

We introduce two alternative measures of the firm's interim performance and conduct the main analysis. Firstly, we introduce *Interim Rank*, which is the quartile ranking of the focal firm's performance relative to its peer groups at the interim point in the quartile. *Interim Rank* equals 1 if the firm's performance is in the top 25% among its peer groups, and equals 4 if its performance is at the bottom (25th percentile). This quartile classification of firms provides a clearer image of the focal firm's relative performance. Column 1 and column 2 of Table 2-3 show the estimated results after we replace the main independent variable with *Interim Rank*. The estimated coefficients are positively significant in both column 1 (0.166) and column 2 (1.089), meaning that poor performers with bad rankings are more likely to engage in misconduct.

Secondly, we create a continuous variable defined as the proportion, where the performance of peer firms exceeds that of focal firms. *Interim Proportion* has a

value of 0 when the focal firm has the best performance among its peer firms, while *Interim Proportion* equals 1 when the focal firm performs the worst. Consistent with our main prediction, the estimate coefficients are positively significant in column 3 (0.664) and column 4 (3.611) of Table 2-3. Additionally, as this measurement covers the variations of the firm's relative performance between the top and the bottom, the magnitudes in the estimates are larger than those in column 1 and column. 2.

Moreover, there is also a concern that the focal firm's stock performance at the interim assessment day may not be sufficiently representative of its relative performance; therefore, we run the baseline test again by redefining loser firms using the focal firm's average relative performance during the 1-, 3-, 6-, and 9-month periods before the interim point. Our results are insensitive to these changes in measurement.**[Insert Table 2-3 here]**

2.5.2.2 Alternative explanations

Here, we consider potential alternative explanations for our results. One possibility is that a firm's propensity to commit violations might be driven by the firm's present stock performance instead of its relative performance at the interim point. To mitigate this concern, we include the firm's stock return at the interim point as a control variable and repeat our main analysis. Column 1 and column 2 in Table 2-4 show that the significant incentive effect remains after controlling for the firm's absolute performance.

On the other hand, as prior research has studied how managerial incentives affect firm risk extensively, it is also possible that the sensitivity of CEO wealth to stock volatility (stock price), or *vega* (*delta*) might be associated with executives'

engagement in misconduct. Given that the usage of RPE contracts as CEOs' compensation design has greatly improved the sensitivity of CEO wealth to stock return volatility, executives are more likely to be incentivised to take aggressive firm policies and invest in riskier assets (Ross, 2004; Coles et al., 2006; Armstrong and Vashishtha, 2012; Dittmann et al. 2017). We then include the changes of *vega* and *delta* as control variables in our main analysis. Notably, considering *vega* and *delta* are measured on an annual level (our data resources are from Core and Guay (2002) and Coles et al. (2006), with the sample period from 2000 to 2018), we measure the changes in *vega* and *delta* as the difference between the first available value right before and after the interim point, which caused a drop of observations in the regression. Column 3 and column 4 in Table 2-4 show that the incentive effects of a firm's interim performance remain significant considering the effect of the CEO's pay-performance sensitivity.

[Insert Table 2-4 here]

2.6 Cross-sectional analysis

In this section, we conduct cross-sectional heterogeneity tests on the incentive effect of a firm's interim performance on corporate misconduct.

2.6.1 Incentives for loser firms and the importance of winning the tournament

Considering that the tournament incentives for CEOs may vary heterogeneously, in this subsection, we further test whether the effect of interim performance would be enhanced when the importance of winning the tournament is higher for CEOs.

As larger award is associated with stronger incentives for executives in risk-taking (Lazear and Rosen, 1981), we assess whether the incentive effect vary with

the importance for CEOs to win the tournament. Following De Angelis and Grinstein (2015) and Do et al. (2022), we define the importance of winning the tournament using the ratio of the target payout for the current fiscal year in relation to the CEO's total compensation from the prior fiscal year. Following Hoitash and Mkrtchyan (2022), we then decompose our main explanatory variable *Interim Loser* into *Interim loser with high importance* and *Interim loser with low importance*, according to the sample median of the financial importance for CEOs to win. The *Interim loser with high importance* equals 1 when the value of the importance of winning the tournament for loser firm is above the sample median, and 0 otherwise, while *Interim loser with low importance* equals 1 when the value of the importance of winning the tournament for the loser firm is below the sample median, and 0 otherwise.

Based on the above, we analyse the incentive effect of a firm's interim performance on corporate misconduct using the following model:

$$\Delta Misconduct_{i,t} = \alpha_0 + \alpha_1 \times Interim\ Loser\ with\ high\ importance_{i,t-1} + \alpha_2 \times Interim\ Loser\ with\ low\ importance_{i,t-1} + \alpha_3 \times \Delta Controls_{i,t-1} + Year \times StateFE + Industry\ FE + \varepsilon_{i,t-1} \quad (2\text{-}2)$$

According to estimation equation (2-2), if the high importance of winning the tournament is associated with the effect of tournament incentives on misconduct, we then expect a higher positive value on α_1 than α_2. Results are shown in Table 2-5. Results from column 1 and column 2 show that poorly performed firms are more motivated to commit violations when winning the tournament is financially more important. In general, the results support our hypothesis that the effect of

tournament incentives would be stronger if winning the tournament is more important for the CEO.

[Insert Table 2-5 here]

2.6.2 Incentives of loser firms and the effect of managerial power

In this section, we further examine how the role of managerial power interacts with the incentive effects and affects performance manipulation. In line with Becker's (1968) model of crime, strong governance increases the possibility that an executive who commits violations gets penalised, thereby affecting executives' decisions regarding misconduct due to increased expected cost. We examine whether powerful CEOs with stronger managerial power may abuse their influence and more likely to commit severe violations to pursue unwarranted compensation.

Given that the inquiry of corporate governance is to manage conflicts between agents and principals (Stein, 1988), many studies have investigated the role of different structures of governance in mitigating agency problems. One of the key recommendations is to maintain board independence as a means of alleviating issues linked to the division between ownership and control (Brickley et al., 1994). Managerial power theory predicts that the weak governance of CEOs allows them to exercise power over the board of directors, and thus, leads to suboptimal compensation practices and a lack of RPE usage (Boyd, 1994; Bertrand and Mullainathan, 2001). Independent board contributes to reducing managerial opportunistic behaviour (Fama and Jensen, 1983) and curbs corporate misconduct (Leuz, Nanda, and Wysocki, 2003; John et al., 2008) due to their less substantial connections to the company and its management compared to internal stakeholders (Jiang et al., 2016; Neville et al., 2019).

We use two measurements of managerial power in our tests. Firstly, we introduce CEO duality that equals 1 if the CEO also serves as board chair, and 0 otherwise (Baliga et al., 1996; Goyal and Park, 2002). However, with the concern that CEOs may co-opt the board by appointing new directors instead of being the chairman himself, and thus cause a biased estimation of the monitoring role of the board, we further introduce another measurement, The *Board co-option,* which provides a more nuanced and comprehensive explanation on board capture (Coles et al., 2014). *Board co-option* is defined as the ratio of co-opted directors to the total board size, and higher values indicate greater co-option and worse board independence.

Similar with section 2.6.1, we analyse the potential incentive effect of a firm's interim performance on corporate misconduct using the following model:

$$\Delta Misconduct_{i,t} = \alpha_0 + \alpha_1 \times Interim\ Loser\ with\ high\ managerial\ power_{i,t-1} + \alpha_2 \times Interim\ Loser\ with\ low\ managerial\ power_{i,t-1} + \alpha_3 \times \Delta Controls_{i,t-1} + Year \times StateFE + Industry\ FE + \varepsilon_{i,t-1} \quad (2\text{-}3)$$

We generate an indicator variable *Interim loser with CEO duality,* which equals 1 if the focal firm performs worse than its peers and if the CEO also serves as board chair, 0 otherwise. And the other indicator variable *Interim loser without CEO duality*, which equals 1 if the loser firm's CEO is not the board chair, 0 otherwise. Similarly, we partition our main explanatory variable *Interim Loser* into *Interim loser with high board co-option*, which equals 1 if the loser firm's board co-option is above the sample median, and *Interim loser with low board co-option* if the loser firm's board co-option is below the median value.

We expect positive significant estimation of α_1 and α_2, and at the same time, we expect that α_1 would be larger than α_2, as executives may have stronger incentives to commit violations and achieve the performance target while the monitor from the board is weaker. Table 2-6 shows the results of the estimated coefficients. The strong positive coefficients of *Interim loser with CEO duality* and *Interim loser with high board co-option* suggest that managerial power stimulates the incentive effects of interim performance on a firm's propensity to commit violations. In line with the findings from Zaman et al. (2021), our findings provide further evidence that weak governance of boards could exacerbate the negative effect of tournament incentives especially in poorly performing firms.

[Insert Table 2-6 here]

2.6.3 Incentives of loser firms and the bias of extreme underperformers

Thirdly, we consider one possibility that our baseline results are primarily driven by firms with extremely worse relative returns than their peer groups. The evidence on whether extreme or non-extreme performance is more decisive for individual's behaviour are mixed. On the one hand, the study from Brown et al. (1996) finds that fund managers have stronger incentives to alter portfolio investments when their relative returns are either extremely good or bad. On the other hand, Berger and Pope (2011) find that basketball players who perform slightly behind have a higher likelihood of winning the NBA games in the end. They argue that this is because individual sensitivity diminishes when the performance falls further to the goal, and thus the motivating effects of falling behind are stronger when the participant's performance is closer to the goal.

In following test, the substantial performance deviation from the median value of peer groups might form a weaker ethical culture and thus exacerbate the risk of unethical behaviour. To rule out this possibility, we decompose the loser firm's performance deviation into high and low according to their peer groups' median stock performance and test whether the effect of tournament incentives only appears for firms that perform further worse than their peers. If the focal firm's stock return is below the median value of the peers' stock return and falls within 50% of the median value, The *Interim loser with marginal performance deviation* equals 1, and 0 otherwise. Similarly, if the focal firm's stock return is below the median value of the peers' stock return and lower than 50% of the median value, we define the *Interim loser with substantial performance deviation* equals 1, and 0 otherwise. The results in Panel B of Table 2-7 show that the effect of tournament incentives is stronger when losing firms are performing slightly behind their peers.

[Insert Table 2-7 here]

2.7 Conclusion

We examine whether a firm's interim performance brings tournament incentives to CEOs and affects their decisions on corporate misconduct. We find that poorly performing firms at the interim point are more likely to engage in violations to outperform their peers, and firms tend to commit severe misconduct as a strategy to increase the likelihood of winning the competition. Robust to identification concerns, the positively significant correlations between a firm's interim performance and propensity to commit violations are consistent with our main hypothesis.

Moreover, our cross-sectional heterogeneity tests show that the incentive effects are more pronounced when winning the tournament is financially more important to the CEO, and when managerial power is stronger. Those findings provide a further understanding of how and to what extent tournament incentives would affect a CEO's strategy on misconduct. To further prove that tournament incentive is associated with strategic misconduct, we consider potential alternative explanations by excluding the effects of the firm's stock performance and the sensitivity of the CEO's wealth on stock returns and volatility. We also exclude the possibility that the effect of tournament incentives is solely attributed to firms with substantial performance deviation from their peers. Overall, our study emphasises that interim-losing firms are more likely to engage in misconduct than interim-winning firms in the tournament-like competition introduced by the RPE contract.

There are limitations of the study. Firstly, there could be a delay between committing a violation and the detection of it, meaning that many violations may have occurred sometime before they are identified and recorded. Specifically, in our setting, violations detected during the second evaluation period may reflect decisions made during the first evaluation period, potentially introducing estimation bias into our analysis. Second, the RPE contracts signed by the same CEO may overlap in time, indicating that the incentives for CEOs to commit violations may not be driven by relative performance from a single contract, but rather by the combined effects of multiple overlapping RPE contracts. However, our results remain robust when we exclude all overlapping contracts within the three-year evaluation period for each RPE grant.

Table 2-1 Descriptive statistics

This table reports summary statistics of the variables used in our main analysis. We report the number of observations, mean, standard deviation, first quartile, median, and third quartile. All variables are defined in Appendix 2-1.

Variables	N	Mean	SD	P25	P50	P75
ΔNum_Violations	2,613	0.086	1.342	0.000	0.000	0.000
ΔPenalties	2,613	0.320	7.148	0.000	0.000	0.000
Num_Violations	2,613	6.028	16.116	0.000	1.000	4.000
Penalties	2,613	6.970	7.027	0.000	8.987	13.254
Interim Loser	2,613	0.482	0.500	0.000	0.000	1.000
Size	2,613	9.134	1.275	8.376	8.889	9.779
ROA	2,613	0.011	0.020	0.004	0.013	0.021
Tobin's Q	2,613	1.753	0.765	1.232	1.577	2.076
Leverage	2,613	0.295	0.152	0.194	0.287	0.375
Cash Flow	2,613	0.034	0.040	0.009	0.030	0.055
Sales Growth	2,613	0.013	0.180	-0.044	0.022	0.083
R&D	2,613	0.003	0.006	0.000	0.000	0.002
Capes	2,613	0.026	0.030	0.008	0.016	0.033
Stock Return Volatility	2,613	0.098	0.052	0.062	0.085	0.119
BM	2,613	0.458	0.486	0.243	0.396	0.618

Table 2-2 Baseline evidence: Tournament incentives and corporate misconduct

This table reports the results of our main analysis. The dependent variable is either the changes in violation numbers ($\Delta Num_Violations_{i,t}$) or the changes in penalties ($\Delta Penalties_{i,t}$). $\Delta Num_Violations_{i,t}$ is defined as the number of violations on the firm level in the second half of the evaluation period minus the number of violations in the first half of the evaluation period. $\Delta Penalties_{i,t}$ is defined as the natural logarithm of 1 plus the penalties in dollars on the firm level computed over the second half of the evaluation period minus the value computed over the first half of the evaluation period. Our main explanatory variable is *Interim Loser*, which takes the value of 1 if the firm's stock return is worse than the median value of its peers, and 0 otherwise. Columns 1 and 2 show results when violations are severe and penalties are above $500,000, and columns 3 and 4 present results with all penalty amounts. All variables are defined in Appendix 2-1. Standard errors are clustered at the firm level, and the *t*-statistics are reported in parentheses. Continuous variables are winsorized at the 1st and 99th percentiles. *, **, and *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
	All penalty severity		Penalties above $500,000	
	$\Delta Num_Violations_{i,t}$	$\Delta Penalties_{i,t}$	$\Delta Num_Violations_{i,t}$	$\Delta Penalties_{i,t}$
$Interim\ Loser_{i,t-1}$	0.320	1.158**	0.397***	1.805**
	(0.527)	(2.122)	(3.346)	(2.074)
$\Delta Size_{i,t-1}$	1.016	1.036	-0.057	-2.158
	(1.122)	(0.880)	(-0.290)	(-1.360)
$\Delta ROA_{i,t-1}$	-16.122**	-31.764***	-3.209*	-12.483
	(-2.026)	(-3.108)	(-1.659)	(-0.802)
$\Delta Tobin's\ Q_{i,t-1}$	0.011	0.175	-0.093	-0.929
	(0.013)	(0.214)	(-0.622)	(-0.994)
$\Delta Leverage_{i,t-1}$	-6.027	0.334	2.183**	11.114**
	(-1.279)	(0.065)	(2.167)	(2.021)
$\Delta Cash\ Flow_{i,t-1}$	-15.947	5.303	0.312	-7.101
	(-1.299)	(0.870)	(0.237)	(-0.767)

ΔSales Growth$_{i,t-1}$	2.655**	1.227	0.218	0.897
	(2.098)	(1.092)	(0.718)	(0.549)
ΔR&D$_{i,t-1}$	-187.258*	24.684	-22.200	80.372
	(-1.815)	(0.208)	(-0.632)	(0.421)
ΔCapes$_{i,t-1}$	3.957	-9.077	2.145	23.290**
	(0.525)	(-1.432)	(1.603)	(2.041)
ΔStock Return Volatility$_{i,t-1}$	23.314	-5.165	-0.629	4.300
	(1.374)	(-0.824)	(-0.445)	(0.429)
ΔBM$_{i,t-1}$	-5.047	-2.006*	-0.082	-0.718
	(-1.490)	(-1.834)	(-0.452)	(-0.439)
Controls	Yes	Yes	Yes	Yes
State-Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
N	2613	2613	2613	2613
Adj-R^2	0.574	0.506	0.640	0.474

Table 2-3 Robustness test: Alternative measures of interim performance

This table reports the results of our baseline analysis using two alternative measurements of the firm's interim performance. *Interim Rank* equals 1 when the firm's performance is in the top 25% among its peer groups, and it equals 4 when the firm's performance is at the bottom (25th percentile). *Interim Loser Proportion* is defined as the proportion where the performance of peer firms exceeds that of focal firms. $\Delta Num_Violations_{i,t}$ is defined as the number of violations on the firm level in the second half of the evaluation period minus the number of violations in the first half of the evaluation period. $\Delta Penalties_{i,t}$ is defined as the natural logarithm of 1 plus the penalties in dollars on firm-level computed over the second half of the evaluation period minus the value computed over the first half of the evaluation period. The regressions include the same set of control variables as our baseline analysis but are not reported for brevity. Our main explanatory variable is *Interim Loser*, which takes the value of 1 if the firm's stock return is worse than the median value of its peers, and 0 otherwise. All variables are defined in Appendix 2-1. Standard errors are clustered at the firm level and the *t*-statistics are reported in parentheses. Continuous variables are winsorized at the 1st and 99th percentiles. *, **, and *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
	$\Delta Num_Violations_{i,t}$	$\Delta Penalties_{i,t}$	$\Delta Num_Violations_{i,t}$	$\Delta Penalties_{i,t}$
Interim Rank$_{i,t-1}$	0.166***	1.089***		
	(2.964)	(2.708)		
Interim Loser Proportion$_{i,t-1}$			0.664***	3.611**
			(3.241)	(2.582)
Controls	Yes	Yes	Yes	Yes
State-Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
N	2613	2613	2613	2613
Adj-R^2	0.638	0.479	0.640	0.477

Table 2-4 Robustness test: Alternative explanation

This table reports the results of alternative explanations. Panel A reports the results of whether the firm's stock performance, the sensitivity of the CEO's wealth to stock volatility, and the sensitivity of the CEO's wealth to stock price would explain the changes of violations over the first and second performance evaluation periods alternatively. In column 1 and column 2, we include *Stock Return* as a control variable, and in column 3 and column 4, we include *ΔVega* and *ΔDelta* as control variables. We then re-estimate the baseline specification based on equation (2-1). $\Delta Num_Violations_{i,t}$ is defined as the number of violations on the firm level in the second half of the evaluation period minus the number of violations in the first half of the evaluation period. $\Delta Penalties_{i,t}$ is defined as the natural logarithm of 1 plus the penalties in dollars on firm-level computed over the second half of the evaluation period minus the value computed over the first half of the evaluation period. Our main explanatory variable is *Interim Loser*, which takes the value of 1 if the firm's stock return is worse than the median value of its peers, and 0 otherwise. P-values (one-tailed estimations, with significance) of Wald tests of coefficient equality in each regression are also reported in the table. All variables are defined in Appendix 2-1. Standard errors are clustered at the firm level and the *t*-statistics are reported in parentheses. Continuous variables are winsorized at the 1st and 99th percentiles. *, **, and *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
	$\Delta Num_Violations_{i,t}$	$\Delta Penalties_{i,t}$	$\Delta Num_Violations_{i,t}$	$\Delta Penalties_{i,t}$
$Interim\ Loser_{i,t-1}$	0.338***	1.793**	0.421***	2.636**
	(3.279)	(2.003)	(2.988)	(2.571)
$\Delta Size_{i,t-1}$	-0.104	-2.177	0.025	-3.469
	(-0.620)	(-1.364)	(0.077)	(-1.599)
$\Delta ROA_{i,t-1}$	-3.099	-12.634	-6.116***	-32.690**
	(-1.650)	(-0.807)	(-2.889)	(-2.085)
$\Delta Tobin's\ Q_{i,t-1}$	-0.139	-0.929	-0.168	-1.142

	(-1.103)	(-0.996)	(-1.018)	(-0.892)
ΔLeverage$_{i,t-1}$	1.749**	11.158**	1.406	8.422*
	(2.095)	(2.018)	(1.126)	(1.680)
ΔCash Flow$_{i,t-1}$	-0.205	-7.268	2.114	-2.786
	(-0.181)	(-0.783)	(1.399)	(-0.304)
ΔSales Growth$_{i,t-1}$	0.179	0.916	0.074	1.302
	(0.675)	(0.562)	(0.240)	(0.533)
ΔR&D$_{i,t-1}$	-19.693	80.400	4.969	100.277
	(-0.603)	(0.419)	(0.188)	(0.453)
ΔCapes$_{i,t-1}$	2.241*	23.458**	1.480	25.263***
	(1.732)	(2.062)	(1.414)	(3.225)
ΔStock Return Volatility$_{i,t-1}$	-0.739	4.603	0.825	15.737
	(-0.549)	(0.463)	(0.493)	(1.457)
ΔBM$_{i,t-1}$	-0.076	-0.695	-0.004	0.713
	(-0.452)	(-0.432)	(-0.021)	(0.407)
Stock Return$_{i,t}$	0.305	0.006		
	(1.008)	(0.002)		
ΔVega$_{i,t}$			0.003**	0.013**
			(2.407)	(2.201)
ΔDelta$_{i,t}$			0.000	-0.001
			(1.000)	(-0.376)
State-Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
N	2605	2605	1862	1862
Adj-R^2	0.637	0.474	0.674	0.506

Table 2-5 Cross-sectional analysis: The financial importance of winning the tournament

This table reports the results of our hypothesis that the incentive effect of a firm's interim performance on its propensity to commit violations is stronger when winning the tournament is financially more important for CEOs. We define the importance of winning a tournament using the ratio of the target payout for the current fiscal year in relation to the CEO's total compensation from the prior fiscal year. *Interim loser with high importance* equals 1 when the ratio of importance in the loser firm is higher than the sample median, and 0 otherwise. While *Interim loser with low importance* equals 1 when the ratio of the loser firm is lower than the sample median, and 0 otherwise. $\Delta Num_Violations_{i,t}$ is defined as the number of violations on the firm level in the second half of the evaluation period minus the number of violations in the first half of the evaluation period. $\Delta Penalties_{i,t}$ is defined as the natural logarithm of 1 plus the penalties in dollars on firm-level computed over the second half of the evaluation period minus the value computed over the first half of the evaluation period. The regressions include the same set of control variables as our baseline analysis but are not reported for brevity. P-values (one-tailed estimations, with significance) of Wald tests of coefficient equality in each regression are also reported in the table. All variables are defined in Appendix 2-1. Standard errors are clustered at the firm level, and the *t*-statistics are reported in parentheses. Continuous variables are winsorized at the 1st and 99th percentiles. *, **, and *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

	(1)	(2)
	$\Delta Num_Violations_{i,t}$	$\Delta Penalties_{i,t}$
Interim Loser$_{i,t-1}$ ×*high importance*	0.578***	3.738***
	(3.435)	(2.768)
Interim Loser $_{i,t-1}$ ×*low importance*	0.340***	1.189
	(2.643)	(1.265)
Controls	Yes	Yes
State-Year FE	Yes	Yes
Industry FE	Yes	Yes

Equality of coefficients (p-value)	0.088*	0.046**
N	2613	2613
Adj-R^2	0.642	0.480

Table 2-6 Cross-sectional analysis: The role of managerial power

This table reports the results of testing whether the incentive effect of a firm's interim performance on its propensity to commit violations is stronger when boards are less independent. We use two measurements for managerial power: CEO duality and board co-option. *Interim loser with CEO duality* equals 1 if CEOs from loser firms are also chairman, and 0 otherwise, while *Interim loser without CEO duality* equals 1 if CEOs from loser firms are not chairman, and 0 otherwise. *Interim loser with high board co-option* equals 1 if the firm's board co-option is higher than the sample median, and 0 otherwise, while *Interim loser with low board co-option* equals 1 when board co-option is lower than the sample median, and 0 otherwise. $\Delta Num_Violations_{i,t}$ is defined as the number of violations on the firm level in the second half of the evaluation period minus the number of violations in the first half of the evaluation period. $\Delta Penalties_{i,t}$ is defined as the natural logarithm of 1 plus the penalties in dollars on firm-level computed over the second half of the evaluation period minus the value computed over the first half of the evaluation period. The regressions include the same set of control variables as our baseline analysis but are not reported for brevity. P-values (one-tailed estimations, with significance) of Wald tests of coefficient equality in each regression are also reported in the table. All variables are defined in Appendix 2-1. Standard errors are clustered at the firm level, and the *t*-statistics are reported in parentheses. Continuous variables are winsorized at the 1st and 99th percentiles. *, **, and *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
	CEO Duality		Board Co-option	
	$\Delta Num_Violations_{i,t}$	$\Delta Penalties_{i,t}$	$\Delta Num_Violations_{i,t}$	$\Delta Penalties_{i,t}$
Interim Loser $_{i,t-1}$ ×*CEO duality*	0.776***	4.647***		
	(5.249)	(3.918)		
Interim Loser $_{i,t-1}$ ×*CEO non-duality*	0.294***	1.031		
	(2.718)	(1.352)		

Interim Loser $_{i,t-1}$ × *high board co-option*			0.881***	2.450**
			(3.337)	(2.161)
Interim Loser $_{i,t-1}$ × *low board co-option*			0.188*	1.526
			(1.728)	(1.559)
Controls	Yes	Yes	Yes	Yes
State-Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Equality of coefficients (p-value)	0.000***	0.000***	0.005***	0.219
N	2613	2613	2613	2613
Adj-R^2	0.649	0.492	0.651	0.475

Table 2-7 Cross-sectional analysis: The effect of extreme underperformers

This table reports the results of testing whether the incentive effect of a firm's interim performance on its propensity to commit violations is biased by extreme underperformers. We test whether the effect of tournament incentives only appears in firms that perform substantially worse than their peer groups. We define the performance deviation by the ratio of the focal firm's interim performance to the median value of peers' interim performance. *Interim loser with marginal performance deviation* equals 1 if CEOs from loser firms are slightly underperforming the peer groups, and 0 otherwise, *Interim loser with substantial performance deviation* equals 1 if CEOs from loser firms are substantially underperform the peer group, and 0 otherwise. $\Delta Num_Violations_{i,t}$ is defined as the number of violations on the firm level in the second half of the evaluation period minus the number of violations in the first half of the evaluation period. $\Delta Penalties_{i,t}$ is defined as the natural logarithm of 1 plus the penalties in dollars on firm-level computed over the second half of the evaluation period minus the value computed over the first half of the evaluation period. The regressions include the same set of control variables as our baseline analysis but are not reported for brevity. P-values (one-tailed estimations, with significance) of Wald tests of coefficient equality in each regression are also reported in the table. All variables are defined in Appendix 2-1. Standard errors are clustered at the firm level, and the *t*-statistics are reported in parentheses. Continuous variables are winsorized at the 1st and 99th percentiles. *, **, and *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

	(1)	(2)
	$\Delta Num_Violations_{i,t}$	$\Delta Penalties_{i,t}$
Interim Loser $_{i,t-1}$ × *marginal performance deviation*	0.525***	2.413**
	(3.498)	(2.520)
Interim Loser $_{i,t-1}$ ×*substantial performance deviation*	0.219	0.957
	(1.472)	(0.737)
Controls	Yes	Yes
State-Year FE	Yes	Yes

Industry FE	Yes	Yes
Equality of coefficients (p-value)	0.050**	0.154
N	2613	2613
Adj-R^2	0.643	0.476

Appendix 2-1: Variable definition

Variables	Definition	Data source
Number_Violations$_{i,t}$	The number of violations aggregated at the firm level.	Violation Tracker
Penalties$_{i,t}$	The natural logarithm of 1 plus total penalties for misconduct aggregated at the firm level.	Violation Tracker
Interim Loser$_{i,t}$	An indicator variable takes the value of 1 if the focal firm's interim performance measured by the total stock return at the midpoint is below the median value of the peer group (the peer group includes both the focal firm and its peers), and 0 otherwise.	ISS Incentive Lab
Interim Rank$_{i,t}$	Quartile ranks of focal firm's performance compared with peers. *Interim Rank*$_{i,t}$ equals 1 if the focal firm's performance ranks at the top 25%, equals 2 if the focal firm ranks at 25%-50%, equals 3 if the focal firm ranks at 50%-75%, and equals 4 if the focal firm's performance is at bottom 25%.	ISS Incentive Lab
Interim Loser Proportion$_{i,t}$	The proportion of peer firms whose performance exceeds that of focal firms.	ISS Incentive Lab
ROA$_{i,t}$	Operating income after depreciation divided by total assets.	Compustat
Size$_{i,t}$	The natural logarithm of total assets.	Compustat
Leverage$_{i,t}$	The ratio of the sum of short-term interest-bearing debt and long-term debt to total assets.	Compustat
Tobin's Q$_{i,t}$	The market value of total assets divided by the book value of total assets.	Compustat

Cash Flows$_{i,t}$	Cash flows from operating activities divided by total assets.	Compustat
Sales growth$_{i,t}$	The growth rate of quarterly sales.	Compustat
R&D$_{i,t}$	Research and development expenditures divided by total assets.	Compustat
Capex$_{i,t}$	Capital expenditures divided by total assets.	Compustat
Stock returns volatility	The annualised standard deviation of the monthly stock returns.	CRSP
BM$_{i,t}$	The book value of equity divided by the market value of equity.	Compustat

Appendix 2-2: Correlation matrix

This table reports the coefficients between the main variables. Pearson (Spearman) correlation coefficients are reported below (above) the diagonal. All variables are described in the Appendix 2-1. *, **, and *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1)ΔNum_violations$_t$	1	0.788***	-0.008	-0.012	-0.043**	-0.021	0.023	0.013	-0.009	-0.039**	0.068***	0.024	-0.002
(2)ΔPenalties$_t$	0.602***	1	-0.051***	-0.017	-0.043**	0.009	0.077***	0.008	0.008	-0.035*	0.034*	0.071***	-0.012
(3) Interim Loser$_{t-1}$	0.012	-0.037**	1	-0.019	-0.004	-0.000	-0.000	0.048***	0.027	-0.034*	0.057***	0.029	-0.033*
(4)ΔSize$_{t_1}$	-0.026	-0.093***	0.006	1	0.053***	-0.252***	-0.004	-0.121***	0.022	-0.146***	-0.096***	-0.045**	0.209***
(5)ΔROA$_{t_1}$	-0.021	-0.035*	-0.006	-0.018	1	0.199***	-0.229***	0.074***	0.315***	-0.018	-0.021	-0.224***	-0.105***
(6)ΔTobin's Q$_{t_1}$	0.004	-0.017	-0.000	-0.359***	0.156***	1	-0.129***	0.097***	0.041**	0.158***	0.063***	-0.337***	-0.804***
(7)ΔLeverage$_{t_1}$	-0.018	0.048***	0.000	-0.091***	-0.135***	-0.098***	1	-0.167***	-0.055***	-0.130***	-0.019	0.187***	-0.027
(8)ΔCash Flow$_{t_1}$	0.005	-0.001	0.037**	-0.051***	0.020	0.081***	-0.156***	1	-0.147***	0.130***	0.406***	-0.096***	-0.093***
(9)ΔSales Growth$_{t_1}$	0.012	0.012	0.009	0.030	0.308***	0.040**	-0.023	-0.294***	1	0.025	-0.122***	-0.060***	-0.041**
(10)ΔR&D$_{t_1}$	-0.013	0.016	0.022	-0.120***	-0.138***	0.094***	-0.153***	0.043**	0.030	1	0.063***	-0.047**	-0.085***
(11)ΔCapes$_{t_1}$	0.033*	0.034*	0.044**	-0.040**	-0.055***	0.069***	-0.042**	0.356***	-0.125***	-0.017	1	-0.160***	-0.071***
(12)ΔStock Return Volatility$_{t_1}$	0.002	0.080***	0.031*	-0.063***	-0.144***	-0.260***	0.219***	-0.118***	-0.026	-0.025	-0.190***	1	0.284***
(13)ΔBM$_{t-1}$	0.012	0.001	-0.053***	0.184***	-0.039**	-0.546***	-0.072***	-0.077***	-0.026	0.019	-0.109***	0.279***	1

Appendix 2-3 Sample construction

This table summarises the sample construction procedure. We obtain information on RPE grants from the ISS Incentive Lab database from 2000 to 2021, which contains 20,244 grants from 507 unique firms. Similar to Gong et al., (2019) and Do et al. (2022), grants with distinct performance metrics or payout schemes are defined as unique. Our final sample has 2,613 observations.

Requirements	Number of remaining grants
Unique RPE grants for CEOs	20,244
Requiring stock return-based performance metric	8,338
Requiring RPE grant period of three years	5,649
Requiring non-missing self-selected peer groups	5,198
Requiring relative percentile or ordinal rank as performance targets	4,798
Requiring firms in non-financial service or utility industries	3,163
Require non-missing values for control variables	2,613

Figure 2-1 Coefficient estimates for tournament incentives over different penalty amounts

This figure shows coefficient estimates and corresponding statistical significance for incentive effects over different penalty amounts. The horizontal axis to the left shows the coefficient estimates based on equation (2-1) when the dependent variable is $\Delta Num_Violations_t$. We only consider the changes in violation numbers instead of changes in the penalty amount as we already controlled the changes in the penalty amount to a great extent by grouping violations according to the amount of penalty. The horizontal axis to the right shows the statistical significance in t-value of each coefficient, correspondingly. The vertical axis shows the range of the penalty amount (in $0000) of violations included in each group.

Chapter 3: Director Career Concern and Employee Mistreatment: Evidence from Wage Theft

3.1 Introduction

Wage theft occurs when firms do not adequately compensate their workers, such as paying workers less than the legal minimum wage, failing to pay non-exempt employees' time, and taking illegal deductions from wages. According to the US Department of Labour's report *Impact Fiscal Year 2024*, wage theft is still a pervasive problem facing workers across the US. Only in 2024, the Wage and Hour Division (WHD) successfully recovered over $273 million in back wages and damages for approximately 152,000 workers across the country. Among those violations, the Fair Labor Standards Act (FLSA) is the most frequently violated law (64.4%), followed by Migrant and Seasonal Agricultural Worker Protection Act (MSPA) and Family and Medical Leave Act (FMLA). While our society bears great economic harm from wage theft violations, addressing wage theft is crucial for promoting fairness and stability.

Wage theft could be preferable for employers to cut costs due to its low direct cost (e.g., low penalties and litigation cost). Many cases of wage theft go unreported or undetected because employees may fear retaliation, lack knowledge of their rights, or work in high-turnover industries where accountability is difficult to enforce. Even when caught, employers often face only minor fines or are required to repay stolen wages without punitive damages, which fails to serve as a strong deterrent. While other corporate misconduct being more observable, the benefit from conducting wage theft violations largely exceeds the expected cost. In this regard, studies have provided evidence that a firm's poor financial performance and

political risk are strong incentives for wage theft violations, as directors are facing top-down pressure and are likely to cut costs (Raghunandan, 2021; Chircop et al., 2022).

In this chapter, we explored the incentive of firms' engagement in wage theft from the perspective of directors' pressure in re-elections. Directors face significant pressures during re-elections, stemming from their responsibilities to shareholders and other stakeholders. To enhance the accountability of the board of directors, shareholders seek reform to empower their rights in director elections. We focus on the firm's shift from the traditional plurality voting (PV) system to a majority voting (MV) system in director elections, which is a transformation that significantly empowers shareholder's voting rights in director elections. Specifically, under the MV standard, directors must receive the majority of "for" notes from shareholders to secure their seats, while a director could easily keep her seat with plurality votes under the PV system. Starting from 2004, shareholder activists began to propose the adoption of a majority voting standard under rule 14a-8, and since the Delaware legislature change in 2006, 11 states have enacted MV legislations in the state corporate law for electing the board of directors (Ertimur et al., 2015; Choi et al., 2016).

The increased threat of losing the re-election may lead to the firm's action to change the election outcome. For example, firms might be more motivated to behave myopically and boost financial performance to show their accountability, such as conducting short-termism behaviours like earnings management, reducing innovation investment, or cutting costs by reducing investment in corporate social responsibility (CSR) activities (Chemmanur and Tian, 2018; Wu et al., 2022; Hsu

et al., 2024; Li and Wang, 2024). In this chapter, we seek to find answers whether firms are incentivised to commit wage theft violations to boost performance.

To address the research question, we rely on a difference-in-differences regression method for the staggered enactments of MV legislation at the state level, which is a quasi-natural experiment and exogenous shock to directors' job security. We use data on wage theft from the WHISARD database, which is provided by the US Department of Labour's Wage and Hour Division. It contains detailed information about investigations and enforcement activities related to labour law compliance. We first examine whether the increase of directors' pressure in re-election leads to an increase in the firm's engagement in wage theft. We find that there's a significant increase in wage theft violations for firms in treated states after the MV legislation, which is in line with Becker's (1968) model of crime: a firm's likelihood of committing violations increases when the expected benefits exceed the associated costs.

Secondly, we conduct robustness tests by adjusting the sample size and components. Since 67% of the firms in our sample are incorporated in Delaware, we therefore exclude firms incorporated in Delaware and run the regression again while controlling the potential local spillover effect. To consider the potential effect of other misconduct, we then extend the sample to include firms with at least one observation in the Violation Tracker database, which is produced by the Corporate Research Project of Good Jobs First. The database records 557,000 civil and criminal cases from more than 400 agencies since 2000 and covers various types of corporate misconduct as well as wage and hour violations. Additionally, we also exclude alternative explanations by controlling managerial incentives such as the

CEO's sensitivity to stock price volatility (Vega) and stock price (Delta). All results with adjusted samples are robust to our previous findings.

Next, we conduct the cross-sectional analyses to test the incentive of a firm's wage theft after MV legislation. We first consider whether incentives from a firm's performance pressure play a role in motivating wage theft. We consider both the pressure from firm's meet-or-beat analyst forecast and the firm's financial constraints, and we find that as the management faces increased pressure after the changes in MV legislation, they are motivated to boost short-term performance by committing wage theft violations, especially when they are meet-or-beat firms or financially constrained firms. We then consider whether pressure from the labour market could also affect a firm's engagement in wage theft after MV legislation. We consider labour mobility and labour unionisation at the industry level to measure the pressure from labour market, and we find that firms are restrained from committing wage theft violations when labour mobility is higher, or unionisation is stronger.

Additionally, we also consider the role of corporate culture in the effect of MV legislation on wage theft, as corporate culture has direct impacts on operational efficiency, risk-taking, earnings management, and executive compensation design. Following Li et al. (2021), firms with a strong corporate culture show pronounced benefits during adverse times, specifically, a higher score in 'teamwork' is positively related with high employee involvement in strategic decisions and represents a culture of compliance and ethical behaviour. In our study, we find similar results that firms with higher scores in 'teamwork' are more restrained in committing labour violations, under the increased pressure of a re-election.

This chapter makes contributions in the following three aspects. Firstly, we find that the increased pressure in director re-elections could unintendedly bring negative effects to a firm's long-term performance, by incentivising the managements' short-termism behaviours. In this regard, we complement studies on the role of director re-elections. Literature has shown that one important role of director election is to influence strategic decisions and improve board accountability (Cai and Garner, 2009; Choi et al., 2016). And while the election brings positive effects to the firm, it does not necessarily improve the firm's value (Ertimur et al., 2018). Studies have provided evidence of the negative effect that the re-election's pressure on the board of directors leads to myopic behaviours such as reduced innovation and CSR activities (Hsu et al., 2023; Li and Wang, 2024). Our study provides a new insight that the re-election' pressure could also lead to an increase of firm's engagement in wage theft violations, as the management is more likely to be motivated to boost performance after the sudden increase in job security.

Second, our study provides novel evidence on the influencing factors of a firm's employee mistreatment, specifically, wage theft. While employee mistreatments occur within the context of employer-employee relationships and are governed by specific legal, ethical, and organisational frameworks to protect workers, the management would still be motivated to commit violations and bring harm to other stakeholders' benefits in order to please shareholders and keep their seats in the board. Evidence has shown that employee mistreatment or workplace misconduct, in general, happens when firms' risk-taking is increased after the implementation of SFAS 123R (Chircop et al., 2020), when firms under pressure just meet or beat earnings targets (Raghunandan, 2021), or under increased political uncertainty (Chircop et al., 2024). Our study focuses on the pressure coming from

directors' re-election, which brings novel insight that when the management faces direct uncertainty of losing their seats, they are motivated to engage in wage theft violations to improve performance and prove their accountability.

Finally, we contribute to the literature examining incentives to corporate misconduct. Existing literature has shown that firms are more likely to be incentivised to commit violations when they are facing performance pressure, such as situations when there is a strengthened top-down monitoring (Heese and Pérez-Cavazos, 2020), the market becomes more competitive (Thanassoulis, 2023), or there is an increased exposure on social media (Heese and Pacelli, 2024). In line with the external influencing factors for firms' performance pressure, our study focuses on the management's direct career concern from board re-elections, and we provide new evidence that the strengthened shareholder voting power also positively related with greater performance pressure, and as a consequence, firms would tend to commit more violations to boost short-term performance.

The remainder of this chapter is structured as follows: Section 2 reviews the related literature, theoretical analyses and develops the hypothesis. Section 3 describes sample construction and Section 4 shows the empirical design. Section 5 discusses the main results and robustness tests. Section 6 explores cross-sectional heterogeneity in the relation between MV legislation and a firm's wage theft violations. Section 7 concludes.

3.2 Literature review and hypothesis development

3.2.1. Director election

3.2.1.1 Institutional background of director elections

Discussion on elections of the board of directors has always been controversial, while the shareholder activists try to advocate for more voting rights in deciding the board of directors, some others argue that shareholders' unfair advantages are harming the firm's long-term benefits. *The New York Times* posted a series of reports regarding Hewlett-Packard's (HP) board elections in 2013, arguing that 'shareholders in H.P. still couldn't muster a majority against even a single board candidate' (Stewart, 2013), and the large shareholders are to blame for prioritising their self-interest by agreeing on the management's recommendation of nomination 100%. In H.P.'s case, plurality voting rules, which used to be the most popular voting rules in the elections, are also blamed for being 'Sham Democracy' as most directors could keep their seats, and they will be elected 'even with a single yes vote'.

Director elections are held every year during the annual meeting. In general, all directors will be elected during the meeting; however, if the company has a staggered (classified) board of directors, then only a fraction of directors will be elected for the year. Shareholders have mainly two ways to nominate the board of directors: one is through proxy access, which means all participating shareholders could nominate directors on the proxy ballot; the other way is through proxy contest, which is a hostile effort to ask for replacing board members via soliciting votes. No matter which way will be used for the election, firms are asked to disclose related information on the DEF 14A proxy statement with the SEC.

During the voting, shareholders could cast 'for', 'withhold', and 'against' for nominated directors. Under the traditional voting standard-plurality voting, candidates who are able to collect the most 'for' votes would win the election, even if the nominated director does not obtain more than half of all shareholders' votes.

However, under the majority voting rules, nominees can only win the election if they collect the 'for' votes from the majority of the shareholders. For example, one candidate who collects 5 'for' votes out of 15 voters and has the most 'for' votes than other participants will win the seat on the board under plurality voting rules, but they will fail the election under the majority voting rules. The results of the election will be reported on the Form 8K with the SEC.

During the post-election period, under plurality voting rules, a director will still stay on the board unless they withdraw voluntarily, or a new successor is elected. However, under majority voting rules, directors who fail the election will need to submit a tender resignation. They might still stay in the board for continuity, or the board may accept or reject the resignation after interviews or provide them a replacement. Institutional advisors such as Institutional Shareholder Services (ISS) will collect information from the election and post-election polices and provide voting recommendations and proxy voting guidelines as a measurement of the corporate governance environment.

3.2.1.2 Director election and majority voting legislation

The board of directors plays an important role in corporate governance and operates in the best interests of shareholders and stakeholders (Fama and Jensen, 1983). However, directors are not always accountable. The agency problem between directors and shareholders stems from potential misalignment of interests, where directors may prioritize personal benefits, such as excessive compensation or entrenchment strategies, over shareholder wealth maximisation. Simultaneously, directors face competing obligations to other stakeholders, such as employees, creditors, and the broader community, whose interests may conflict with those of

shareholders (Forbes and Milliken, 1999). To make corporate managers more accountable to shareholders, Brochet and Srinivasan (2014) suggest that there are two publicly visible means for holding directors accountable for shareholders' benefits: they can sue directors in proxy contests, or they can vote against director re-election in uncontested polls.

A proxy contest occurs when a group of active shareholders tries to persuade other shareholders to vote for their proposed directors through a third-party solicitor, typically due to dissatisfaction with current management or strategic direction. In contrast, an uncontested election is a standard corporate voting process where board nominees face no opposition. However, while proxy contests might have a stronger effect in replacing directors, they are time-consuming and require more resources, which explains why the majority of director re-elections are uncontested (Cai et al., 2009). Harris (2010) provides further evidence that there are only on average 36 proxy contests from the year 1999 to 2008.

If shareholders choose to use uncontested elections, how could their votes link to directors' elections? In uncontested elections, shareholders' votes are typically linked to directors' elections through voting systems established in the corporate bylaws, most commonly either plurality voting (PV) or majority voting (MV) systems. Under this system, a director only needs to receive more votes 'for' than any other nominee, or a single affirmative vote if there are no competing candidates. In companies with a majority voting standard, a director must receive a majority of votes cast (more 'for' votes than 'against' or 'withheld') to keep their seats on the board or to be elected. Choi et al. (2016) thoroughly discuss the difference between PV rules and MV rules. In their argument, under both voting standards, a failure to be elected does not necessarily mean the nominee will be removed immediately, as

they are held over by shareholders after the election. In this case, PV rules in uncontested elections are comparatively meaningless. Thus, by adopting MV rules, shareholders are empowered to cast more effective votes in director elections.

If this is the case for each firm, what may cause firms to adopt different voting rules? Firstly, there might be selection bias in the analysis of a firm's voluntary adoption of MV standards. Firms with good performance are more likely to have good governance structures, and thus more prone to adopt MV standards. Secondly, adopting MV standards does not necessarily improve firm value in the long term. Cai et al. (2013) provide evidence on the efficacy of adopting MV standards and find that firms have lower ROA and stock return after adopting MV standards, and they claim that the adoption of MV standards is more like a 'paper tiger' without significant improvements. Thirdly, whether firms adopt MV standards also depends on the purpose of director elections. Choi et al. (2016) argue that if the shareholders do not wish to change board composition but to induce strategic behaviours, PV standards are easier and less costly to implement.

Moreover, even though the likelihood of implementation of MV standards has been increasing largely from 18% in 1997 to over 60% in 2001 (Ertimur et al., 2010), there is a major constraint on the implementation of MV rules. The adoption of the MV standard is constrained by the directors' authority to amend or repeal bylaws under the Delaware General Corporation Law (DGCL) and Model Business Corporation Act (MBCA), which influence many state laws. While shareholders can initiate bylaw amendments without prior board approval, unlike amendments to the articles of incorporation, the DGCL limits shareholders' effective control over bylaws, and the MBCA permits directors to amend them.

However, beginning in 2006, both DGCL and MBCA entitle shareholders to the legal right to modify the rules governing director elections by amending a company's bylaws. Additionally, once shareholders make such changes, the board of directors is not allowed to unilaterally alter or repeal those amendments. This provision ensures that shareholders retain control over specific governance decisions related to director elections, limiting the board's ability to override their decisions. Since then, 10 more states have followed this trend and promoted this binding for director elections. While Delaware, California, and Florida adopted the resolution in 2006, New Hampshire adopted it most recently in 2013.

Interestingly, while the staggered legislative changes make it easier and more appealing for shareholders to push for majority voting (MV) rules by amending bylaws, managers often pre-emptively adopt MV rules through governance guidelines. Unlike bylaw amendments, which typically require shareholder approval, governance guidelines can be implemented unilaterally by managers without shareholder involvement. This allows managers to 'lock in' the changes, retaining greater control over the process and limiting the extent of legal influence shareholders can exert on these governance decisions (Cuñat et al., 2021). In line with their findings, studies find that the staggered enactment of MV legislation also leads to negative changes in corporate policies, such as reduced corporate innovation (Hsu et al., 2023), environmental investment measured as ASSET4 Environmental z-Score (Dyck et al., 2023) and CSR investments (Li and Wang, 2024).

3.2.2. Shareholder empowerment

The adoption of majority voting rules represents a shift of power allocation from the board of directors to shareholders. The shift here is commonly seen as an outcome of shareholder empowerment. Shareholder empowerment could also be implemented directly via shareholders' participation in corporate decisions or advisory proposals.

Why do shareholders need to be empowered? According to Jensen & Meckling (1976), shareholders' monitoring towards the management strongly mitigates the agency cost, and the improvement in voting rights, board oversight, and legal protections will greatly empower shareholders' discipline. Bebchuk (2005) discusses and compares the cost between 'board control' and letting shareholders decide 'the-rules-of-the-game', and they argue that empowering shareholders greatly helps to relieve the cost of board control. Specifically, they suggest that it should be easier for shareholders to replace the incumbent board of directors, thereby improving the governance environment and better aligning managers' interests with shareholders.

Because of the increasing need to empower shareholders, shareholder activism becomes more and more prevalent (Gillan and Starks, 2000; Greenwood and Schor, 2009). The key feature of shareholder activism is to push poorly performing management to improve performance and enhance shareholder value. David et al. (2001) provide evidence that institutional investors' activism is positively associated with a firm's R&D investments, to enhance firm value in the future. Thomas and Cotter (2007) find that among 6 types of shareholders' proposals, corporate governance proposals attract the most of in favour cast, and the votes affect the management's reaction and bring positive market returns. Reid and Toffel (2009) argue that environmental shareholder proposal leads to an increase in a

firm's social movement, hereafter, the firm's likelihood of participating in Carbon Disclosure Project. Ertimur et al. (2010) provide direct evidence that shareholder activism improves corporate governance, as boards of directors are more inclined to adopt non-binding majority voting rules in response to shareholder proposals.

However, follow-up studies argue that shareholder empowerment is not always a good thing. Bratton and Wachter (2010) provide evidence that empowering shareholders could increase shareholder-stakeholder agency problems, as managers are incentivised to boost short-term performance at the expense of long-term benefits and innovation. Additionally, the empowerment would also amplify the interest conflicts between shareholders, as long-term holders value sustainable development while short-term holders are self-interested and prefer an inflated price. Hadani et al. (2011) find that shareholder activism, proxied by the largest institutional investor's proposals, significantly increases a firm's earnings management, due to the increased reputation threats to the management to have a better financial performance. Apart from the firm's financial performance, David et al. (2007) provide evidence that shareholder activism leads to worse CSR performance, because the performance pressure for the managers pushes them to diversify investment to other financially beneficial policies.

The debate that self-interested shareholders might bring harm to other stakeholders is also consistent with the stakeholder theory from Freeman (1984), which suggests that the company should value the benefits of all stakeholders equally instead of only focusing on shareholders. Donaldson and Preston (1985) then further discuss the dynamics between shareholders and other stakeholders, and they suggest that stakeholders are more independent of financial consequences and take on more moral weight, consequently. Hillman and Keim (2001) then

empirically test this view and provide evidence that stakeholder management is positively related to shareholder value; however, when participating in social issues measured by corporate social performance from the KLD database, shareholder values are decreasing.

Recent studies built on the shareholder primacy view and stakeholder theory focus on whether and how firms' decisions on corporate policies are affected. Karpoff (2021) argue that shareholder-centred governance is more efficient, as firms are more cautious with financial misconduct as they always come with large fines and reputation cost, which makes the fraud unprofitable and motivate efficient decisions on corporate policies. Contrarily, stakeholders' benefits are mostly internalised based on contracts, and stakeholders have conflicting demands, which makes the potential gain or loss less clear. A multi-dimensional literature review from Huang (2022) emphasises stakeholder theory in explaining why firms invest in more ESG activities and finds that firms taking on ESG activities is a result of balancing interests among key stakeholders. Opposite to the shareholder primacy view, they argue that stakeholder management significantly helps align business development with societal benefits. However, emphasising shareholder power could also be problematic considering board structure. The most recent discussion from Donelson et al. (2025) examines that board structure strongly affects the monitoring and advising quality in controlled firms, and they point out that stronger shareholder voting rights, especially in director elections, would neutralises independence requirements and associated with lower firm performance due to change of corporate policies, such as increased underinvestment.

3.2.3 Wage theft violations

As mentioned in Heese (2024), with the increasing focus on firms' Environmental, Social, and Governance (ESG) performance, more and more scholars conduct research on the influencing factors of firms' decisions in committing non-financial misconduct, which are violations mainly against other stakeholders' benefits than shareholders', including customer, competitor, employee, etc. While employee-related violation tends to have small penalty amount and only account for 0.19%[12] of the overall penalties for non-financial violations, it receives more than 38% of media attention from 2000 to 2021. The asymmetric power relation between the labour market and the business activities leads to an increasing erosion of employee rights, especially wage theft violations, which is called 'nationwide and costly epidemic' in the report from Economic Policy Institute (EPI) (Mangundayao et al., 2021).

Wage theft, as defined by the U.S. Department of Labour, occurs when an employer fails to pay workers the full wages or benefits that they are legally entitled to. This can manifest in various forms, including non-payment of overtime, denial of minimum wage, misclassification of employees as independent contractors, unlawful deductions from pay, or requiring employees to work 'off the clock"]'. Such practices violate the Fair Labour Standards Act (FLSA) and undermine the fundamental principles of fair labour.

WHD collects wage and hour complaints from individual employees and also from employers, and it then conducts on-site interviews with employers to explain the procedure and documents required to initiate the investigation. Apart from the scheduled on-site visits, WHD also conducts annual audits towards employers

[12] Calculated as 106/(31,176+3,246+106+1,522+20,579) = 0.00187.

which contributes to a small part of investigations. Once wage and theft violations were detected during the investigation, employers will be required to pay back the employees as well as pay for the civil money penalties against specific acts[13].

Wage theft violations present two unique features regarding enforcement challenges: First, violation detection heavily relies on employees' active reporting, yet many workers, especially low-wage or vulnerable employees, lack awareness of their rights, making whistleblowing more unlikely. Second, violations are often subtle and difficult for employees to detect when they occur. These factors contribute to widespread under-reporting and make wage theft a persistently under-enforced form of corporate misconduct. Additionally, firms are likely to commit wage theft violations also because the penalties are minimal compared to other major financial violations, and they are often limited to repaying stolen wages, making non-compliance a low-cost risk for employers. While lengthy legal processes and economic incentives in industries with tight margins further reduce the deterrents.

To manage investigations on wage theft violations and annually random audits, the Wage and Hour Division (WHD) employs the WHISARD system, which integrates functionalities for tracking cases, issuing certificates, and managing penalties. WHISARD ensures compliance with labour standards, particularly in low-wage industries, by processing back wages and deterring violations. It collects limited Personally Identifiable Information (PII), primarily from individuals and employers involved in investigations. WHISARD database provides thorough

[13] Details of Wage and Hour Division's investigation operation handbook could be find at: https://www.dol.gov/agencies/whd/field-operations-handbook.

records of the investigations conducted, such as the number of employees involved, the amount of back-wage collection, and the specific type of each violation (minimum wage, overtime pay, child labour, or other FLSA violations).

The consequences of wage theft far extend the underpayment of employees, the violations against employee protection laws also intensify the instability of firm's financial conditions and pay inequality, and harm firm's productivity in the long term. Fine (2017) find that wage theft directly leads to the increase in poverty and injury rates especially for low-wage employees, and the lack of trust in government and law would as a result increase the instability of overall disruption of public services. Another study from Prassl (2018) focus on the consequences of the employee underpayment issues under the background of the enormous growth of gig economy, and they find that tech firms like Uber or Deliveroo intend to bypass the employee protection law by misclassifying drivers as independent contractors to avoid future legal enforcements. They argue that the violation related to employee payment is not only individual injustice but rather a core risk of the business model and brings uncertainly to social trust.

Scholars have increasingly recognised the unique features of wage theft, and in response, a growing number of studies start to explore the incentives that drive firms to commit wage theft violations. Study from Weil (2011) find that lower-tier employers have higher tendency to commit wage violations as the main way to cut cost is to through labour. The core argument of their research is that employment fissuring positively relates to more wage and hour violations, particularly the provisions of Fair Labour Standards Act (FLSA), as outsourcing employment leads to less monitor from the firm and more competitive contracting between external

agencies. Especially in lead firms who tend to shift employment to third parties while investing heavily in brand reputation.

On firm level, Raghunandan (2021) examine whether firm's financial situation would be the strong drive of wage theft, and he finds that firms have a higher likelihood of wage theft when they are pressured to meet-or-beat financial analysts' forecast, while controlling for personal incentives. Interestingly, firms are found to engage less in financial misconduct if wage theft is undetected, but they would shift towards more acts of financial misconduct once firms are caught in wage theft violations. Similarly, Nduakoh et al. (2024) find that firms tend to engage less in wage theft when facing increasing climate risk, as firms are incentivised to value human capital and improve employee treatment. Two recent works from Chircop et al. also address the large spread of wage theft violations. They find that firms that contract with government bodies tend to engage in fewer wage theft violations due to increased scrutiny, especially those contractors who are granted subsidies (Chircop et al., 2024b). And they find that firms tend to engage in more wage theft violations when facing political risks, as they are incentivised to increase cash holdings amid uncertainty (Chircop et al., 2024a).

3.2.4 Hypothesis development

Boards of directors play a major role in both advising and monitoring managers. Shareholders, on the other hand, have the power to influence board composition by electing the board of directors (Jensen, 1993). While shareholders' power in nominating new boards could be weakened by existing board members who have ties with the CEO nomination committee (Shivdasani and Yermack, 1999), lots of activist efforts were made to empower shareholder rights, such as

shareholder proposals, private negotiations, hedge fund activism, and proxy contests. While shareholder empowerment strengthens corporate governance and improves firm performance, empowering shareholders may not mitigate managerial self-serving but rather introduce the challenge of shareholder self-interest, by compelling directors to align their interests more closely with shareholders (Lan and Heracleous, 2010; Denes et al., 2017).

As a step towards stronger shareholder rights, the enactment of Majority Voting legislation in director elections brings both direct and indirect effects on directors. Even though losing the election does not necessarily mean that the directors are leaving the board immediately (Cai et al., 2013), this shift from PV rules to MV rules introduces self-interest incentives for shareholders by pressuring directors to adopt a short-term focus to secure their board positions. Against the 'paper tiger' view of MV rules adoption, Fos and Tsoutsoura (2014) argue that shareholders brought strong discipline to directors under MV rules, but the requirement for board accountability also causes great career cost for directors who failed the election. The increased concern of losing their job incentivises directors to be more responsive to shareholders' interests and present inflated earnings performance (Choi et al., 2016; Wu et al., 2022).

While the bylaw amendment enhances accountability and benefits shareholders, however, the Business Roundtable (2011) cautioned that the rule would favour certain shareholders at the cost of other stakeholders. David et al. (2017) argue that empowering shareholder rights does not contribute to a firm's overall benefit in the long term. Rather than motivating firms to enhance corporate social performance, shareholder proposals may result in the diversion of resources from beneficial investments towards political activities, which managers use to

resist external pressures and maintain their discretion. Under performance pressure, board of directors are facing increased self-drive incentives (Adams and Ferreira, 2007), such as to decrease the cost in corporate social performance, to increase reported performance, and to meet earnings benchmarks, in attempts to keep their jobs (Christensen, 2016; Chu et al., 2019; Awaysheh et al., 2020; Li and Wang, 2024). Hsu et al. (2023) also provide evidence that firms are more conservative in long-term innovative projects when facing increased concern in job insecurity.

Specifically, one way in which a firm can immediately increase financial performance is by lowering employee costs. For example, executives may try to cut costs in the short term by pressuring the Human Resource department to hire employees who are less likely to notice illegal treatment or less willing to report unethical behaviours. This allows the firm to save labour costs and boost financial performance. Unlike fixed costs or long-term contracts, labour costs can be modified in the short term to provide immediate financial relief. For example, cutting capital expenditures (CAPEX) like machinery, real estate, or technology projects often involve contractual obligations and long-term commitments, making it costly and difficult to reverse. In contrast, reducing minimum employee payments and overtime payments are relatively straightforward, with higher difficulties to be identified and lower penalty amounts. Scholars have found that when managers are facing increased pressure to meet earnings expectations, they have higher incentives to cut costs in workplace safety, leading to higher injury rates (Caskey and Ozel, 2017). More recent paper from Raghunandan (2021) provides evidence that firms are incentivised to commit more wage theft violations in response to the increased pressure of meet-or-beat analysts' forecast. While Chircop et al. (2022) find that by lowering employee costs and committing more wage theft violations,

firms could obtain immediate benefits by increasing their cash holdings, thus improving financial flexibility when facing political uncertainty.

On the other hand, there are also reasons why our assumptions might not hold. As mentioned in Siegel (2011), directors who failed in the election would not be removed from the board immediately due to the 'hold-over rule', and the director would stay in the office until they would resign from the position, or the successor is successfully elected. Moreover, the directors who failed the election would still need to fill the vacancy on board as required by law[14]. In this regard, directors are facing less pressure in improving firm performance, even under the MV rules (Cai et al., 2013). However, even if the direct effect of failing an election seemed weak for directors, the influence of losing the election would be enhanced by proxy advisory firms, such as ISS, which provide suggestions and recommendation to institutional investors on potential nominee of board of directors. For example, firms would proactively adjust board composition by removing or not renominating directors who are likely to receive negative recommendations, and they would also adjust board structure and governance policies to align with proxy advisor recommendations (Choi et al., 2008).

Given the above, we expect that the enactment of MV legislation increases the career concern for directors and thus incentivises the management to boost short-term performance by committing more wage theft violations. Accordingly, we hypothesise as follows:

[14] See 8 Delaware Code § 223.

H2: The enactment of majority voting rules has positive effect on a firm's wage theft violations.

3.3 Data source and sample construction

Firstly, for wage theft related data, we collect data on wage theft violations from the Wage and Hour Investigative Support and Reporting Database (WHISARD), which contains the Wage and Hour Division's (WHD) investigations into potential violations of federal labour laws, including Minimum Wage and Overtime, Child Labour Protections, Family and Medical Leave, etc. The dataset specifies whether violations were identified and includes details such as the back wage amount, the number of employees owed back wages, and the civil money penalties imposed[15]. Next, as WHD addresses violations that occur at individual locations, subsidiaries, or operational segments of a firm, we then match their parent firm's name using the parent-subsidiary linking table from the Violation Tracker database (Chircop et al., 2022). Specifically, we use the variable "cmp_assd" to construct our measurement of penalty amount $Penalty_{i,t}$, while the variable "case_violtn_cnt" indicates the total number of case violations, which could be zero if investigations have been initiated but no violations have been detected.. Before aggregating the wage theft violations into the firm-year level, we follow Raghunandan (2021) and distribute the total penalty for each violation equally across the years during which the violation occurred, and there are 7,955 observations left.

We collect firm-year level data from the Compustat database from 2001 to 2022, excluding firms from regulated industries (sic code between 4900-4999),

[15] Data available at: https://enforcedata.dol.gov/views/data_summary.php.

financial industries (sic code between 6000-6500), and firms with a negative book equity value (Hsu et al., 2023). Then we merge this part of the sample with data on the firm's historical state of incorporation[16] and drop observations with missing values. Next, for states that enacted the legislation in the same year, we create a dataset by assigning firms incorporated in these enactment states to the treated group and those in states where the legislation was never enacted to the control group. Each database represents a cohort. Within each cohort, we match treatment firms with up to three matched control firms that belong to the same three-digit SIC industry and size decile, and that are closest to the treated firm's size and profitability in the year prior to the adoption of MV legislation (Li and Wang, 2024). We are using a five-year event window and include only firms for which we observe at least one fiscal year before and at least one fiscal year after the event year in each cohort. We then combine all database cohorts to form our sample for this part, which contains 9,833 observations from 2001 to 2016.

Next, we merge the above two samples and construct our final sample. In Appendix 3-1, we report the sample selection procedure in detail, our final sample contains 1,731 observations from 426 unique firms from 2001 to 2016. We list the descriptive statistics of the main variables in our analysis in Table 3-1. It shows that nearly 56.1% of observations of our sample are from treated states that have enacted MV legislation, which is similar to Hsu et al. (2023).

We mainly focus on two aspects of wage theft violations: one is whether the firm commits wage theft violation and the corresponding penalty amount, and the

[16] Firm's historical incorporation state data is available at: https://corpgov.law.harvard.edu/2020/01/02/a-new-dataset-of-historical-states-of-incorporation-of-u-s-stocks-1994-2019/.

other is the back-wage for each violation. We first generate an indicator variable $Wage_thef_{i,t}$, which equals 1 if firms were caught for wage theft violations in the WHISARD database. Notably, the 'zeros' of $Wage_theft_{i,t}$ in the sample are 'true zeros' because we only keep the investigations that could merge with the firm-year level sample, meaning they did not commit any wage theft violation in the fiscal year after the investigation from WHD.

However, as mentioned in Raghunandan (2021), the indicator may fail to accurately represent the firm's overall behaviour or intentions, as a one-off violation due to an administrative error might result in the same 'wage theft' indicator as consistent underpayment across multiple locations or over a long period. In this regard, we introduce $Penalties_{i,t}$ to measure the severity of each violation. $Penalties_{i,t}$ is defined as the natural logarithm of wage theft penalties (WHISARD item cmp_assd) plus 1. Following Chircop et al. (2024), we further consider using the back pay collection of each violation as another measurement to account for the firm's engagement in wage theft violations. $Backwage_{i,t}$ is defined as the natural logarithm agreed to be paid (WHISARD item bw_atp_amt).

For the non-indicator variables, we follow Raghunandan (2021) to evenly spread the amount during the start and end years of violation before aggregating them on firm-year level. For instance, if a firm committed wage theft in both 2009 and 2010 and was ultimately required to pay $20,000 in back wages and civil penalties, the back-wage collection allocated to 2009 and 2010 will be $10,000 ($20,000 ÷ 2). All description descriptives of the variables are reported in Table 3-1.

[Insert Table 3-1 here]

3.4 Empirical design

In our study, firms take staggered adoption of MV legislation from 2006 to 2013, thus, our sample contains multiple treatment groups. One major concern of the analysis in the staggered sample is that the same controls would appear in multiple sub-experiments and cause biased estimation of parameters (Wing, 2024). Following Baker et al. (2022), we adopt the stacked Difference-in-Differences regression method in our analysis. We first create separate datasets for each group of firms in states that experienced treatment in the same year, then we match each treatment firm with up to three control firms following the matching rule in Li and Wang (2024). The goal is to create clean controls within each event window to get unbiased estimations (Callaway et al., 2021). Finally, we stack the cohorts together to form our final sample for analysis. We conduct baseline analysis using the following regression model:

$$Wage_theft_{i,t} = \beta_0 + \beta_1 Post \times Treat + \beta_2 Controls + \gamma_i + \theta_t + \varepsilon_{i,t} \quad (3\text{-}1)$$

where i indexes firm, and t indexes fiscal year. $Wage_theft_{i,t}$ is measured as $Wage_theft_{i,t}$, $Penalties_{i,t}$, or $Backwage_{i,t}$. Our main independent variable is $Post \times Treat$, which is an interaction term of *Treat* and *Post*. *Treat* is a dummy variable that equals 1 if the state of incorporation of a firm is one of the states which enact majority voting legislations, and 0 otherwise. Post is a dummy variable that represents the pre- or post-implementation of the MV standard. The coefficient β_1 represents the difference in the time-series changes in firms' engagement in wage theft violations between the treatment firms and control firms attributable to the MV legislation. Notably, following Cohen et al. (2023), we conduct the analyses

using OLS model for all three dependent variables, including where wage theft violation is an indicator variable.

Controls are a set of independent variables defined in Appendix 3-1. Similar with recent studies on corporate misconduct (Raghunandan 2021; Chircop et al., 2022; Heese and Pacelli, 2024), we include size, leverage, market-to-book value, and ROA to control the effect of a firm's performance. We also include the firm's cash holding and dividend to control for the firm's financing dependence. We controlled two-way fixed effects in the stacked Difference-in-Differences (DiD) regression under MV legislation following Wu et al. (2022). γ_i Represents firm-by-cohort fixed effect which controls for time-invariant firm characteristics within the treatment cohort, while θ_t represents year-by-cohort fixed effect which controls for time effects across stacked samples.

3.5 Main results

3.5.1 Baseline regression

We begin our analysis by testing whether the adoption of MV legislation improves a firm's engagement in wage theft violations using equation (3-1). Table 3-2 presents the baseline regression results. Following Baker et al. (2022), we first run the regression without any control variables in our clean "2×2" dataset. We show the results in column (1), (2), and (3) while our dependent variables are the indicator variable of wage theft $Wage_theft_{i,t}$., the penalty amount of wage theft violations $Penalties_{i,t}$, and the back-wage collection of each violation $Backwage_{i,t}$.

We find the coefficients on MV enactment are statistically significant at the 1% level under all three dependent variables. The findings suggest that, on average, the overall possibility for firms to commit wage theft violations increases by 19.4% for

treated firms after MV legislation, and the overall penalty amount (back-wage collection) for a firm's wage theft violations of the year increase by 1.38[17] times (3.83[18] times) for treated firms following the enactment. The findings suggest that, on average, the overall wage theft violation increases significantly for treated firms after the enactment of MV legislation. We next run the regression again with control variables and post the results in columns (3), (4), and (5). We can see that the enactment of MV legislation statistically significantly increases firms' propensity to commit wage theft violations by 17.8%, increases the firm's penalty amount on wage theft violations by 1.28[19] times, and increases the firm's back-wage collection by 3.58[20] times. Our results are comparable with the latest two working papers from Chircop et al. (2024a, 2024b) in wage theft violation studies. Notably, we construct the sample in this chapter by including only firms that have been investigated by WHD and violated wage-and-hour regulations, while the two studies extend the sample to include all firms that at least commit wage theft violation once during the whole sample period. As a result, zero values contribute to more than 50% of the observations in their sample and significantly decrease the magnitudes of the results. To compare the results under similar sample structure, we then construct a new sample in section 3.5.3.2 which also extend the sample and include firms that have at least commit wage theft violation once in the sample period. From the results in Table 3-4, we can see that the coefficient estimates are similar with the results from Chircop et al. (2024a) in the Panel B of Table 2: the increase in political risk is related to an increase of 16.1% in penalties and an increase of 11.9% in back-

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[17] Calculated as $(e^{0.868}-1) \times 100\%$.

[18] Calculated as $(e^{1.575}-1) \times 100\%$.

[19] Calculated as $(e^{0.824}-1) \times 100\%$.

[20] Calculated as $(e^{1.522}-1) \times 100\%$.

wage collection. We do not find statistically significant correlations between the firm's wage theft violations and our control variables, which is similar with Raghunandan (2021). The results of this section are listed in Table 3-2.

[Insert Table 3-2 here]

3.5.2 Validation of Difference-in-differences design

As part of the main analysis, here we conduct dynamic analysis to verify if the treated and control firms exhibit similar trends in committing wage theft violations before the enactment of MV legislation (parallel trend assumption). Following Wang and Li (2024), we generate six time indicators to represent the years before and after the implementation of MV standers in each state. We define *Before 3+* (*After 3+*) equals 1 if the current fiscal year is 3 years before (after) the MV legislation in the firm's incorporation state. Similarly, *Before 2* (*After 2*) equals 1 if the current year is 2 years before (after) the treatment year, and *Before 1* (*After 1*) equals 1 if the current year is one year before (after) the treatment year. We generate 'Year of MV' to represent if the current year is the same as the enactment of MV legislation. We use the year before the treatment year as the benchmark, and run the regression using equation (3-1) with the six indicator variables. We show the results in Table 3. The results show that the coefficients on *Before 3+* and *Before 2* are not significant in all columns, while the coefficients on *Year of MV*, *After 1*, *After 2*, and *After 3+* are significantly positive to wage theft measurements in all columns, meaning that the treated and control firms share a similar trend in committing wage theft violations before the MV legislation but exhibit different trend after the treatment. The results are reported in Table 3-3.

[Insert Table 3-3 here]

We show the coefficients of the six indicators and the corresponding 90% confidence intervals in Figure 3-1, where the dependent variables are $Wage_theft_{i,t}$, $Penalties_{i,t}$, and $Backwage_{i,t}$, correspondingly.

[Insert Figure 3-1 here]

3.5.3 Robustness test

We then conduct a series of tests in the following section to check the robustness of our results. First, we exclude firms incorporated in Delaware and create a new sample to test our analysis. Second, we examine the relationship between MV legislation and a firm's engagement in wage theft violations based on an extended sample from the Violation Tracker database. Third, we examine whether there are alternative explanations of the effect of MV legislation. Finally, we conduct a placebo test to check whether there is a significant correlation between the MV legislation and the firm's engagement in wage theft violations when we randomise the state and year of enactment. All the results for our robustness checks are shown in Table 3-4.

3.5.3.1 Excluding Firms from Delaware

Similar to the existing studies, 70.65% of our sample firms are incorporated in Delaware; the treatment effect in our analysis might be caused by firms incorporated in Delaware with headquarters elsewhere. Thus, we construct a new sample excluding firms originally incorporated in Delaware and run the regression again using equation (1). The results are shown in columns (1), (2), and (3) in Panel A of Table 3-4. The coefficients on $Treat \times Post$ are statistically significant in all columns, which means the effect of MV legislation is not solely attributed to firms incorporated from Delaware.

3.5.3.2 Alternative sample from Violation Tracker

As discussed by Chircop et al. (2024), wage theft violations could also be a complement or substitute for corporate strategies, which may cause a biased estimation of the effect of MV legislation. Thus, in this section, we construct a new sample with firms that commit at least one violation during the sample period. By doing so, we could mitigate the concern that wage theft violations are caused by specific firm-level characters, as all sample firms were incentivised to commit violations at least once. Different from the WHISARD database, the Violation Tracker database contains comprehensive data on other types of misconduct as well as violations recorded by the wage and hour division. In this regard, we first abstract firms with at least one violation during the sample period, and then aggregated the penalty amount of wage theft violation specifically on firm-year level. There are 5,045 unique parent firms between 2000 to 2016 after this selection. Then we merge the above firms with the Compustat database to obtain firm-year level data, and we find 1729 unique firms are matched with non-missing values, which is similar to the sample in Chircop et al. (2022).

Notably, according to Raghunandan (2021), WHD violations pertain to six main areas: (i) child labour; (ii) work visa violations; (iii) minimum wage violations; (iv) overtime pay, including potentially misclassifying employees to avoid having to pay them overtime; (v) compliance with wage requirements written into government contracts that may be higher than the prevailing minimum wage; and (vi) forcing employees to work 'off the clock' or denying them benefits. Thus, when we define wage theft violations using data from the Violation Tracker database, we define wage theft as encompassing areas **(iii)-(vi)** and retain WHD violation data

accordingly. All ‘zeros’ in the sample are ‘true zeros’, meaning that those firms do not have any wage theft violations recorded by WHD.

We run the baseline regression using equation (3-1) and report the results in columns (3), (4), and (5) in Panel A of Table 3-4. All coefficients on MV legislation stay significant, meaning that the effect of MV legislation on wage theft violations is not mitigated by other potential incentives that caused other types of violations.

3.5.3.3 Alternative explanations

As discussed by Chircop et al. (2025), a manager’s personal interest might also affect a firm’s decisions on corporate misconduct; therefore, we consider the effect of managerial incentives by controlling the sensitivity of a CEO’s wealth to changes in the firm’s stock price (*delta*) and stock price volatility (*vega*). We obtain the data on CEO *vega* and CEO *delta* from Coles et al. (2006) and run the regression with other control variables. We report the results in columns (1), (2), and (3) in Panel B of Table 3-4. The coefficients on CEO *vega* and CEO *delta* are insignificant in all columns, meaning that managerial risk-related decisions are not directly linked to the firm’s engagement in wage theft violations.

On the other side, board structure might also affect the relationship between MV legislation and wage theft, as firms that are highly responsive to shareholders are more likely to adopt majority voting standards (Choi et al., 2016). Following Hsu et al. (2023), we further control board size, board network, board independence, and board business in our analysis. We report the results in columns (4), (5), and (6) in Panel B of Table 3-4, and the results are consistent with our previous predictions.

[Insert Table 3-4 here]

3.5.3.4 Placebo test

Finally, we conduct a placebo test to examine whether the effect of MV legislation still exists when we randomly generate the treatment state and year for each sample firm. Specifically, we assign a random treatment year for each treated state and generate a new dummy variable *Post*, which equals 1 if the current fiscal year is after the randomly assigned treatment year, and 0 otherwise. We then re-run the baseline regression using equation (3-1) and repeat the process 500 times. We abstract the coefficient estimates of *Treat*×*Post* and then plot the distribution in Figure 3-2. The average of the pseudo coefficients from the simulations does not suggest a significant correlation between MV legislation and wage theft violations for the placebo-enacted firms.

[Insert Figure 3-2 here]

3.6 Cross-sectional analysis

In this section, we further explore cross-sectional variations in the relation between MV legislation and wage theft violation.

3.6.1 The effect of financial constraints

Firstly, we test whether the increased performance pressure would also rise the likelihood of firms' engagement in wage theft violations. Existing studies have shown that a firm's performance pressure is one of the main determinants of corporate misconduct. For example, firms which voluntarily disclose CSR reports tend to commit fewer violations because the process of reporting improves internal control and risk management, so that firms would be less likely to face high performance pressure during the term (Christensen, 2016). Chu et al. (2019) provide more direct evidence that firms' performance pressure from just meet-or-

beat financial analysts' earnings forecasts is linked to more earnings management activities and wage theft violations (Raghunandan, 2021).

We measure performance pressure from two aspects. Firstly, we consider the firm's meet-or-beat pressure following the definition in Caskey and Ozel (2017). The indicator variable *Suspect* represents if firms have meet-or-beat incentives, and it equals 1 if the firm meets or exceeds the consensus analyst forecast by between zero and two cents per share, and 0 otherwise. Approximately 18% of the sample observations meet or beat analysts' forecasts.Our main variable of interest in the regression is the interaction between *Treat*×*Post* and *Suspect*. We use a triple difference approach, and the coefficient on *Treat*×*Post*×*Suspect* represents the estimated effect. Following Olden and Møen (2022), we further generate and add the interaction of *Treat*×*Suspect* and the interaction of *Post*×*Suspect* into the regression using equation (3-1). Columns (1), (2), and (3) in Table 3-5 show the results of the effect of meet-or-beat incentives on the relation between MV legislation and wage theft violation. The estimated coefficients for both *Treat*×*Post* × *Suspect* and *Treat*×*Post* are significantly positive, meaning that when firms are facing performance pressure from financial analysts, they are more likely to be incentivised to engage in wage theft violations after the adoption of MV rules.

Secondly, we consider a firm's financial constraint as another measurement of performance pressure. Similar with Xu and Kim (2022) who examine the pressure of a firm's financial constraint and find that it is associated with an increase of firm's toxic emission. We infer that a firm's financial constraint would improve a firm's engagement in wage theft violations. We define a firm's financial constraint using text-based financial constraint measurement following Hoberg and Maksimovic (2014). They conduct text analysis on the firm's Management's

Discussion and Analysis (MD&A) sections of 10-K filings and identify firms discussing liquidity challenges and potential delays in investment. Firms are then given scores on financial constraint according to the cosine similarities between their MD&A text and constrained firms identified through precise textual matches. We generate a dummy variable *High_FC,* which equals 1 if a firm's score on financial constraint is above the sample's median value, and 0 otherwise. Similar with the method mentioned above, we include interaction terms *Treat×Post×High_FC, Treat×High_FC, and Post×High_FC* in the regression and report the results in columns (4), (5), and (6). The coefficients on *Treat×Post×High_FC* are significantly positive in all columns, meaning that the effect of MV legislation on a firm's wage theft violation tend to be stronger when a firm is facing financing pressure.

Overall, the evidence in this section shows that firms are likely to commit more wage theft violations after the MV legislation if they are facing performance pressure.

[Insert Table 3-5 here]

3.6.2 The effect of employee bargaining power

In this section, we examine the influencing factors on the incentives of a firm's engagement in wage theft violations from the labour market. In the first set of analyses, we consider labour mobility. Labour mobility measures the ability and willingness of workers to move between different jobs, higher labour mobility represents higher bargaining powers of the employee, especially for high-skill firms (Sanati, 2024). Therefore, in our analysis, we assume that higher labour mobility would help reduce firms' wage theft violations by increasing labour leverage. Firms

would be more likely to be exposed for unethical behaviours if employees have more career options and are less afraid to speak out. Following Donangelo (2014)[21], we define labour mobility as aggregated occupation-level concentration, weighted by the wage expense associated with each occupation within an industry. The measurement represents the overall mobility of an industry's workforce, with higher values indicating greater mobility.

We then generate a dummy variable *High mobility* which equals 1 if the firm's labour mobility is above the sample median, and 0 otherwise. We interact *High mobility* with *Treat*, *Post*, and *Treat×Post*, and run the regression using equation (3-1), including those interaction terms. The regression results are reported in columns (1), (2), and (3) of Table 3-6. The coefficients on *Treat×Post×High mobility* are significantly negative, meaning that higher labour mobility mitigates the firm's incentives to commit wage theft violations after MV legislation.

In the second set of analyses, we consider labour unionisation. Similar with labour mobility, labour unions create a collective voice that helps improve the bargaining power of employees and thus generate labour leverage. Studies have shown that unionised workers as powerful nonfinancial stakeholders could affect internal corporate governance structures through their bargaining power (Chen et al., 2012). They are more concerned about the firm's bankruptcy and reputation as it is closely linked to their personal interests and future income. Bova (2013) provides evidence on the other side of how the unionized labour force could affect the management's incentives to meet-or-beat financial analysts' earnings forecast. They find that by deliberately missing earnings targets, the management may aim

[21] Data available from 1990 to 2015.

to signal financial constraints, thereby gaining leverage in labour negotiations. This shows that under a higher level of labour unionisation, the management may prioritise strategic signalling over the short-term benefits of meeting or beating earnings forecasts to achieve longer-term advantages in labour negotiations. Additionally, strong unionisation also provides better protection to employees and reduces concerns about retaliation from employers.

Based on the above, we predict that higher unionisation levels help mitigate firms' incentives to commit wage theft violations, even if firms are under direct pressure after adopting MV standards. Following Hirsch and Macpherson (2003), we obtain labour unionisation data from the *Union Membership and Coverage Database*[22] and construct the variable *Strong Union*, which equals 1 if the percent of employed workers who are union members in a firm from one industry is above the value of sample median, and 0 otherwise. We then generate the interaction terms and add them to the regression as mentioned in the first set of analyses. We report the regression results in columns (4), (5), and (6). Coefficients on *Treat×Post×Strong Union* are all significantly positive, showing that labour unionisation helps to protect the rights of workers and decrease a firm's engagement in wage theft violations, when the directors are facing re-election pressure.

[Insert Table 3-6 here]

3.6.3 The effect of executive compensation incentives

In this section, we discuss whether executive compensation would affect the relation between MV legislation and wage theft violation. Early studies have shown

[22] Data available at www.unionstats.com.

that executive compensation greatly shape managerial decision-making by altering the potential gain from the contracts (Hartzell and Starks, 2003; Brick et al., 2006). While executive compensation was originally designed to align the interest of the management with the shareholders, more research papers focus on the dark side of executive compensation, and they show that executive tend to benefit from rent extracting under the compensation packages (Goergen and Renneboog, 2011). Consistent with the view of the 'dark side' of executive compensation, we assume that when executives' compensation is higher than the median value of the group, they are more likely to commit violations and pursue better performance.

We obtain data for executive compensation from Compustat's Execucomp database and the executive compensation is defined as the natural logarithm of the total compensation for the top five executives as reported in SEC filings. We then generate a dummy variable *High compensation* which equals 1 if the firm's total executive compensation is above the median value of the sample, and 0 otherwise. We then generate the interaction term *Trea×Post×High compensation, Treat ×High compensation, and Post×High compensation* and include them in the baseline regression. The results are shown in Table 3-8. The coefficients on *Treat×Post×High compensation* are significantly positive in all columns, which indicates that when directors are facing increasing job insecurity under high executive compensation, they are more motivated to improve performance, or they will have too much to lose.

[Insert Table 3-7 here]

3.6.4 The role of corporate culture

In this section, we further discuss the role of corporate culture in the connection between MV legislation and wage theft violation. Corporate culture is a significant determinant of a firm's ethical behaviour. As mentioned in Raghunandan (2021), firms with weak compliance cultures have a higher likelihood of engaging in wage theft violations when facing financial incentives. A recent paper from Zaman (2024) also provide evidence that corporate culture improves corporate governance by alleviating information asymmetry and thus help alleviate violations. But how does a strong corporate culture contribute to mitigate corporate misconduct? Generally, high standards in employee protection shows better employee treatment while create direct economic costs, such as the insurance cost and wage premiums (Caskey and Ozel, 2017). However, the allocation of resources aligns the interest between shareholder and stakeholders and thus mitigates a firm's incentives to harm stakeholders' interest by behaving myopically. A recent study from Haga et al. (2024) provides evidence based on this view that stronger corporate culture helps to improve employee well-beings and is associated with the decrease of illness and injuries in the workplace.

We obtained data in corporate culture from Li et al. (2021), which was defined based on textual analysis from earnings call transcripts. Using their corporate culture dictionary, corporate culture was scored based on five key aspects: *Innovation, Integrity, Quality, Respect,* and *Teamwork*. After comparing the keywords under each category, we choose to focus on corporate culture scores on *Teamwork* because it emphasises employee involvement the most, therefore it empowers workers to identify and challenge unethical practices.

The score of *Teamwork* is measured as the weighted frequency count of teamwork-related words in the Q&A section of earnings calls averaged over a 3-

year window. After obtaining the corporate culture score on *Teamwork*, we then generate a dummy variable *High teamwork*, which equals 1 if the firm's score on *Teamwork* is higher than the value of the sample median, and 0 otherwise. Our main variable of interest is the interaction term *Treat×Post×High teamwork*. We re-run the baseline regression using equation (3-1) together with the generated interaction terms *Treat×Post×High teamwork, Treat×High teamwork,* and *Post×High teamwork* The results are listed in Table 3-7. We find that all coefficients on *Treat×Post×High teamwork* are significantly negative, which means the strong culture of employee involvement empowers employees' rights and awareness of potential unethical treatments, thus mitigating the increase of firms' incentives to commit wage theft violations after MV legislation.

[Insert Table 3-8 here]

3.7 Conclusion

This chapter hypothesises and provides evidence that directors' re-election pressure increases employee mistreatment through wage theft violations. In our analysis, we introduce the staggered adoption of majority voting standards as an exogenous shock to shareholders' power in director elections. We find that when job uncertainty increases directly after the changes, the management is more likely to be motivated to improve short-term performance by engaging in more wage theft violations. We also find that on the one side, the cost-cutting strategy is more pronounced when firms just meet-or-beat against analysts' forecasts, when they are financially constrained, or when the compensation incentives are stronger. On the other side, wage theft violations are likely to be mitigated when firms are in industries with higher labour mobility or with higher labour unionisation.

Additionally, our results suggest that the incentive effect of MV legislation on wage theft violations tends to be weaker if firms have stronger corporate culture.

We contribute to the literature by documenting that the changes of law on director elections would bring direct performance pressure to the management and influence the increase of a firm's wage theft violations. While shareholder empowerment promotes better monitoring in supervising the board of directors, it could also bring negative effects on the firm's long-term performance. Secondly, while existing studies provide evidence that a firm's financial performance and political risks are direct determinants of this type of misconduct, we explore the external influencing factors on wage theft violations from a broader perspective of director elections. There is a limitation in this study: as we discussed above in the main text, it remains unclear how pressure from executives specifically affects decision-making—whether through direct executive orders or via pressure transmitted to middle-level managers. Future studies could explore potential approaches to better understand the underlying mechanisms.

Table 3-1 Descriptive statistics

This table reports the descriptive statistics for the main variables in our sample, including Mean, standard deviation (SD), minimum (Min), Median, and maximum (Max). All variable definitions are listed in Appendix 3-1.

Variable	Mean	SD	Min	Median	Max
$Wage_theft_{i,t}$	0.846	0.362	0.000	1.000	1.000
$Penalties_{i,t}$	1.866	1.841	0.000	1.253	7.134
$Backwage_{i,t}$	5.933	4.438	0.000	7.677	13.062
$Treat \times Post$	0.561	0.496	0.000	1.000	1.000
$Size_{i,t}$	8.272	1.683	5.027	8.178	12.507
$ROA_{i,t}$	0.107	0.067	-0.077	0.099	0.310
$Lev_{i,t}$	0.233	0.175	0.000	0.214	0.691
$MB_{i,t}$	3.133	2.716	0.441	2.326	17.894
$Cashholding_{i,t}$	0.109	0.114	0.001	0.070	0.546
$Dividend_{i,t}$	0.568	0.496	0.000	1.000	1.000

Table 3-2 Baseline evidence: Director career concern and wage theft violations

This table reports the baseline regression analyses for the relation between MV legislation and wage theft violation. The dependent variable in columns (1), (4), and (7) is $Wage_theft_{i,t,}$ which is a dummy variable that equals 1 if firm *i* engaged in wage theft during year *t*. The dependent variable in columns (2), (5), and (8) is $Penalties_{i,t,}$ calculated as the natural logarithm of 1 plus penalties for wage theft violations per parent firm *i* on the report date for the fiscal year *t*. The dependent variable in columns (3), (6), and (9) is $Backwage_{i,t}$, calculated as the logarithm of $ value of back-wages paid attributable to firm *i* during year *t*. Treat is a dummy variable that equals 1 if the firm incorporates in the state which enacts Majority Voting legislation, and 0 otherwise. *Post* is a dummy variable equals to 1 for the period after adopting the MV legislation. Our main independent variable is the interaction term of treat and post *Treat×Post.* We first conduct the baseline regression without control variables, and the results are listed in columns (1), (2), and (3). Then we add control variables in the baseline analysis and list the results in columns (4), (5), and (6). We then test the parallel trends assumption using a dynamic and list the results in columns (7), (8), and (9). Firm-by-cohort fixed effects and year-by-cohort fixed effects are controlled in the regression. Variable definitions are listed in Appendix 3-1. Standard errors are clustered by firm and p values are presented in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Without controls			With controls		
	$Wage_theft_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$	$Wage_theft_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Treat×Post	0.194***	0.868***	1.575**	0.178***	0.824***	1.522**
	(0.002)	(0.001)	(0.044)	(0.004)	(0.003)	(0.043)
$Size_{i,t}$				0.016	0.272	0.955*
				(0.704)	(0.165)	(0.082)

$MB_{i,t}$				-0.119	0.950	-1.408
				(0.647)	(0.322)	(0.629)
$lev_{i,t}$				-0.267	-0.298	-0.756
				(0.119)	(0.684)	(0.741)
$ROA_{i,t}$				0.003	-0.011	-0.007
				(0.680)	(0.725)	(0.908)
$Cashholding_{i,t}$				0.068	0.040	2.048
				(0.660)	(0.958)	(0.364)
$Dividend_{i,t}$				-0.002	-0.086	0.233
				(0.963)	(0.656)	(0.680)
Firm-Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1,731	1,731	1,731	1,703	1,703	1,703
Adj-R^2	0.369	0.608	0.503	0.359	0.607	0.503

Table 3-3 Dynamic Difference-in-Differences analysis

This table reports the results of the validation test of the Difference-in-differences regression method. We test the parallel trends assumption in this dynamic analysis and list the results in columns (1), (2), and (3), where dependent variables are $Wage_theft_{i,t}$, $Penalties_{i,t}$, and $Backwage_{i,t}$, correspondingly. We include the six time-indicator variables and the same control variables as in the baseline analysis. Firm-by-cohort fixed effects and year-by-cohort fixed effects are controlled in the regression. Variable definitions are listed in Appendix 3-1. Standard errors are clustered by firm and p values are presented in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)
	$Wage_theft_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Before 3+	-0.010	0.134	-0.321
	(0.921)	(0.669)	(0.733)
Before 2	-0.019	0.120	-0.164
	(0.805)	(0.522)	(0.815)
Year of MV	0.131*	0.554***	1.550*
	(0.062)	(0.010)	(0.064)
After 1	0.228**	0.865***	1.627
	(0.023)	(0.004)	(0.117)
After 2	0.223*	0.959***	1.669
	(0.051)	(0.006)	(0.138)
After 3+	0.155	1.070**	1.100
	(0.130)	(0.011)	(0.276)
$Size_{i,t}$	0.014	0.261	0.956*
	(0.738)	(0.189)	(0.082)
$MB_{i,t}$	-0.116	1.034	-1.501
	(0.651)	(0.273)	(0.607)
$Lev_{i,t}$	-0.255	-0.253	-0.746
	(0.140)	(0.731)	(0.743)
$ROA_{i,t}$	0.003	-0.011	-0.008
	(0.698)	(0.717)	(0.892)
$Cashholding_{i,t}$	0.053	0.018	1.979

	(0.732)	(0.981)	(0.382)
Dividend$_{i,t}$	-0.003	-0.074	0.218
	(0.955)	(0.701)	(0.702)
Firm-Cohort FE	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes
N	1,703	1,703	1,703
Adj-R^2	0.358	0.607	0.501

Table 3-4 Robustness tests

This table reports the robustness checks for the relation between MV legislation and the firm's wage theft violations. Panel A presents the results for alternative samples: column (1), (2) and (3) report the main result for a subsample that excludes firms incorporated in Delaware; and columns (4), (5), and (6) report the main result for an extended sample that contains firms which have at least one (any type) violation during the period. Panel B shows results for excluding alternative explanations. We first control managerial incentives by controlling CEO Vega and CEO Delta. Delta measures the sensitivity of the CEO's wealth to changes in the stock price, while Vega measures the sensitivity of the CEO's wealth to changes in the volatility of the stock price. The definitions of them are following Coles et al. (2006). Columns (4), (5), and (6) report the results when we control for board characteristics. For brevity, we do not show the results for control variables in the following table. Firm-by-cohort fixed effects and year-by-cohort fixed effects are controlled in the regression. Variable definitions are listed in Appendix 3-1. Standard errors are clustered by firm and p values are presented in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Alternative samples

	Exclude firms incorporated in Delaware			Extended sample		
	(1)	(2)	(3)	(4)	(5)	(6)
	$Wage_theft_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$	$Wage_theft_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Treat×Post	0.178***	0.824***	1.522**	0.023**	0.336***	0.022***
	(0.004)	(0.003)	(0.043)	(0.032)	(0.007)	(0.008)
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Firm-Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
N	552	552	552	9,558	9,558	9,558
Adj-R^2	0.359	0.607	0.503	0.186	0.187	0.206

Panel B: Alternative explanations

	Control for managerial incentives			Control for board characteristics		
	(1)	(2)	(3)	(4)	(5)	(6)
Y=	$Wage_theft_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$	$Wage_theft_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Treat×Post	0.175**	0.832***	1.990**	0.168***	0.807***	1.378*
	(0.011)	(0.007)	(0.019)	(0.008)	(0.004)	(0.074)
CEO vega	0.025*	0.003	0.015			
	(0.079)	(0.964)	(0.928)			
CEO delta	-0.008	0.080	0.189			
	(0.649)	(0.231)	(0.234)			
Board_size				-0.001	-0.012	-0.134
				(0.904)	(0.797)	(0.139)
Board_network				0.003	-0.002	-0.012

				(0.476)	(0.904)	(0.795)
Board_independence				-0.099	0.310	-0.019
				(0.497)	(0.590)	(0.991)
Board_business				0.029	0.694	1.064
				(0.718)	(0.124)	(0.288)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1,376	1,376	1,376	1,600	1,600	1,600
Adj-R^2	0.345	0.599	0.485	0.354	0.604	0.504

Table 3-5 Cross-sectional analysis: The effect of financial constraints

This table demonstrates the cross-sectional tests of the effect of performance incentives on the relation between MV legislation and wage theft violations. Columns (1), (2), and (3) show the results when we consider the performance pressure that comes from meet-or-beat financial analyst's earnings forecasts. Similar to Raghunandan (2021), we define *Suspect* as a dummy variable which equals 1 if a firm just meets or beats the analyst's consensus forecast, and 0 otherwise. We include the interaction of *Treat* and *Suspect* (*Suspect*×*treat*) and *Post* and *Suspect* (*Suspect*×*Post*) as well as *Suspect* and *Treat*×*Post*. Our main interest is the triple interaction term *Treat*×*Post*×*Suspect*. Following Xu and Kim (2022), in columns (4) - (6) we focus on the debt-market constraint measure based on the financial constrain measurements from Hoberg and Maksimovic (2014), which describes a firm's intention to issue debt to solve its liquidity problems. Similarly, *High_FC* equals 1 if the firm's financial constraints are above the median value, and 0 otherwise. For brevity, we do not show the results for control variables in the following table. Firm-by-cohort fixed effects and year-by-cohort fixed effects are controlled in the regression. Variable definitions are listed in Appendix 3-1. Standard errors are clustered by firm and p values are presented in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	$Wage_theft_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$	$Wage_theft_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Treat×*Post*×*Suspect*	0.201***	0.421**	1.149**			
	(0.005)	(0.032)	(0.049)			
Treat×*Post*	0.135*	0.939***	1.555*			

	(0.079)	(0.004)	(0.061)			
Suspect×Treat	-0.192***	-0.254	-0.468			
	(0.003)	(0.141)	(0.413)			
Suspect×Post	-0.151**	-0.279*	-1.406***			
	(0.023)	(0.075)	(0.005)			
Suspect	0.145***	0.206	0.538			
	(0.007)	(0.208)	(0.263)			
Treat×Post×High_FC				0.149**	0.498**	1.035*
				(0.027)	(0.038)	(0.093)
Treat×Post				0.088	0.367	0.055
				(0.276)	(0.308)	(0.955)
Treat×High_FC				-0.123*	-0.358	-1.470**
				(0.056)	(0.152)	(0.011)
Post×High_FC				-0.091	-0.304	-0.485
				(0.130)	(0.182)	(0.399)
High_FC				0.075	0.324	1.410***
				(0.161)	(0.137)	(0.007)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1,252	1,252	1,252	1,292	1,292	1,292
Adj-R^2	0.326	0.604	0.520	0.405	0.599	0.515

Table 3-6 Cross-sectional analysis: The effect of employee bargaining power

This table showts the cross-sectional tests of the effect of the labour market on the relation between MV legislation and wage theft violations. Columns (1), (2), and (3) report the results when we consider labour mobility. Labour mobility measures the flexibility workers have to enter and exit an industry. We obtain data on labour mobility from Donangelo (2014). *High_ mobility* equals 1 if a firm is in an industry that has higher mobility than the median value of the sample. We include the interaction of *Treat* and *High mobility* (*High mobility*×*treat*) and *Post* and *High mobility* (*High mobility*×*post*) as well as *High mobility* and *Treat*×*Post*. Our main interest is the triple interaction term *Treat*×*Post*×*High mobility.* In columns (4), (5), and (6), we consider the effect of labour unions. Following the definition of labour unionisation from Hirsch and Macpherson (2003), we obtain data from the *Union Membership and Coverage Database* at www.unionstats.com and construct the variable *Strong Union*, which equals 1 if the percent of employed workers who are union members in a firm is above the median value of the sample, and 0 otherwise. For brevity, we do not show the results for control variables in the following table. Firm-by-cohort fixed effects and year-by-cohort fixed effects are controlled in the regression. Variable definitions are listed in Appendix 3-1. Standard errors are clustered by firm and p values are presented in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	$Wage_theft_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$	$Wage_theft_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Treat×*Post*×*High mobility*	-0.146*	-0.638**	-1.117			
	(0.081)	(0.043)	(0.295)			
Treat×*Post*	0.290***	1.427***	2.578**			

	(0.000)	(0.000)	(0.010)			
Treat×High mobility	0.033	0.788*	1.538			
	(0.766)	(0.086)	(0.239)			
Post×High mobility	0.049	0.150	0.801			
	(0.456)	(0.618)	(0.409)			
High mobility	0.015	-1.134***	-1.958*			
	(0.846)	(0.001)	(0.066)			
Treat×Post×Strong union				-0.190**	-0.626**	-1.585*
				(0.033)	(0.044)	(0.068)
Treat×Post				0.320***	1.375***	3.178***
				(0.000)	(0.001)	(0.002)
Treat×Strong union				0.327***	1.353***	2.971***
				(0.002)	(0.000)	(0.000)
Post×Strong union				0.120	0.239	0.885
				(0.129)	(0.407)	(0.286)
Strong union				-0.303***	-0.743***	-2.363***
				(0.001)	(0.000)	(0.000)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes

N	1,234	1,234	1,234	1,340	1,340	1,340
Adj-R^2	0.397	0.644	0.521	0.383	0.624	0.499

Table 3-7 Cross-sectional analysis: The effect of executive compensation incentives

This table reports the results of whether and how executive compensation affects the relation between MV legislation and corporate wage theft violations. We obtain data on corporate compensation from Execucomp and define executive compensation here as the aggregated total compensation for top executives (Hartzell and Starks, 2003). *High compensation* equals 1 if the overall executive compensation is higher than the median value of the sample, and 0 otherwise. Our main variable of interest is the interaction term *Treat×Post×High compensation*. For brevity, we do not show the results for control variables in the following table. Firm-by-cohort fixed effects and year-by-cohort fixed effects are controlled in the regression. Variable definitions are listed in Appendix 3-1. Standard errors are clustered by firm and p values are presented in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)
	$Wage_theft_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Treat×Post×High compensation	0.235*	0.179	2.504*
	(0.052)	(0.723)	(0.093)
Treat×Post	0.051	0.850***	0.311
	(0.558)	(0.004)	(0.779)
Treat×High compensation	0.061	1.612***	0.597
	(0.891)	(0.009)	(0.856)
Post×High compensation	-0.032	-0.160	-0.938
	(0.741)	(0.677)	(0.470)
High compensation	-0.014	-0.291	1.817
	(0.975)	(0.593)	(0.570)
Controls	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes
N	1,703	1,703	1,703
Adj-R^2	0.389	0.637	0.548

Table 3-8 Cross-sectional analysis: The role of corporate culture

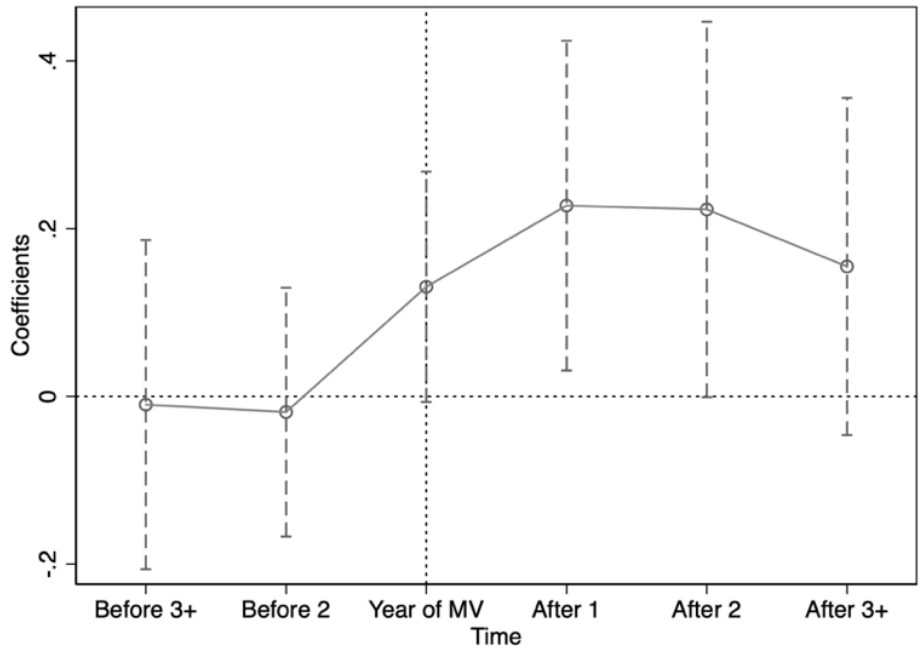
This table reports the results of how corporate culture affects the relation between MV legislation and corporate wage theft violations. We obtain data on corporate culture from Li et al. (2021), and we focus on the corporate culture score on Teamwork out of the five dimensions, which considers the level of employee involvement in management decision-making. The score of Teamwork is measured as the weighted frequency count of teamwork-related words in the QA section of earnings calls averaged over a 3-year window. *High teamwork* equals 1 if the firm's score on Teamwork is higher than the median value of the sample, and 0 otherwise. Our main variable of interest is the interaction term *Treat*×*Post* ×*High teamwork*. For brevity, we do not show the results for control variables in the following table. Firm-by-cohort fixed effects and year-by-cohort fixed effects are controlled in the regression. Variable definitions are listed in Appendix 3-1. Standard errors are clustered by firm and p values are presented in parentheses. *, **, and *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)
	$Wage_theft_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Treat×*Post*×*High teamwork*	-0.117*	-0.665**	-1.201*
	(0.056)	(0.035)	(0.097)
Treat×*Post*	0.221***	1.145***	1.893**
	(0.004)	(0.000)	(0.028)
Treat×*High teamwork*	0.011	0.364	-0.111
	(0.851)	(0.121)	(0.849)
Post×*High teamwork*	0.089	0.592**	0.999
	(0.134)	(0.045)	(0.129)
High teamwork	0.028	-0.336**	0.082
	(0.560)	(0.043)	(0.871)
Controls	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes
N	1,458	1,458	1,458
Adj-R^2	0.376	0.618	0.490

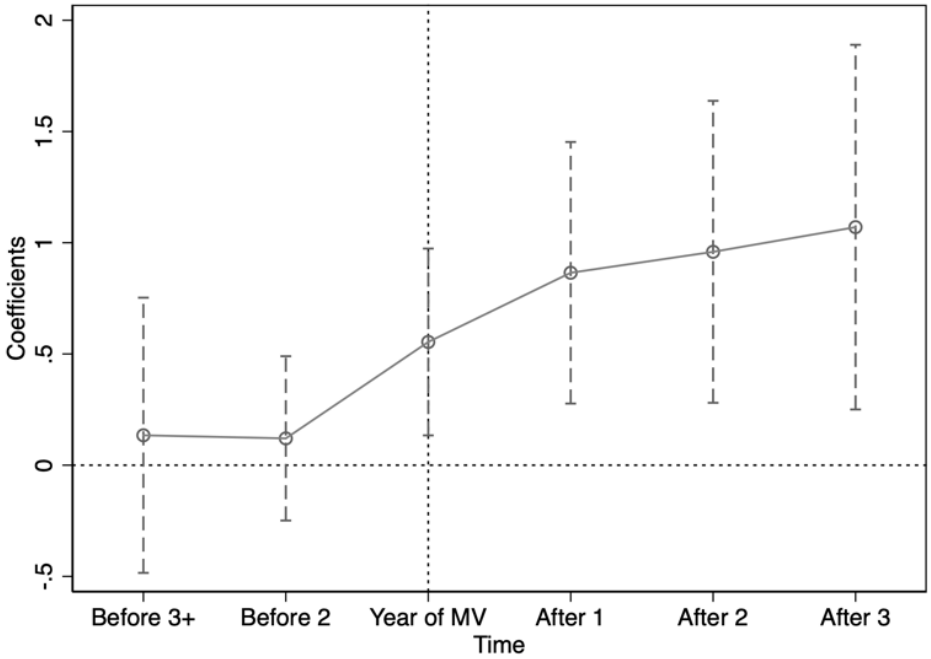
Figure 3-1 Dynamic analysis of MV legislation on Wage theft violation

This figure plots the coefficients on the six time indicators from the dynamic difference-in-differences (DiD) multivariate regression analysing the impact of MV legislation on a firm's wage theft violations. The three figures in the following show the coefficient estimates on the time indicators when dependent variables are $Wage_theft_{i,t}$, $Penalties_{i,t}$, and $Backwage_{i,t}$, accordingly.

(1) $Y = Wage_theft_{i,t}$



(2) $Y = Penalties_{i,t}$



(3) $Y = Backwage_{i,}$

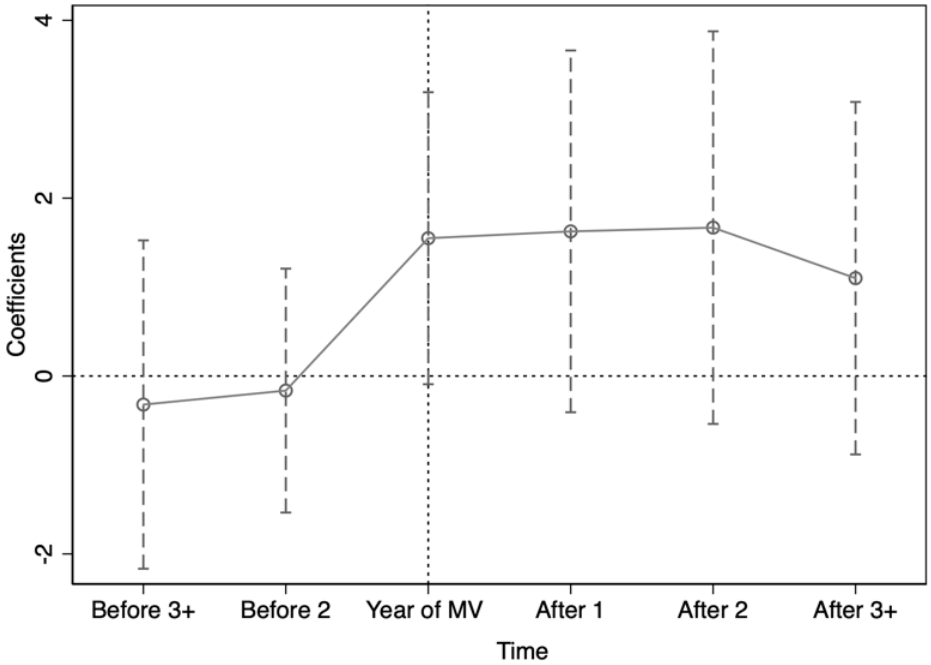
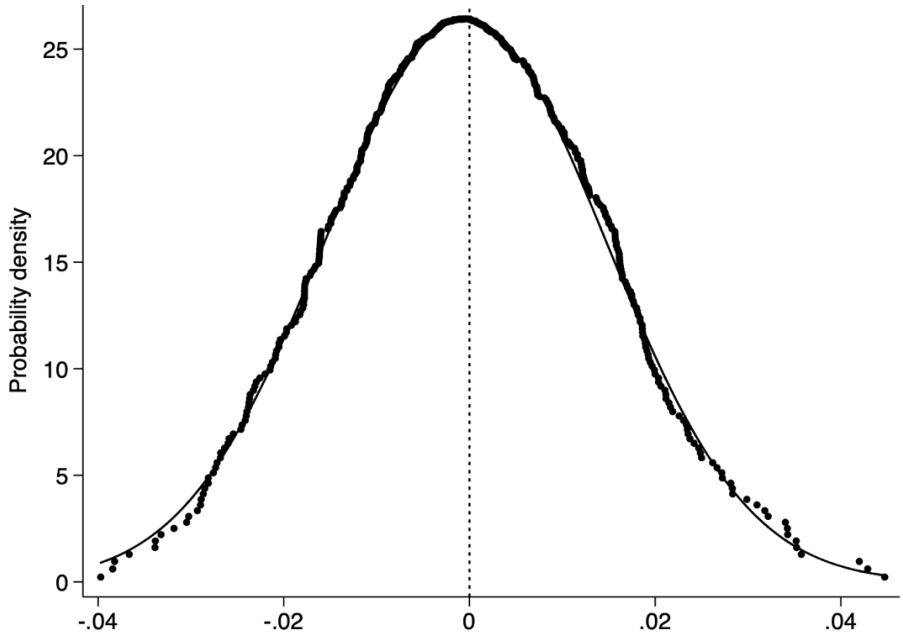


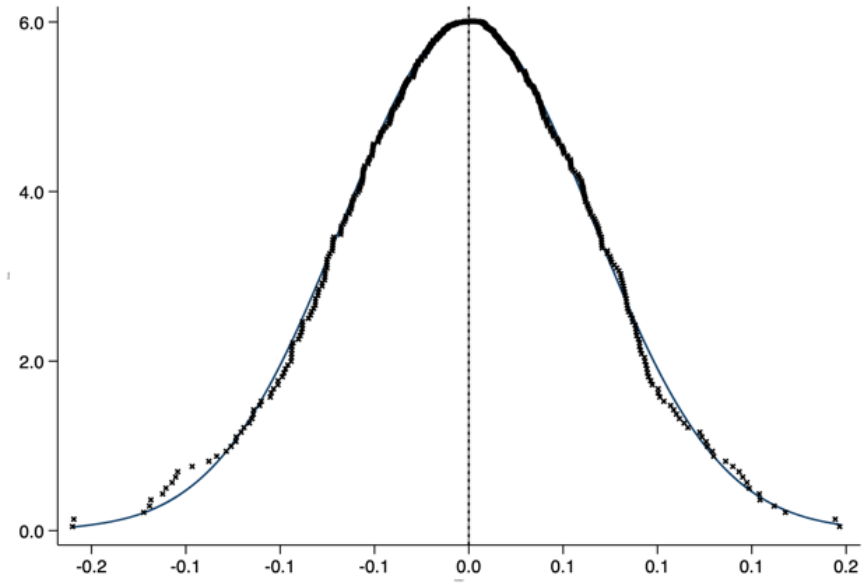
Figure 3-2 Placebo test

The following figures show a set of falsification tests using 500 simulations with randomly assigned state and adoption year. The X-axis indicate the coefficient estimates, while the Y-axis shows the probability density of the distribution. The vertical dot line shows when coefficient estimate is zero. The three figures show the distribution of coefficient estimates when dependent variables are $Wage_theft_{i,t}$, $Penalties_{i,t}$, and $Backwage_{i,t}$, accordingly.

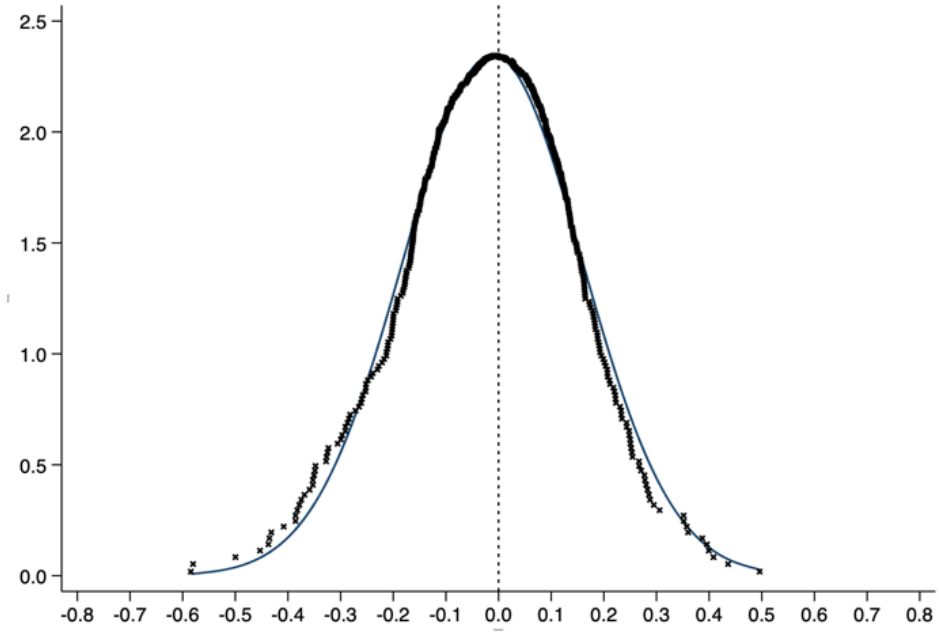
(1) $Y = Wage_theft_{i,t}$



(2) $Y = Penalties_{i,t}$



(3) $Y = Backwage_{i,t}$



Appendix 3-1. Variable definitions

Variable	Definition	Data source
$Wage_theft_{i,t}$	Indicator variable that equals 1 if firm *i* engaged in wage theft during year *t.*	WHISARD
$Penalties_{i,t}$	The natural logarithm of one plus penalties for wage theft violations per parent firm *i* on the report date for the fiscal year *t*.	WHISARD
$Backwage_{i,t}$	The logarithm of $ value of back wages paid attributable to firm *i* during year *t*.	WHISARD
Treat	An indicator variable that is set to 1 if firms incorporated in states that have adopted MV legislation, 0 otherwise.	--
Post	An indicator variable that is set to 1 if firms are in the post-treatment period, and 0 otherwise.	--
$Size_{i,t}$	The natural logarithm of total assets.	Compustat
$MB_{i,t}$	The book value of total assets to the market value of total assets.	Compustat
$Lev_{i,t}$	Total debt divided by total assets.	Compustat
$ROA_{i,t}$	Income before extraordinary items divided by total assets.	Compustat
$Cashholding_{i,t}$	Cash and short-term investments to book value of total assets.	Compustat
$Dividend_{i,t}$	A dummy variable that takes a value of one if the firm pays dividends and zero otherwise.	Compustat

Appendix 3-2. Majority voting legislation adoption in the United States

This table shows the year when the Majority Voting legislation was enacted in each state as part of their state corporate law.

State	Year	State Corporate Law	Section
Delaware	2006	The Delaware Code	§8.1.206
California	2006	California Corporations Code	S.B.1027
Florida	2006	Florida Statutes	§33.607.728
Washington	2007	Revised Code of Washington (RCW)	§23B.10.205
Utah	2008	Utah Code	§16-10a-102
Hawaii	2009	BREG Hawaii Revised Statutes	§23.414.149
Indiana	2010	Indiana Code	§23.1.39
Wyoming	2010	Wyoming Statutes	§17-16-1022
Connecticut	2011	Connecticut General Statutes	§33.601.809
District of Columbia	2012	Code of The District of Columbia	§29.308.22
New Hampshire	2013	New Hampshire Revised Statutes	§27.293A.10

Appendix 3-3 Sample construction

This table reports our sample selection. Our sample contains 1,731 firm-year observations from 2001-2016.

Sample selection	Remaining observations
Firms with available data on Compustat between 2000-2022	219,906
Exclude firs from regulated industries (sic code between 4900-4999)	212,234
Exclude firms from financial institutions (sic code between 6000-6500)	185,448
Exclude firms with a negative book equity value and missing control variables	162,173
Exclude firms with missing data on historical states of incorporation	70,443
Exclude non-matched control firms according to the three-digit SIC industry and size decile and the firm's profitability in the year prior to the adoption of MV legislation	37,758
Exclude firms without having at least one observation before and after the event year in each cohort with an 11-year event window [-5, +5]	9,833
Exclude firms with missing values after merging the current data with wage theft violation data from the WHISARD database	1,731

Appendix 3-4 Correlation matrix

This table reports the coefficients between the main variables. Pearson (Spearman) correlation coefficients are reported below (above) the diagonal. All variables are described in the Appendix 3-1. *, **, and *** indicate significance at the two-tailed 10%, 5%, and 1% levels, respectively.

	1	2	3	4	5	6	7	8	9	10
Wage_theft$_{i,t}$	1	0.621***	0.262***	0.240***	0.007	-0.023	0.024	-0.055**	-0.030	-0.081***
Penalties$_{i,t}$	0.621***	1	0.234***	0.259***	-0.069***	-0.031	0.018	-0.080***	-0.065***	-0.077***
Backwage$_{i,t}$	0.113***	0.142***	1	0.220***	0.186***	0.047**	0.024	0.006	-0.055**	0.016
Treat×Post	0.246***	0.258***	0.096***	1	-0.018	-0.057**	0.007	-0.104***	0.012	-0.094***
Size	0.016	-0.050**	0.150***	-0.011	1	-0.049**	0.258***	0.057**	-0.112***	0.407***
ROA	-0.017	-0.029	0.101***	-0.059**	-0.057**	1	-0.275***	0.545***	0.127***	0.122***
Lev	0.016	0.017	0.069***	0.022	0.200***	-0.311***	1	-0.049**	-0.464***	0.040*
MB	-0.054**	-0.044*	0.148***	-0.049**	0.000	0.380***	0.104***	1	0.187***	0.090***
Cashholding	-0.027	-0.037	-0.047**	0.007	-0.185***	0.185***	-0.422***	0.184***	1	-0.051**
Dividend	-0.083***	-0.076***	0.076***	-0.097***	0.395***	0.117***	-0.013	0.034	-0.075***	1

Chapter 4: Pay Transparency Law and Employee Mistreatment: Evidence from Wage Theft Violations

4.1 Introduction

Pay transparency laws (PTL[23]) were proposed at an early stage to improve wage disclosure between gender groups and reduce pay inequality. The policies then stem from the pay inequality between genders to the second tier which focus more on the large pay dispersion within-firm and within-job-title . To address the concern that such information is always hidden from the public, states have adopted acts, such as 'An Act to Ensure Fair Pay' in Maine, to protest for pay transparency at work, and ask for more pay information disclosure from employers (Colella et al., 2007; Cullen and Perez-Truglia, 2022). Furthermore, as a broader effort to reduce pay inequality, many states have also proposed protections for employees to freely discuss wages as part of the pay transparency laws (Brown et al., 2022), which is the third tier of pay transparency laws. While adopting pay transparency laws greatly reduces the pay gap between gender and job titles (Kim, 2015; Bennedsen et al., 2022), there are also critics suggesting that PTL adoption could bring negative consequences to a firm's productivity by increasing employee turnover and job dissatisfaction (Mas, 2017; Cullen et al., 2024).

On the other side, wage theft violation is increasingly recognised in recent research, as it's closely related to employee rights and unique enforcement challenges. While wage theft violations were caught when employers fail to pay minimum wages or miss the payment for overtime work, etc., the detection greatly

[23] Hereafter, the term 'PTL' will be used interchangeably with 'pay transparency laws' throughout the thesis for brevity.

relies on employees to collect evidence and report the claim to the US Department of Labour Wage and Hour Division (WHD). The difficulty in enforcement is even more prominent when the imbalance between employees and employers is worse. Recent studies estimate the possible incentives of wage theft and find that the firm's financial situation greatly affect firm's decision to engage in wage theft, and the pressure in performance will also motivate firms to strategically switch from financial misconduct to wage theft violations, considering the duration of investigation and enforcement difficulty (Raghunandan, 2021). Others also find that the increased internal discipline from government contractors helps deter wage theft violations, especially those with subsidies (Chircop et al., 2024b).

By requiring employers to disclose pay-related information, PTL reduces information asymmetry between employers and employees, empowering employees to identify not only unjustified wage differentials but also potential legal violations. In this context, PTL might incentivise employee whistleblowing and recover unpaid wages, or it serves as a structural deterrent to wage theft. To reconcile the perspectives, Heese and Pérez-Cavazos (2021) provide evidence that employees are more likely the whistleblowers at the workplace when they are under the protection of unemployment insurance. In line with this, Dye et al. (2021) argue that employees tend to be incentivised to whistleblowing, especially when the monetary incentives of whistleblowing could simply compensate for the potential retaliation risk from employers. For example, employees are motivated significantly to report corporate wrongdoings during the cash-for-information trade. In this direction, we expect that adopting PTL would increase a firm's wage theft violations, and employees are incentivised to whistleblowing with reduced enforcement efforts.

To examine the above assumption, we exploit a staggered adoption of pay transparency laws across the states in the US from 2000 to 2022. In this context, we use a stacked Difference-in-Differences (DiD) method to analyse the real effect of PTL adoption. A firm will be defined as treated if the firm's historical headquarters is in one of the states that have adopted the PTL during the sample period, and control groups include only firms that have never adopted the PTL. We collect wage theft violation data from the US Department of Labour Wage and Hour Division, and detailed information like investigation dates, civil monetary penalties, and back-wage collections is recorded in the Wage and Hour Investigative Support and Reporting Database (WHISARD). We measure wage theft with the frequency of violations, the monetary penalty amounts, and the amount of back-wages recovered. Additionally, before we stack the cohorts created for each PTL adoption year, we use a propensity score matching (PSM) method and match each treated firm with a clean control firm to form the final sample.

Our baseline findings reveal that PTL adoption is positively correlated with a firm's wage theft violations, and the coefficient estimates are economically significant at the same time. For example, after the adoption of pay transparency laws, there is an 10.8% increase in the possibility of committing wage theft violations and a 20.2%[24] increase in penalty amount. To verify the parallel trend assumptions of DiD method, we examine the dynamic effects of PTL adoption to show that the differences in wage theft between our treated and control firms are insignificant, and the positive effect of PTL adoption becomes significant only after the enactment. The evidence here suggests that the effect of PTL on wage theft is

[24] Calculated as $(e^{0.184}-1)\times 100\%$.

unlikely to be driven by the changing economic conditions prior to the adoption. Moreover, our results are robust when we adjust the sample by excluding firms that relocate headquarters or are more geographically dispersed, those that use an alternative measurement of wage theft, those that control for confounding laws, and those that use an alternative Poison regression model.

To further address the concern of potential endogeneity issues, we examine the possible reverse causality problem by estimating a Cox Proportional Hazard model. We construct the state-level average wage theft frequencies and test whether the overall wage theft in a state is the key influencing factor of PTL adoption, while controlling for other state-level features, including population, GDP, per capita expense, unemployment rates, union coverage, etc. The insignificant coefficient estimates indicate that the macroeconomic situations and overall wage theft conditions in a state cannot predict the timing of PTL adoption. Additionally, we also conduct a placebo test by randomising both the adoption year and the state name. Consistent with the previous results, the distribution of the coefficient estimates from the 500 times repeated falsification tests shows that the randomised treatment does not have a real effect on wage theft, suggesting the reverse causality concern is not severe.

The underlying plausible mechanism of the positive relation between PTL adoption and wage theft is that employees are more aware of the illegal pay-related treatment, which directly decreases the enforcement difficulty and prompts detections of a firm's wage theft violations. To empirically test our assumption, we use the frequencies of investigations for a firm-year to measure employee whistleblowing, as most of the investigations are initiated by employee claims, while a small number of investigations were proposed by the WHD annual audit.

The results show that PTL adoption is positively related to investigation frequencies, which is consistent with our assumption.

Next, we conduct three sets of cross-sectional analyses to further explore how variations in employee bargaining power, corporate governance, and corporate culture affect the relation between PTL adoption and wage theft. Firstly, we find that the positive effect of PTL adoption on wage theft is stronger when employees are better protected by unions. Unions not only provide employees protection against retaliation but also provide guidance to whistleblowers. Under the strong protection from unions, employees would be more motivated to report claims against pay-related matters after being more informed of the mistreatment. Secondly, we find that the effect of PTL adoption is stronger when the firm's corporate governance environment is weak. We consider a firm's governance from three aspects: board co-option, product market competition, and rank-and-file employee stock option ownership. We find that when the boards are mostly co-opted, when the product market is less competitive, or when employees own fewer stock options of a firm, the firms are more likely to commit wage theft violations to boost performance due to the lack of discipline. Thirdly, we examine whether corporate culture as a general guideline of a firm's ethical decisions would alter the effect of PTL adoption. We follow the measurement from Li et al. (2021) and define corporate culture in five core values. We find that there are fewer wage theft violations after PTL adoption when the firm treats employees with dignity, suggesting that firms with better corporate culture regarding employee treatment have less incentive for misconduct.

Our study contributes to the literature in several ways. Firstly, we contribute to studies that examine the effect of adopting pay transparency laws. Pay

transparency was originally introduced to narrow the pay gap between gender groups; however, the growing trend in mitigating pay secrecy also leads to the discussion of inequality of bargaining power, especially employees' freedom to talk about wages. We focus on the state-level staggered adoption of this particular part of the laws and examine the real effects after the adoption. Existing literature has provided evidence regarding the consequences of the laws' adoption. On the positive side, studies have shown that the increased transparency in employee payment significantly increases job satisfaction and firm productivity, and thus promotes better overall performance (Gao et al., 2023) and mitigates the incentives of corporate misconduct (Hoque and Kashefi Pour, 2024). On the negative side, adopting pay transparency law could also lead to a decrease in internal bargaining power for high-wage employees (Cullen and Pakzad-Hurson, 2023; Shang and Saffar, 2024) or lead to more workplace safety violations (Chen et al., 2025b). Our evidence extends the potential negative effect and shows that firms tend to engage in more wage theft violations after adopting the pay transparency laws.

Secondly, our study contributes to the literature on wage theft related studies. As wage theft is getting increasingly popular as a form of corporate misconduct: a growing strand of literature has started to examine its determinants. Raghunandan (2021) first provides evidence that a firm's performance pressure of meet-or-beat financial analysts' forecasts could significantly increases the likelihood of wage theft violations, and firms would strategically switch from financial misconduct to more wage theft violations if previous wage theft was not detected. Additionally, the political risk would also increase wage theft (Chircop et al, 2024a), while contracting with government bodies, especially those with state subsidies, would help to increase internal discipline and curb wage theft violations (Chircop et al,

2024b). We complement the previous studies by providing evidence that a policy change that prompts employee rights could lead to more wage theft violations.

Thirdly, our research extends the studies on employee whistleblowing. Previous research provides evidence that monetary incentives are the key motivation for employees to report claims against employers' wrongdoings (Stubben and Welch, 2020; Butler et al., 2020; Dye et al., 2021). Even though facing retaliation risks, employees are simply compensated for the potential gain from the cash-for-information trades. Our study adds on an indirect incentive to employee whistleblowing, which is the increase of awareness in pay-related rights, measured by the adoption of pay transparency laws. The decrease in pay secrecy strongly motivates employees to report claims against their employers and fight for their legitimate payment.

The remainder of this chapter is structured as follows: Section 2 reviews the related literature and theoretical analyses and develops the hypothesis. Section 3 describes the data source and sample construction. Section 4 shows the empirical designs. Section 5 discusses the main results and robustness tests. Section 6 discusses potential channel through which PTL adoption increases wage theft violations. Section 7 explores cross-sectional heterogeneity in the relation between the adoption of pay transparency laws and a firm's propensity to commit wage theft violations. Section 8 concludes.

4.2 Literature review and hypothesis development

4.2.1 Background of pay transparency laws

Employee rights protection through legal frameworks has been an important subject in labour economics regarding the growing concerns over workplace

fairness, power asymmetries, and regulatory effectiveness. The general conception of labour protection covers employment protection, wage and hour regulation, retaliation protection and whistleblowing, pay transparency, enforcement, etc. Among them, pay transparency laws aim to reduce information asymmetry by mandating disclosure of pay information or protecting employees' right to discuss wages.

The discussion of pay transparency has been emerging over the last two decades. The idea of pay transparency laws was originally proposed to address gender wage gaps, where women were paid far less than men, considering similar backgrounds in education or experience. The Equal Pay Act of 1963 was the first law that made gender pay disparity illegal in the US, while Denmark also adopted a similar change in its legislation regarding pay transparency in 2006, and it further requires firms to provide gender-disaggregated wage statistics annually. Both early and recent studies have shown evidence that pay transparency laws contribute greatly to relieving gender pay gaps (Kim, 2013; Bennedsen et al., 2022; Baker et al., 2023; Cullen, 2024).

Except for the pay dispersion between gender groups, pay transparency also refers to that employees should have the right to discuss wages freely. To protect the employees' right in freely forming or joining unions, and to encourage collective bargaining between employees and employers regrading concerns in employment, the National Labour Relation Board passed a Wagner Act (also known as National Labour Relations Act, NLRA) in 1935, which ensures that employees are protected against employer retaliation. More specifically, in section 7 of the NLRA, it specifies that 'employees are allowed to discuss wages' in support of collective bargaining.

However, there is a limited effect of the implementation of the NLRA due to insufficient enforcement. As a result, individual states start to adopt state-enacted statutes to reinforce the effect of this act. Michigan was the first state to pass the pay transparency laws (Michigan Compiled Laws, Section 408) to protect employees against retaliation for discussing wages. Specifically, it regulates that an employer should not require employees not to disclose their wages, discharge them, or discriminate against an employee who discloses their wages. Similar with Michigan, California adopted the pay transparency law (California Labour Code, section 1197) in 1984. And there are 20 more states adopting the pay transparency law during 2000 to 2022, which are: Illinois (2003); Vermont (2005); Maine and Colorado (2009); Louisiana and New Jersey (2013); Minnesota (2014); Connecticut, New Hampshire, and District of Columbia (2015); Oregon, Delaware, Maryland, and New York (2016); Nevada (2017); Massachusetts and Washington (2018); Hawaii and Nebraska (2019); and Virginia (2020)[25].

Does pay transparency really work? A series of discussion from the *Wall Street Journal* regarding the prevalence of adopting PTL shows that it might be a double-edged sword. One report posted by Vinopal (2023) states that the amplified transparency in employee salaries could leads to a significant increase in their productivity, especially for academics working in universities. It is shown that on average, the academics would publish more articles per year after the law adoption. However, revealing disparities could also fuel frictions and as a result ,demotivate workers. Vinopal (2023) argues that the adoption of PTL could only be efficient to motivate workers when the pay system is perceived as fair. Moreover, the peer

[25] Details about the adoption year and the name of the act are listed in Appendix II. Data available at: https://www.dol.gov/agencies/wb/equal-pay-protections.

comparison on payment would backfire, especially for overconfident workers who expected their salary would be above the average. Apart from the risks, it is also essential for HR executives to address the difference in payments for employees. Effective postings with clear explanations of pay structure and performance metrics enable employees to interpret the new information of pay disparities as constructive instructions instead of a sign of unfair treatment.

With the implementation of pay transparency laws in protecting employee rights, recent studies have integrated this development with empirical studies in firm performance. Gao et al. (2023) find that corporate innovation and inventor productivity significantly increased after the adoption of pay transparency laws. This is because inventors have become motivated to perform better by knowing the potential wage they could obtain in the future. Similarly, Cai et al. (2025) provide evidence that employees work harder after the adoption of PTL because of increased job fairness and satisfaction. While their papers focus more on low-wage investors, Shang and Saffar (2024) find that pay transparency significantly motivates high-wage employees to become entrepreneurs, because compared with the high potential gains of becoming entrepreneurs, those employees are less motivated to stay in their current position while having more information about others' wages.

The adoption of PTL could also affect a firm's risk-taking decisions. For example, Hoque and Kashefi-Pour (2024) find that adopting pay transparency laws helps curb corporate wrongdoing by reducing the salary gap and motivating employees to perform better. Similarly, Chen et al. (2025a) also find a decrease in misconduct among financial advisors after PTL adoption, as increased disclosure

on wages creates internal benchmarking, which makes it more difficult for firms to selectively reward high-earning financial advisors and ignore ethical breaches.

However, while adopting pay transparency laws seems to improve employees' overall benefits, some studies debate that there are also potential costs underneath. Cullen and Pakzad-Hurson (2023) find that as opposed to the findings that employees are more motivated to improve their performance, adopting pay transparency laws is more like a sign of deception. The increased transparency reduces information frictions, making it easier for employees to benchmark their pay against others. And because firms fear internal conflict or turnover when wage gaps are visible, they flatten pay structures, which can deter high-ability workers or reduce incentives to outperform. In line with the concerns of employee welfare, Chen et al. (2025b) argue that adopting pay transparency is significantly associated with an increase of firms' workplace safety violations, as firms are incentivised to keep their profitability by reducing safety investments under the pressure of increased administrative cost.

4.2.2. The role of employees in corporate operations

The interaction between employees and corporate finance has caught the attention of scholars because of the unique features of employees. Rather than a function of labour demands, employment is also closely related to a firm's operations and financial positions. On the one side, a review from Pagano and Pica (2012) discusses how a firm's financial situation affects employment fluctuation, and they find that financial constraints in a firm significantly reduce its investment in labour, and policies that increase the stability of a firm's financial positions decrease the extreme fluctuations in employment.

On the other side, Matsa (2018) reviews how employment shapes firm's decisions. They discuss the strong determining factors of employees on corporate capital structure and argue that employees' bargaining power, especially via labour unions, would constrain a firm's debt capacity due to the potential high distress cost. And the bargaining power from more specialised workforce leads to a more conservative debt structure as the cost of employee turnover is a lot higher. At the same time, employment protection legislation also greatly affects firms' risk-taking behaviours. For example, unemployment insurance, which benefits employees from losing their job due to unsensible reasons, is closely related to a firm's debt structure, default risk, and investment strategies (Heese and Pérez-Cavazos, 2021)

Another recent review from Nishesh et al. (2024) extends the scale of discussion on how employees interact with a firm's decisions and summarised the role of employees in four main aspects: changing ownership structures, capital structures, inequality, and the adoption of technologies. They argue that labour is an important stakeholder and review the recent studies regarding how employment could be a strong driver of firms' decisions in acquisitions, debt structure, risk-taking, pay disparity, work ethics, and technological adoption.

Based on the existing studies, there are mainly three mechanisms of employee influence: human capital, legal protection, and union coverage. While they provide strong employee bargaining power and directly affect firms' operating leverage, the voice against the empowerment to employees are getting more prevalent at the same time. Semuels (2022) reports that corporate resistance against unionisation are getting stronger, employers are increasingly hiring consultants to discourage employees from organising. They state that the imbalance of power between employees and employer has brought up the cost of labour and affected managerial

control. A *Financial Times* report from Strauss and Pickard (2024) agrees on the view and argues that too much labour rights protection is seen as 'cumulative burden', which causes regulatory pressure to employers and would discourage hiring.

Apart from the roles of employees in shaping firm decisions as mentioned above, there is a strand of literature that recently revisits studies of employees' role in monitoring the firm and states that it serves as an important internal governance mechanism which helps to protect overall stakeholder's interests. An employee's monitor of employers includes a range of practices, such as whistleblowing hotline (Soltes, 2020; Stubben, S., Welch, 2020; Chen et al., 2024), codetermination board (Jäger et al., 2021), and work council (Grund, 2024). Notably, while work council and codetermination provides employees formal rights to participate in firm's decisions, the effectiveness of the regulatory system greatly depends on the legal framework and the expertise of the employees. On the contrary, employee whistleblowing is more directly linked to the potential cost for firms, as the claims will be delivered straight away to the organisation or regulator without structural barriers, and then they will lead to investigations against the targeted employers.

Early empirical evidence from Dyck et al. (2011) finds that nearly 17% of corporate frauds are discovered through employee whistleblowing, while the rate is especially high in health care industries as 41%. They argue that employee whistleblowing is especially effective in detecting corporate misconduct because employees have direct access to information while being more responsive to monetary incentives. However, it is notable that the employees are fired in nearly 82% of the cases initiated through whistleblowing. The pervasive retaliation cost for employee whistleblowing greatly discourages future detections of a firm's

misconduct. Recent study from Stubben et al. (2020) revisits the studies in the usage of whistleblowing hotlines and analyse more than two million whistleblowing reports, and they provide new evidence that retaliation cost is still holding up employee whistleblowing as more than 28% of the reposts are anonymous, and the survey results are also consistent with the finding while showing that 'employees would rather not to report if their supervisors might be part of the concern'. Similar findings are shown by Soltes (2020) that retaliation cost is damaging internal governance. They argue that even though the whistleblowing hotline is still a strong internal monitoring channel, they might be more selective to HR related issues than a firm's financial performance, as the former are more observable.

Heese and Pérez-Cavazos (2021) focus on the unemployment insurance (UI), which is a strong anti-retaliation provision, and find that the increase in UI significantly reduces a firm's unethical behaviour in workplace safety, as it motivates employee whistleblowing with less fear of retaliation. Similarly, Chen et al. (2024) argue that the monitor from employees against employers significantly reduce a firm's workplace safety violations. Instead of focusing on UI, they find a firm's rank-and-file (R&F) employees' stock options is positively linked to employee's whistleblowing as the their interests could be better aligned with long-term firm performance, and they are motivated to monitor peers' cooperative efforts. Overall, it shows that an employee's monitoring role greatly improves a firm's financial performance, especially managerial ethical decisions.

4.2.3 Hypothesis development

As the relevant literature in wage theft violations has been discussed in section 3.2.3, this section focuses on developing the hypotheses based on the key theoretical insights previously established.

Before adopting pay transparency laws, employees often lack information to demonstrate their rights in wages, and at the same time, they are bearing the risk of retaliation practices, which makes it unlikely for them to bring successful claims against their employers. The difficulties in enforcement are greatly reduced with the implementation of pay transparency laws, where firms are not only required to disclose wages and compensation more transparently, but also prevented from penalising employees for discussing wages freely. Scholars have provided evidence that the increased transparency in wages after the adoption of pay transparency laws improves the employee's awareness of pay rights, and, as a result, significantly reduces the gender pay gap (Kim 2013; Kim, 2015; Bennedsen et al., 2022; Baker et al., 2023).

Moreover, other than the increased information brought by the implementation of pay transparent laws, the other key factor determining the extent of increase in violation detection is employee activism. Following the argument from Dyck et al. (2010), employee whistleblowing is greatly incentivised by monetary benefits, and the benefits from monetary payments, such as the compensation from cash-for-information programs, simply compensate an employee for the potential risk of reporting corporate wrongdoings (Dey et al., 2021). With protection from retaliation and potential compensation after PTL adoption, employee activism is likely to increase significantly.

From the employer's perspective, implementing the pay transparency laws does not necessarily guarantee employees' welfare. Cullen and Pakzad-Hurson (2023) argue that while pay transparency laws mitigate the information asymmetry between employees, it might prevent highly performing employees from outperforming their peers, leading to a decrease in overall firm productivity. Similar with the view of regarding pay transparency law as a 'deception', Shang and Saffar (2024) find that the increased pay transparency prompts the possibility for high-wage employees to become entrepreneurs, as their internal bargaining power and the value of staying in the firm significantly decrease. Additionally, adopting the pay transparency law could also harm employees' well-being. Chen et al. (2025b) argue that implementing pay transparency laws comes with additional operating costs, and this financial pressure motivates executives to cut corners by exposing workers to heavier workloads or reducing workplace safety investments. In this regard, adopting PTL is likely to associate with an increase of misconduct behaviours because the coordination among employees becomes costly.

Taken together, we conjecture that the adoption of pay transparency laws is positively related to the increase of wage theft violations, and that the increase in wage theft is positively associated with increased employee whistleblowing activities, as implementing the law significantly enhances employees' awareness of pay-related rights and mitigates retaliation concerns. Given the above, we state our hypothesis as follows:

H3: The adoption of pay transparency laws is associated with an increase of firms' wage theft violations.

4.3 Data source and sample construction

We obtain wage theft violations from the Wage and Hour Investigative Support and Reporting Database (WHISARD)[26], which is an automated data processing system that enables investigators, managers, and assistants to process complaints and investigations in the Wage and Hour Division (WHD) of the US Department of Labour. The WHISARD database contains details of WHD investigations, including the type of labour law employer against, the start and end days of an investigation, the number of employees involved, the Civil Money Penalty assessments and payments, and back-wage collection information.

We first collect all investigations from 2000 to 2024, which are 352,086 investigations overall. Considering that the investigation usually would take an average of 728 days, simply using the investigation's end year as the year when the firm obtains a penalty would lead to significant bias. We follow Raghunandan (2021) by firstly attributing the penalty for a violation evenly across the whole investigation period, and we then aggregate the penalty amount on the firm-year level to form our sample.

Since the employers under those investigations are not necessarily required to be publicly listed firms in the US, we need to identify publicly listed firms to find their financial data. We first conduct a fuzzy match for the employers' names from the WHISARD database with the publicly listed firms' names from the SEC's website[27]. For the rest of the unmatched firms, we then use the parent-subsidiary matching table provided by the Violation Tracker Database. We next manually

[26] Data available at: https://enforcedata.dol.gov/views/data_catalogs.php.

[27] Here we use the standardised company name using the code from NBER (National Bureau of Economic Research) Patent Data Project (NBER-PDP), available at: https://sites.google.com/site/patentdataproject/.

check the unmatched firms after the above two procedures and search for their Central Index Key (CIK) code the SEC's website.

Our second part of data, which is the state's adoption of pay transparency laws, is obtained from the US Department of Labour's website[28]. From the statistics of Equal Pay and Pay Transparency Protections, we obtain the name of the state that has adopted pay transparency laws and the specific act. Following Chen et al. (2025), we then obtain data on a firm's historical headquarter state from Bai et al. (2020)[29] and keep the firm's current headquarter state if the historical data is missing.

Thirdly, we obtain firms' financial data from the Compustat database. Following previous papers in wage theft studies, we control for a firm's size, book-to-market value, leverage, etc. We use the CIK-CUSIP linkage table from Compustat to merge wage theft violation data with other variables. And similarly, we exclude firms that belong to the financial industry (SIC code 6000-6900) or the utilities industry (SIC code 4900-4999).

However, our sample now only consists of firms that have been investigated by WHD at least once, whether the investigation leads to a penalty in the end or not. This introduces sample selection bias, as firms with no investigations during the year were not included. Considering this, we then follow Raghunandan (2021) and extend our sample to include firms that at least commit wage theft violations once during 2000 to 2022. The zero values of wage theft violation measurement are all 'true' zeros, meaning there is no violation detected no matter if it has been

[28] Data available at https://www.dol.gov/agencies/wb/equal-pay-protections.

[29] Data available at https://sites.google.com/site/johnbaijianqiu/data.

investigated by WHD. Detailed sample selection procedures are shown in Appendix 4-3.

4.4 Empirical design

4.4.1 Identification strategy

As we discussed above, the staggered adoption of state-level pay transparency laws is a quasi-natural experiment. However, one concern when introducing quasi-natural experiments in the staggered Difference-in-Differences model is that the estimation of the treated effect would be a weighted average value of the effect across all periods. Thus, following Baker et al. (2022), we adopt the stacked Difference-in-Differences regression method in our analysis. To identify our group of treated firms, we match each firm with the adoption year of pay transparency laws according to their historical incorporate state, while the matched firms are then treated firms; those unmatched firms are our clean control groups (Goodman-Bacon, 2021).

For each treatment year, we create a 'cohort' that contains treated firms together with all the clean controls. In each cohort, we require both the treated and the control firm to have at least one pre-treatment and one post-treatment observation, while retaining 11 years of observations (meaning five years before and after the current treatment year indicated in the cohort). Considering that only 20 out of 50 states have adopted the pay transparency laws during our sample period, the percentage of control firms would largely outweigh the number of treated firms. Thus, for each treated firm in a cohort, we follow Leung et al. (2024) and implement propensity score matching (PSM) to identify a matching firm in the control group using the one-to-one nearest neighbour method. We then stack the matched cohorts

into a panel to form our final sample. Our final sample covers 259 unique firms from 2000 to 2022.

4.4.2 Empirical model

We examine the effect of adopting pay transparency laws on wage theft violations by estimating the following OLS regression model:

$$Wage_{theft_{i,t}} = \beta_0 + \beta_1 Transparency + \beta_2 Controls + \gamma_i + \theta_t + \varepsilon_{i,t} \quad (4\text{-}1)$$

where i indexes firm, and t indexes fiscal year. $Wage_theft_{i,t}$ is measured as $Wage_theft_{i,t}$, $Num_Violations_{i,t}$, $Penalties_{i,t}$, or $Backwage_{i,t}$. $Wage_theft_{i,t}$ is an indicator variable which equals 1 if the firm is detected violation for the fiscal year, and 0 otherwise. $Num_Violations_{i,t}$ is defined as the frequency of violations[30] for firm i in year t. $Penalties_{i,t}$ is the natural logarithm of 1 plus the aggregated violation penalties for firm i in year t. $Backwage_{i,t}$ is the natural logarithm of 1 plus the aggregated back-wage collection for firm i in year t.

Our main independent variable is *Transparency*, which is an interaction term of *Treat* and *Post*. *Treat* is a dummy variable that equals 1 if the state of a firm's headquarter is one of the states that enact pay transparency laws, and 0 otherwise. *Post* is a dummy variable that represents the pre- or post-implementation of the pay transparency laws. The coefficient β_1 represents the difference in the time-series changes in firms' engagement in wage theft violations between the treatment firms and control firms attributable to the implementation of the pay transparency law.

[30] Notably, we construct the continuous outcome variable instead of adopting the log transformation following Cohn et al. (2022), who argues that log transformation risks conflating the probability and significance of positive values and affect the interpretability of the results if the raw units are more meaningful.

All continuous variables are winsorized at both the top and bottom 1%, and all variable definitions are listed in Appendix 4-1. Similar with Li and Wang (2024), we control for both year-by-cohort and firm-by-cohort fixed effects. Year-by-cohort fixed effects control for time-varying shocks that are specific to each treatment cohort, and firm-by-cohort fixed effects allow firms to have cohort-specific baseline outcomes when they appear in multiple stacked samples as clean controls. This specification ensures that our estimation results come from within-firm variation relative to clean control firms in the same cohort, thereby reducing potential bias from cross-cohort heterogeneity.

4.4.3 Descriptive statistics

Table 4-1 reports the summary statistics for the main variables in our analysis. The mean of *Treat* shows that after the one-to-one PSM matching, almost every treated firm has been paired with a clean control firm. The distributions of our dependent variables are right-skewed, and 25.4% of our sample are detected committing violations, with the violation frequency of 0.161 times on average per year. The average of a firm's total assets is $36.19 billion (Ln 8.317), sales growth is 7.6%, and leverage is 29.1%. Appendix 4-4 shows the Pearson and Spearman correlation matrix for our main variables in equation (4-1). The correlations between wage theft violations are highly positive, and the correlation between *Transparency* with wage theft measurements is significantly positive, which is consistent with our assumption.

[Insert Table 4-1 here]

4.5 Main results

4.5.1 Baseline regression

In Table 4-2, we report the baseline regression results. The dependent variable is $Wage_theft_{i,t}$ in Column 1, *Num_Violations* in Column 2, *Penalties* in Column 3, and *Backwage* in Column 4. In all four regressions, the coefficient estimate on *Transparency* is significantly positively related to wage theft measurements, which implies that wage theft violations significantly increased after adopting the pay transparency law. Specifically, the coefficient estimate in the four columns indicates that adopting pay transparency laws leads to a 10.8% increase in the possibility of committing wage theft violations, a 4.5% increase in the frequency of violations, an 18.41%[31] increase in penalty amount, and a 66.53%[32] increase in back-wage collection paid to employees. The magnitude of the estimates is consistent with the study from Raghunandan (2021), where they find that the performance pressure from meet-or-beat analyst forecast is related to a 13.7% increase in the likelihood of wage theft violations and around 10% increase for penalties. Additionally, the coefficient estimates on control variables suggest that larger firms are more likely to have higher possibilities of committing wage theft violations and higher penalties.

[Insert Table 4-2 here]

4.5.2 Dynamic Difference-in-Differences

Our identification strategy relies on the assumption that both the treatment and control groups will evolve similarly without the effect of adopting pay transparency laws. Here, we conduct dynamic DiD regression to test if both treat and control groups have a similar trend of changes during the pre-event period. We specify the

[31] Calculated as $(e^{0.169}-1)\times100\%$.

[32] Calculated as $(e^{0.510}-1)\times100\%$.

indicator variables *Transparency_3plus* (*Transparency_2)* to cover the 3 years and more (2 years) before the pay transparency laws adoption year. We use the year before the treatment year as the benchmark year. *Transparency0* is the indicator variable that equals 1 if the fiscal year is the policy adoption year. Similarly, *Transparency1, Transparency2, and Transparency3plus* are indicator variables when the fiscal year is 1, 2, or 3 and more years after the policy adoption year. We include all six indicator variables and run the baseline regression using equation (4-1). From the results in Table 4-3, we can see that the coefficient estimates on *Transparency* are only significantly positive with wage theft after the adoption of pay transparency laws, which means the changes in wage theft emerge only after the adoption and afterwards. To visualise the changes in the effect of adopting pay transparency laws on wage theft, we plot the changes in the coefficient estimates in Figure 4-1. Overall, the results suggest that our empirical model meets the parallel trend assumption.

[Insert Table 4-3 here]

[Insert Figure 4-1 here]

4.5.3 Robustness tests

To address the potential endogeneity issues and ensure the robustness of our tests, we conduct the following tests.

4.5.3.1 Alternative samples

We consider two tests using alternative sample composition. Firstly, as our baseline findings indicate that adopting pay transparency laws leads to more violations being detected and causes higher penalties, we are concerned that some firms might be motivated to relocate their headquarters to states that haven't

adopted the law. To rule out the displacement effect brought by their movements, we exclude those firms from our sample and run the regression again. We present the results in Panel A of Table 4-4. The coefficient estimates of *Transparency* show that the effect of adopting pay transparency laws on wage theft is not influenced by those firms that relocate their headquarters.

Secondly, as mentioned in Chen et al. (2025), there is a potential concern regarding the measurement of pay transparency laws adoption. While we use a firm's historical headquarter state to define whether firms are required to adopt the pay transparency laws, it is also possible that the law only applies based on where the employee is located or works, not where the company's headquarters are. If this is the case, then firms that operate outside their headquarters may cause bias in our estimation. We follow Flammer and Luo (2017) and Chen et al. (2025) and restrict our sample to firms that operate concentratedly in the headquarters state. A firm's concentration of operations is measured as the geographic dispersion, which means a firm is more geographically dispersed if it has operations in multiple states. We address this issue by excluding industries that are more likely to be geographically dispersed, which include retail (NAICS two-digit code 44-45), wholesale (NAICS two-digit code 42), and transportation (NAICS two-digit code 48). We present the results in Panel B of Table 4-4. Overall, the effect of adopting pay transparency laws on wage theft still holds.

4.5.3.2 Alternative measures of wage theft

In our baseline analysis, we use the overall frequency or penalty amount to measure wage theft; however, the measurement might be closely related to the size of the organisations. While controlling the firm's size, we further scale the firm's

wage theft by the number of employees involved in the violation. We define *Penalty_EE (Backwage_EE)* as the natural logarithm of 1 plus the total dollar amount of Civil Monetary Penalties (Back pay Collection) assessments divided by the total number of employees affected. Additionally, we follow Raghunandan (2021) and replace *Num_Violations* with *Ln_Num_Violations*, which is the natural logarithm of the frequency of wage theft violations, to mitigate the effect brought by outliers. We represent the results in Panel C of Table 4-4. The coefficient estimates on *Transparency* are significantly positive, which are consistent with our main findings and show that the effect of adopting pay transparency law is robust to the measurements of wage theft.

4.5.3.3 Control for confounding laws

One potential concern of the identification strategy in our main analysis is that the adoption of PTL might be affected by other labour-related reforms, which could confound the estimated treatment effect. To mitigate this concern, in this section we consider the effect of adopting Wrongful Discharge Laws (WDL) on the explanatory power of PTL adoption. WDL is a state-level protection for employees that limits employers from firing workers for no reason. WDL include three main exceptions that allow employees to sue their employers for random employment termination, which are: *Good faith exception, Implied Contract Exception,* and *Public Policy Exception* (Autor et al., 2006; Acharya et al., 2014). States with stronger wrongful discharge protections may arguably enhance employees' bargaining positions and mitigate the effect of adopting pay transparency laws.

One recent study in PTL adoption from Leung et al. (2024) also considers the potential effect of confounding laws, and they add three controls for wrongful

discharge laws to isolate the effect of pay transparency laws. Different from their method, we create a dummy variable *Any Doctrine*, which equals 1 if the state has adopted any of the three exceptions, and 0 otherwise. Then we interact *Any Doctrine* with *Transparency* and add them in our main regression. We report the results in Panel D of Table 4-4. We find that the significance of the coefficient estimates on the interaction term *Transparency*×*Any Doctrine* are still significantly positive, which means the effect of adopting pay transparency laws is unlikely to be mitigated by the increase of employee bargaining power after adopting other policies.

4.5.3.4 Alternative fixed effect

While we have controlled for year-by-cohort and firm-by-cohort fixed effects in our main analysis, here we further control for other possible state-level shocks that might affect our results. To address this concern, we add State fixed effects together with the other fixed effects in the main analysis. We present the results in Panel E of Table 4-4, and the results are consistent with our main findings.

4.5.3.5 Poison model

As mentioned in the sample construction, we include all firms that have at least commit violation at one time during the whole time period, which creates a fair amount of zero values for our wage theft measurements. Considering the zero-inflated distribution for our dependent variable *Num_Violations*, *Penalties*, and *Backwage*, we adopt the Poisson regression model to conduct the baseline analysis. Firstly, we follow Chircop et al. (2024b) and transform the three dependent variables into quintiles correspondingly, and then we use the new dependent variable in the Poisson regression model. The results are shown in Panel F of Table

4-4. The coefficient estimates in all three columns remain consistent across OLS and Poisson models, suggesting that the relationship between PTL adoption and wage theft is robust to distributional assumptions.

4.5.3.6 Survival analysis

As mentioned in Chen et al. (2025), one endogeneity concern is that misconduct might predict the adoption of pay transparency laws; states may adopt the law either as a response to market-level shocks or through lobbying. To mitigate this reverse causality concern in our analysis, we employ a Cox proportional hazards model to examine whether the adoption of pay transparency laws is predicted by state-level characteristics.

Firstly, we use OLS model to test whether and how state level features would be related to the adoption of PTL. Based on a state-year level data, we generate a dummy variable *Adoption* to indicate whether the state has adopted the PTL and then run a logit regression using *Adoption* as dependent variable. We construct the state-level average wage theft misconduct measurement *State_Vio* to represent the overall level of wage theft in the state. We post the results in column (1) of panel G in Table 4-4. We can see from the results that the wage theft violations on the state level does not necessarily lead to the adoption of PTL, and the overall coefficient estimates for state level features are insignificant, suggesting that the decision of adopting PTL is systematically associated with underlying state-level characteristics.

However, if the adoption of PTL is correlated with some certain features of the state, will they predict when will the state adopt the policy? If so, there will be potential endogeneity concerns in our setting. Thus, we use COX proportional

hazard model to test whether state level feature would predict the adoption of PTL. Similarly, we control for state-level population, GDP, per capita expense, poverty, union coverage, unemployment rate, good faith exception adoption, and political environment. We report the results in the second column of Panel G of Table 4-4. The coefficient estimates for the state-level controls are all insignificant, which means none of those state-level features would predict when the state would adopt PTL, and the policy adoption is an exogenous experiment. Overall, the results in this section suggest that the reverse causality concerns are unlikely to affect our analysis.

4.5.3.7 Staggered Difference-in-Differences model

In our main analysis, we introduce a stacked Difference-in-Differences regression method to observe a cleaner identification of the treatment effects. We firstly create separate treatment cohorts and match treatment firms with one control firms, and we then construct our final sample by stacking the treatment cohorts all together. By doing so, we minimise the contamination from later-treated firms. However, while this method is more efficient in leveraging the full treatment effect, it also brought potential concerns in estimating the overall treatment effect. As mentioned in Wing et al. (2024), stacked DiD method might fail if the sample weight is not corrected during the cohort-specific matching. Considering the above concern, we then use the staggered DiD regression method to test our baseline analysis without matching treatment firms with control firms in each cohort. Similarly to the main analysis, we identify treatment firms as the ones whose headquarters are in the states that have adopted the PTL. We report the results in Panel H in Table 4-4. The coefficient estimations on *Transparency* are all significantly positive, which are consistent with our main analysis and provide

evidence that our matching method in each cohort does not lead to potential bias in sample selection.

[Insert Table 4-4 here]

4.5.3.8 Placebo test

Finally, we conduct a placebo test to ensure our results are not influenced by unobservable factors. We first randomise both the treated states and the adoption year of pay transparency laws, and we generate the new interact term *Placebo_Transparency,* to replace *Transparency* in the equation (4-1). We repeat the procedure 500 times and store the 500 coefficient estimates from the regression. We plot the kernel distribution of the estimates in Figure 4-2. The vertical red solid line shows the true coefficient estimate in our baseline analysis, while the vertical red dashed line shows the kernel distribution when the estimate of the coefficient is zero. We can see that a large number of coefficient estimates concentrate around zero, meaning that the randomised policy enactment does not have a real effect on wage theft, which proves that the actual adoption of pay transparency laws affects wage theft not just by chance.

[Insert Figure 4-2 here]

4.6 Potential channel

Our baseline analysis examines the positive relation between the adoption of pay transparency laws and wage theft violations. Hereafter, we take a further look at the plausible underlying mechanism and try to identify the channel through which the PTL adoption brings a direct effect.

Firstly, we think about who plays a key role in violation detection. Based on a study of corporate fraud, Dyck et al. (2010) examine the incentives of fraud detection using the source of information that detectors use. They show that the detection from standard corporate governance actors like investors and auditors only accounts for less than 38% of the cases, while nontraditional players like employees and social media are more active and contribute to revealing corporate misconduct. Consistent with the idea that employees play an important role in detecting corporate misconduct, Bowen et al. (2010) suggest that employee whistleblowing is a strong form of corporate governance, and allegations of corporate wrongdoings, such as earnings restatements, have significant negative economic consequences.

Recent studies from Butler et al. (2020) and Bereskin et al. (2020) provide evidence on how employees make decisions about whistleblowing when facing both financial incentives and moral conflict. They find that while financial rewards stay effective in motivating whistleblowing, it does not crowd out the non-monetary motivations driven by the employees' prosocial characters. Specifically, as prosocial employees are more attached to the community, they are more aware of the social harm of corporate misconduct and more likely to whistleblowing.

Based on the above, we hypothesise that the increase in wage theft is a result of increased whistleblowing from employees. Here, employees' whistleblowing on wage theft is measured by the investigations recorded by the Wage and Hour Division. Here, we measure investigations using the variable "case_violtn_cnt" from the WHISARD database, which indicates the total number of violations associated with a registered case. Zero values indicate that an investigation has been conducted following the case, but no violations have been detected. This variable

allows us to distinguish between investigations and the detection of violations. It is plausible, as most WHD investigations are initiated by employees filing a complaint for mistreatment from their employers, while it does not necessarily prove the firm has violated. Thus, we first constructed a variable *NumofInvestigation*, which is the aggregated number of investigations initiated for the firm in the current fiscal year, and we then ran our baseline analysis using equation (4-1). Notably, as not all investigations will detect the employer's violations in wage theft, we then use the number of investigations that does not detect violations as another measurement of the employee's whistleblowing. We construct *NumofInvestigation_noVio* using the overall number of investigations minus the number of violations and run the regression again. We present the results in columns (1) and (2) in Table 4-5 accordingly. We observe that there is a significant positive relation between adopting pay transparency laws and the activeness of employees' whistleblowing, which suggests that the significant increase in wage theft after PTL adoption is strongly related to employee activism in whistleblowing.

[Insert table 4-5 here]

4.7 Cross-sectional analysis

In this section, we perform three sets of cross-sectional analyses to examine the moderating effect of employee bargaining power, corporate governance, and corporate culture on the relation between PTL adoption and wage theft.

4.7.1 The effect of employee bargaining power

We first argue that the effect of PTL adoption on a firm's wage theft is stronger if employee collective bargaining power is storng. Stronger employee bargaining

power not only means employees will have more say on employment terms and wage contracts; it also means more channels to negotiate with the employers. In this regard, we expect the positive effect of adopting a pay transparency law on wage theft would be stronger when the employee bargaining power is stronger.

We introduce two proxies to measure employee bargaining power. The first is the union coverage rate[33]. In the first part, we predict that higher union coverage is linked to stronger protection for employee rights, which releases the employee's concern of retaliation for whistleblowing. As a result, employees are more likely to be motivated to uncover the mistreatment, especially corporate misconduct in wage theft violations. Prior research has shown that union coverage would affect corporate financing decisions, as corporate liquidity is seen as an incentive to encourage employees to fight for higher wages (Matsa, 2010; Chen et al., 2011). In line with the power of unions' protection, Lewis and Vandekerckhove (2018) study the effect of trade unions in the UK on employee whistleblowing, and they argue that unionisation provides 'protection against victimization', which releases employee's fear of retaliation. A recent study in how legal protection improves work safety from Johnson et al. (2024) also shows that unions help implement retaliation protection law by providing employees with information and support.

Hereafter, we generate a dummy variable, *High Union Coverage*, which equals 1 if the union coverage in a firm's industry is above the sample median of a year, and 0 otherwise. We then interact this term with *Treat* and *Post* to create a triple interaction term. In this triple difference analysis, we follow Olden and Møen (2022) and create two other two-way interaction terms, then we include all those

[33] Data available at www.unionstats.com.

indicator variables and conduct the main analysis using equation (4-1). We represent the results in Panel A of Table 4-6. The coefficient estimate on *Treat×Post×High Union Coverage* is significantly positive, implying that the effect of adopting pay transparency laws is more effective when the employees have stronger union protection.

Secondly, we consider employees outside employment options, as they have stronger bargaining power if they have abundant outside job opportunities (Donangelo, 2014). On the other hand, a recent study from Jäger et al. (2024) argues that employees' beliefs in outside options are likely to be biased due to a lack of pay transparency, which means the increased information transparency after PTL adoption may vary between groups with different mobilities. Similar to Chen et al. (2025b), we follow Donangelo (2014)[34] and define labour mobility as aggregated occupation-level concentration, weighted by the wage expense associated with each occupation within an industry. The measurement represents the overall mobility of an industry's workforce, with higher values indicating greater mobility. We then generate an indicator variable *High Mobility*, which equals 1 if the value of labour mobility is above the sample median, and 0 otherwise. We interact with *High Mobility* with *Treat* and *Post* and run the regression with other interaction terms generated in the Difference-in-Difference-in-Differences (DiDiD) analysis using equation (4-1). The results are shown in Panel B of Table 4-6. The coefficient estimate of *Treat×Post×High Mobility* in all columns is significantly positive with wage theft, suggesting that when employees' bargaining power regarding pay-

[34] Data available until 2015.

related matters strengthens, the effect of PTL adoption on a firm's wage theft violations tend to be stronger.[35]

[Insert Table 4-6 here]

4.7.2 The effect of corporate governance

Next, we examine the effect of corporate governance on the relationship between pay transparency law adoption and wage theft. Consistent with the agency theory, an effective governance structure would align management's interest with shareholders' and other stakeholders' interests, which would curb corporate misconduct that brings harm to the firm's long-term benefits. Therefore, in this part, we examine whether firms with strong corporate governance are less likely to commit wage theft violations. We consider corporate governance from the board of directorsand non-executive employees.

Firstly, we measure corporate governance from the board of directors. Coles et al. (2014) find that the board of directors is supposed to be monitoring the CEO's empire-building tendency; the monitoring power significantly decreases if they have an alliance with the CEO when elected. While Baldenius et al. (2014) support this argument and suggest that the monitoring role of the board of directors would be less efficient, especially when the CEO's power is too strong. Consistent with

[35] Due to the limitation on labour mobility data from Donangelo (2014), we consider an alternative measurement of labour mobility following De la Parra and Glaeser (2025). They develop a firm-level measurement of the firm's overall exposure to labour market competition by analysing the text content of job postings. We replace the values of *High Mobility* using the alternative measurement, and the results of the coefficient estimate for the interaction term are consistent with our previous findings. The data is available at the author's personal website https://www.stephenglaeser.com/data .

their finding, we use the measurement of board co-option following Coles et al. (2014) and construct the indicator variable *High co-option*, which equals 1 if the firm's tenure-weighted board co-option rate is above the sample median of a year, and 0 otherwise. Board co-option is calculated as the fraction of the board that consists of co-opted directors. We run the regression again with new interact terms using equation (4-1) and present the results in Panel A of Table 4-7. The coefficient estimate of the triple interaction term *Treat*×*Post*×*High co-option* is significantly positive in all four columns, suggesting that the effect of adopting pay transparency laws on wage theft tend to be stronger when corporate governance is weak.

Secondly, we consider the monitor effect from the employees. Studies have shown that employees are more attached to the firm by holding stock options, and they would prefer to expose misconduct behaviours internally considering the personal risk and cost of whistleblowing (Call et al. 2016), which provides better monitoring and reduces violations in the first place. Similar evidence was found from Adwan and Ahamed (2022) that when non-executive employees have higher stock option ownerships, they are better aligned with shareholders' interests by improving the monitoring of the management. That said, higher rank-and-file employee stock options motivate employees to align their interests with the firm's overall performance and incentivize them to monitor management's decisions, thereby reducing the likelihood of committing violations. Employee's stock option ownership was calculated as the ratio of the difference between the firm's total options and top executives granted options, divided by the outstanding shares. Hereby, we define an indicator of *High RF options*, which equals 1 if the firm's employee's stock option ownership is higher than the sample's median value of a year, and 0 otherwise. We present the results in Panel B of Table 4-7. The coefficient

estimates of the triple interaction term *Treat×Post×High RF options* in all columns are significantly negative, suggesting that the effect of adopting pay transparency laws on wage theft is likely to be mitigated when the corporate governance environment is stronger, reflected by the improved monitoring from employees.

[Insert Table 4-7 here]

4.7.3 The effect of corporate culture

Additionally, we estimate whether corporate culture could affect the positive relation between PTL adoption and wage theft. Corporate culture is essential in shaping a firm's ethical decisions, especially when internal or external governance is insufficient (Bauer et al., 2005; Karolyi, 2016). Hutton and Jiang (2015) mention that even though the relation between culture and corporate wrongdoings seems intuitive, it is challenging to quantify corporate culture and to what extent does it has an effect on misconduct. Fauver et al. (2018) examine whether corporate culture in employee-friendliness would affect firm value by creating 32 employee-treatment attributes covering five categories. And they construct the aggregate scores of employee treatments to show whether the firm is employee friendly. A recent paper from Altamuro et al. (2022) measures corporate integrity culture using a firm's internal control environment, and they find that weak integrity culture in firms from the pharmaceutical industry tends to have high accounting restatements.

We follow Hage et al. (2024) and adopt the corporate culture measurements from Li et al. (2021). In their paper, corporate culture is measured using text-analysis based on earnings call transcripts, and they define five culture dimensions based on the words in the reviews, which are: integrity, respect, innovation, teamwork, and results orientation. Among the five dimensions, we use the 'respect'

dimension to represent the corporate culture in employee treatment, as it captures the perceived degree to which employees feel valued, listened to, and treated with dignity by managers and peers. This measure emphasises fair decisions and treatments in the workplace and shows the overall environment for employee treatment[36].

Similar with the previous method, we construct an indicator variable *High Corporate Culture*, which equals 1 if the firm's corporate culture score on 'respect' is higher than the sample's median for a year, and 0 otherwise. We include the new interaction terms in the main analysis using equation (4-1) and present the results in Table 4-8. Our variable of interest is the triple interaction term *Treat*×*Post*×*High Corporate Culture*, and we can see that its coefficient estimate is significantly negative in all four columns, suggesting that the effect of pay transparency law on wage theft is weaker when the corporate culture is stronger, where the employees are fairly well treated and the firm itself is less incentivised to misconduct.

[Insert Table 4-8 here]

4.8 Conclusion

Using a state-level staggered adoption of pay transparency laws, our study examines the effect of PTL adoption and wage theft. Recent studies have shown that adopting PTL significantly reduces the pay gap and contributes greatly to firm productivity. However, some critics also argue that the improved pay transparency reduces employees' internal bargaining power, causes higher employee turnover, or leads to more workplace safety concerns. In line with the view of the potential costs

[36] Here we also replace scores in 'respect' with 'teamwork' and 'Integrity' as robustness tests, the results are consistent.

after adopting PTL, we provide evidence that PTL adoption is significantly related to the increase of a firm's wage theft violations. Our results are robust after a series of tests, such as using an alternative sample and measurements or changing the estimation method.

Our study contributes to the recent debate: Is pay transparency good? While pay transparency reduce pay dispersion between workers, it could also cause counterproductive peer comparison and disturb labour market competition (Cullen, 2024). We infer that the positive effect of PTL adoption is through an increase in employee whistleblowing, as the employees are more motivated to claim their rights while being more informed of the pay-related information. Noteworthily, the increase in detected wage-theft violations could be a short-term consequence of adopting PTL, given that our observation window is five years. In contrast, other studies find that corporate misconduct decreases following adoption over a longer observation window of seven years (Leung et al., 2026). Moreover, the effect is more pronounced when the employees are better protected by the unions, when the corporate governance is weaker, or the corporate culture of employee treatment is worse.

Table 4-1 Descriptive statistics

This table reports the summary statistics of all variables in our baseline analysis. All continuous variables are winsorized at both the top and bottom 1%. The definitions of all variables are listed in 4-1I.

Var	N	Mean	Std.	Min	Median	Max
Transparency	2922	0.286	0.452	0	0	1
Treat	2922	0.510	0.500	0	1	1
Post	2922	0.567	0.496	0	1	1
$Wage_theft_{i,t}$	2922	0.254	0.435	0	0	1
$Num_Violations_{i,t}$	2922	0.161	0.427	0.000	0.000	5.667
$Penalties_{i,t}$	2922	0.181	1.095	0.000	0.000	7.554
$Backwage_{i,t}$	2922	1.469	3.211	0.000	0.000	11.151
$Size_{i,t}$	2922	8.317	1.765	3.733	8.352	12.509
$BM_{i,t}$	2922	0.399	0.420	-1.481	0.351	1.964
$ROA_{i,t}$	2922	0.100	0.087	-0.284	0.097	0.409
$Lev_{i,t}$	2922	0.291	0.214	0.000	0.270	1.139
$Salesgrowth_{i,t}$	2922	0.076	0.205	-0.461	0.050	1.125
$Cashholding_{i,t}$	2922	0.115	0.119	0.001	0.076	0.615
$Dividend_{i,t}$	2922	0.695	0.461	0	1	1

Table 4-2 Baseline evidence: Pay transparency law and wage theft violations

This table examines how the state-level staggered adoption of pay transparency laws affects wage theft violations. We use four variables to measure wage theft violations. *Wage_theft*$_{i,t}$ is an indicator variable that equals 1 if a firm has been recorded at least 1 violation in the year, and 0 otherwise. *Num_Violations* measures the frequencies of wage theft violation investigations, while *Penalties* (*Backwage) is* the natural logarithm of 1 plus the penalty (back-pay collection) amount per firm-year. Our main independent variable of interest is *Transparency*, which equals 1 if the firm's headquarters state has adopted the pay transparency law in the year and years after. All specifications are OLS regressions with year-by-cohort and firm-by-cohort fixed effects. In parentheses are p-values based on standard errors that are adjusted for heteroskedasticity and state-level clustering. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. An intercept is included but not reported. All variables are defined in Appendix 4-1.

	(1)	(2)	(3)	(4)
	Wage_theft$_{i,t}$	*Num_Violations*$_{i,t}$	*Penalties*$_{i,t}$	*Backwage*$_{i,t}$
Transparency	0.108***	0.045**	0.169*	0.510*
	(0.003)	(0.044)	(0.055)	(0.090)
Size$_{i,t}$	0.057**	0.017	0.114**	0.553***
	(0.044)	(0.410)	(0.021)	(0.000)
BM$_{i,t}$	-0.017	0.014	-0.142	0.080
	(0.561)	(0.662)	(0.108)	(0.755)
ROA$_{i,t}$	0.101	-0.143	-0.033	2.010
	(0.681)	(0.679)	(0.936)	(0.284)
Lev$_{i,t}$	0.079	-0.023	0.173	1.254*
	(0.313)	(0.773)	(0.522)	(0.053)
Salesgrowth$_{i,t}$	-0.065*	-0.015	-0.037	-0.297
	(0.087)	(0.653)	(0.698)	(0.291)
Cashholding$_{i,t}$	0.246	0.149	0.225	1.093
	(0.205)	(0.339)	(0.426)	(0.402)
Dividend$_{i,t}$	-0.037	0.022	-0.059	0.403
	(0.406)	(0.643)	(0.265)	(0.287)
Year-Cohort FE	Yes	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes	Yes
N	2,922	2,922	2,922	2,922
Adj-R^2	0.347	0.284	0.236	0.330

Table 4-3 Dynamic Difference-in-Differences analysis

This table presents the results of dynamic regressions. We interact each event time dummy with the treatment indicator to obtain the dynamic treatment effect. The reference year is the year before treatment. *Transparency0* is a dummy variable which equals 1 during the year of adopting pay transparency laws, and 0 otherwise. *Transparency_3plus (Transparency3plus)* is an indicator equal to 1 for treated observations that are three or more years before (after) the treatment year, and 0 otherwise. All specifications are OLS regressions with year-by-cohort and firm-by-cohort fixed effects. In parentheses are p-values based on standard errors that are adjusted for heteroskedasticity and state-level clustering. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. An intercept is included but not reported. All variables are defined in Appendix 4-1.

	(1)	(2)	(3)	(4)
	$Wage_theft_{i,t}$	$Num_Violations_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Transparency_3plus	-0.020	0.064	-0.036	-0.122
	(0.623)	(0.213)	(0.784)	(0.717)
Transparency_2	0.049	0.014	0.003	0.178
	(0.198)	(0.633)	(0.980)	(0.544)
Transparency0	0.159***	0.156***	0.089	0.714**
	(0.000)	(0.001)	(0.474)	(0.049)
Transparency1	0.130***	0.114**	0.167	0.679*
	(0.007)	(0.020)	(0.160)	(0.051)
Transparency2	0.127**	0.043	0.295***	0.715
	(0.014)	(0.324)	(0.001)	(0.131)
Transparency3plus	0.075	0.059	0.118	0.257
	(0.104)	(0.139)	(0.300)	(0.448)
$Size_{i,t}$	0.056**	0.017	0.114**	0.548***
	(0.047)	(0.422)	(0.023)	(0.000)
$BM_{i,t}$	-0.016	0.012	-0.139	0.084
	(0.564)	(0.708)	(0.116)	(0.744)
$ROA_{i,t}$	0.101	-0.161	-0.022	2.000
	(0.683)	(0.639)	(0.956)	(0.285)
$Lev_{i,t}$	0.073	-0.027	0.174	1.220*
	(0.363)	(0.744)	(0.519)	(0.063)
$Salesgrowth_{i,t}$	-0.066*	-0.016	-0.039	-0.307
	(0.084)	(0.646)	(0.675)	(0.277)

Cashholding$_{i,t}$	0.238	0.143	0.235	1.058
	(0.223)	(0.368)	(0.402)	(0.414)
Dividend$_{i,t}$	-0.036	0.021	-0.057	0.409
	(0.410)	(0.660)	(0.278)	(0.275)
Year-Cohort FE	Yes	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes	Yes
N	2922	2922	2922	2922
Adj-R^2	0.348	0.286	0.236	0.331

Table 4-4 Robustness tests

This table shows the results of robustness tests. Panel A estimates the effect of the adoption of pay transparency law on wage theft violations after excluding firms that have relocated their headquarters. Panel B presents estimation results after excluding firms that operate mostly outside their headquarters states. Panel C uses alternative measurements of wage theft violations. Panel D controls for potential confounding laws (wrongful discharge laws). Panel E controls for State fixed effects, together with the fixed effects used in the baseline analysis. Panel F uses the Poisson model as an alternative regression model. Panel G shows the estimation of the Cox Proportional Hazard Model, while using the state-level average value of frequencies of wage theft violation investigation as the independent variable. Panel H uses the staggered DiD model as an alternative regression method to exclude potential sample selection bias from PSM matching in our main analysis. In parentheses are p-values based on standard errors that are adjusted for heteroskedasticity and state-level clustering. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. All controls and intercept are included but not reported. All variables are defined in Appendix 4-1.

Panel A: Exclude firms that relocate headquarters

	(1)	(2)	(3)	(4)
	$Wage_theft_{i,t}$	$Num_Violations_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Transparency	0.100***	0.040*	0.196**	0.524*
	(0.007)	(0.066)	(0.025)	(0.078)
Controls	Yes	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes	Yes
N	2,795	2,795	2,795	2,795
Adj-R^2	0.251	0.183	0.131	0.228

Panel B: Exclude firms that operate mostly outside the headquarter states

	(1)	(2)	(3)	(4)
	Wage_theft$_{i,t}$	*Num_Violations*$_{i,t}$	*Penalties*$_{i,t}$	*Backwage*$_{i,t}$
Transparency	0.104***	0.038	0.207**	0.424
	(0.002)	(0.145)	(0.023)	(0.149)
Controls	Yes	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes	Yes
N	2,427	2,427	2,427	2,427
Adj-R^2	0.280	0.195	0.140	0.243

Panel C: Alternative measurements of wage theft violations

	(1)	(2)	(3)
	Penalty_EE$_{i,t}$	*Backwage_EE*$_{i,t}$	*Ln_Num_Violations*$_{i,t}$
Transparency	0.123*	0.403*	0.048***
	(0.090)	(0.093)	(0.000)
Controls	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes
N	2,922	2,922	2,922
Adj-R^2	0.134	0.221	0.208

Panel D: Control for potential confounding laws

	(1)	(2)	(3)	(4)
	Wage_theft$_{i,t}$	*Num_Violations*$_{i,t}$	*Penalties*$_{i,t}$	*Backwage*$_{i,t}$
Transparency×Any Doctrine	0.179***	0.014	0.795**	0.561
	(0.008)	(0.862)	(0.020)	(0.572)
Transparency	-0.063	0.058	-0.585*	0.007
	(0.374)	(0.463)	(0.085)	(0.995)
Any Doctrine	-0.009	0.008	-0.190**	-1.046

	(0.883)	(0.824)	(0.039)	(0.210)
Controls	Yes	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes	Yes
N	2,922	2,922	2,922	2,922
Adj-R^2	0.258	0.186	0.133	0.239

Panel E: Control for state fixed effect

	(1)	(2)	(3)	(4)
	$Wage_theft_{i,t}$	$Num_Violations_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Transparency	0.106^{***}	0.044^{*}	0.190^{**}	0.521^{*}
	(0.005)	(0.053)	(0.030)	(0.085)
Controls	Yes	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
N	2,922	2,922	2,922	2,922
Adj-R^2	0.248	0.176	0.122	0.232

Panel F: Alternative estimation model: Poisson regression

	(1)	(2)	(3)
	Qintile_Num_Violations	*Qintile_Penalty*	*Qintile_Backwage*
Transparency	0.400^{***}	0.104^{**}	0.274^{***}
	(0.002)	(0.011)	(0.000)
Controls	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes
N	2,050	2,922	2,922
Log-likelihood	-973.57	-3178.81	-4232.43

Panel G: Survival analysis-Cox Proportional Hazard Model

	(1)	(2)
Model	OLS model	Cox Proportional Hazard Model
State_Vio	0.881	1.228
	(0.366)	(0.151)
Population	-1.619	-0.884
	(0.726)	(0.739)
GDP	2.103	0.693
	(0.644)	(0.803)
Per capital expense	-2.135	5.440
	(0.657)	(0.422)
Poverty	-33.194*	-11.122
	(0.066)	(0.586)
Union coverage	12.977	-1.492
	(0.108)	(0.701)
Unemployment rate	0.065	0.206
	(0.617)	(0.482)
Good faith	1.102	-0.678
	(0.279)	(0.419)
Democratic	1.658***	1.368
	(0.004)	(0.101)
N	725	725

Panel H: Staggered Difference-in-Differences model

	(1)	(2)	(3)	(4)
	$Wage_theft_{i,t}$	$Num_Violations_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Transparency	0.091***	0.039*	0.137*	0.239*
	(0.000)	(0.085)	(0.081)	(0.090)
$Size_{i,t}$	0.035***	0.022**	0.026	0.176**
	(0.006)	(0.025)	(0.458)	(0.031)
$BM_{i,t}$	0.011	0.011	-0.030	0.216**

	(0.357)	(0.292)	(0.378)	(0.015)
$ROA_{i,t}$	0.087	0.068	-0.018	1.771***
	(0.329)	(0.368)	(0.917)	(0.003)
$Lev_{i,t}$	0.041	0.032	0.125	0.593**
	(0.251)	(0.351)	(0.278)	(0.031)
$Salesgrowth_{i,t}$	-0.026	-0.037***	-0.005	-0.042
	(0.174)	(0.009)	(0.884)	(0.715)
$Cashholding_{i,t}$	-0.032	-0.006	-0.109	-0.101
	(0.586)	(0.892)	(0.388)	(0.855)
$Dividend_{i,t}$	0.002	0.012	0.020	-0.072
	(0.865)	(0.376)	(0.729)	(0.475)
Year FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
N	13,814	13,814	13,814	13,814
Adj-R^2	0.206	0.146	0.126	0.185

Table 4-5 Channel analysis: The effect of PTL on employee activism

This table examines the potential mechanism of the effect of adopting PTL on a firm's wage theft violations. The dependent variable *NumofInvestigation* measures the overall number of investigations recorded by the WHISARD database, no matter a violation was detected or a fine was issued. In column (2), we use the number of investigations without being detected violation as the dependent variable. The higher the number of investigations, the more active the employees are in whistleblowing. All specifications are OLS regressions with year-by-cohort and firm-by-cohort fixed effects. In parentheses are p-values based on standard errors that are adjusted for heteroskedasticity and state-level clustering. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. All controls and intercepts are included but not reported. All variables are defined in Appendix 4-1.

	(1)	(2)
	$NumofInvestigation_{i,t}$	$NumofInvestigation_noVio_{i,t}$
Transparency	0.134**	0.089*
	(0.036)	(0.086)
$Size_{i,t}$	0.036	0.019
	(0.363)	(0.470)
$BM_{i,t}$	-0.038	-0.052
	(0.764)	(0.619)
$ROA_{i,t}$	0.453	0.596
	(0.537)	(0.230)
$Lev_{i,t}$	-0.016	0.007
	(0.910)	(0.942)
$Salesgrowth_{i,t}$	-0.085	-0.069
	(0.206)	(0.148)
$Cashholding_{i,t}$	0.124	-0.025
	(0.618)	(0.864)
$Dividend_{i,t}$	-0.012	-0.034
	(0.876)	(0.472)
Year-Cohort FE	Yes	Yes
Firm-Cohort FE	Yes	Yes
N	2922	2922
Adj-R^2	0.284	0.246

Table 4-6 Cross-sectional analysis: The role of employee bargaining power

This table presents the results of the effect of adopting pay transparency law on a firm's wage theft violations, conditional on employees' bargaining power. In panel A, we measure employee bargaining power using union coverage and rank-and-file employee stock options. *High Union Coverage* equals 1 if the employee union coverage in one industry is higher than the sample's median value of a year, and 0 otherwise. In panel B, we measure employee bargaining power as labour mobility following Donangelo (2014). *High Mobility* equals 1 if the value of labour mobility is above the sample median, and 0 otherwise. The number of observations in this test dropped because data on labour mobility is only available until 2015. We follow Olden and Møen (2022) and introduce corresponding interaction terms in the triple difference analysis. The triple interaction terms allow us to test the moderating effect of employee bargaining power. All specifications are OLS regressions with year-by-cohort and firm-by-cohort fixed effects. In parentheses are p-values based on standard errors that are adjusted for heteroskedasticity and state-level clustering. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. All controls and intercepts are included but not reported. All variables are defined in Appendix 4-1.

Panel A: Union coverage

	(1)	(2)	(3)	(4)
	$Wage_theft_{i,t}$	$Num_Violations_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Treat×Post×High Union Coverage	0.249***	0.159**	0.469*	0.482
	(0.006)	(0.031)	(0.083)	(0.425)
Treat×Post	0.022	-0.005	-0.037	0.414
	(0.697)	(0.909)	(0.771)	(0.276)
Treat× High Union Coverage	0.182**	0.119**	-0.053	1.304***
	(0.021)	(0.038)	(0.807)	(0.005)
Post×High Union Coverage	-0.044	-0.061	-0.030	0.045
	(0.467)	(0.227)	(0.772)	(0.915)

High Union Coverage	-0.040	0.016	-0.110	-0.667
	(0.540)	(0.697)	(0.448)	(0.105)
Controls	Yes	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes	Yes
N	2,922	2,922	2,922	2,922
Adj-R^2	0.293	0.203	0.136	0.246

Panel B: Labour mobility

	(1)	(2)	(3)	(4)
	$Wage_theft_{i,t}$	$Num_Violations_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Treat×Post×High mobility	0.287*	0.338**	0.994**	1.211
	(0.056)	(0.029)	(0.015)	(0.234)
Treat×Post	0.024	-0.007	0.160	0.362
	(0.784)	(0.899)	(0.490)	(0.532)
Treat×High mobility	0.318**	0.272***	-0.556*	1.099
	(0.013)	(0.006)	(0.059)	(0.272)
Post×High mobility	-0.034	-0.025	-0.267	-0.103
	(0.766)	(0.663)	(0.131)	(0.874)
High mobility	-0.124	-0.050	0.287*	-0.967
	(0.184)	(0.270)	(0.059)	(0.226)
Controls	Yes	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes	Yes
N	1,362	1,362	1,362	1,362
Adj-R^2	0.333	0.459	0.280	0.302

Table 4-7 Cross-sectional analysis: The role of corporate governance

This table reports the results of the effect of adopting pay transparency law on a firm's wage theft violations, conditional on corporate governance. We measure corporate governance using board co-option from Coles et al. (2014) and product market similarity by Hoberg and Phillips (2016). In panel A, we define *High co-option* as 1 if the firm's ratio of tenure-weighted co-opted directors is higher than the sample's median value of the year, and 0 otherwise. In panel B, rank-and-file stock option ownership is defined as the difference between the firm's total options and top executives' granted options, then divided by the outstanding shares. *High RF options* equals 1 if the firm's employee's stock option ownership is higher than the sample's median value of the year, and 0 otherwise. We follow Olden and Møen (2022) and introduce corresponding interaction terms in the triple difference analysis. The triple interaction terms allow us to test the moderating effect of corporate governance. All specifications are OLS regressions with year-by-cohort and firm-by-cohort fixed effects. In parentheses are p-values based on standard errors that are adjusted for heteroskedasticity and state-level clustering. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. All controls and intercepts are included but not reported. All variables are defined in Appendix 4-1.

Panel A: Board Co-option

	(1)	(2)	(3)	(4)
	$Wage_theft_{i,t}$	$Num_Violations_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Treat×Post×High co-option	0.201*	0.137*	0.347	1.764*
	(0.066)	(0.052)	(0.192)	(0.094)
Treat×Post	0.047	-0.005	0.010	-0.157
	(0.545)	(0.902)	(0.948)	(0.822)
Treat×High co-option	0.060	-0.046	-0.188	0.051
	(0.427)	(0.407)	(0.231)	(0.946)
Post×High co-option	0.039	0.044	-0.127	-0.045
	(0.586)	(0.407)	(0.267)	(0.947)

High co-option	-0.051	0.005	0.040	-0.190
	(0.431)	(0.891)	(0.590)	(0.759)
Controls	Yes	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes	Yes
N	2,922	2,922	2,922	2,922
Adj-R^2	0.275	0.193	0.132	0.252

Panel B: Rank-and -file employee stock options

	(1)	(2)	(3)	(4)
	$Wage_theft_{i,t}$	$Num_Violations_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Treat×Post×High RF options	-0.230**	-0.290***	-0.241	-1.615*
	(0.049)	(0.005)	(0.399)	(0.062)
Treat×Post	0.273***	0.211***	0.336*	1.538***
	(0.000)	(0.000)	(0.061)	(0.007)
Treat×High RF options	-0.033	0.085	0.012	-0.028
	(0.681)	(0.265)	(0.906)	(0.963)
Post×High RF options	0.001	0.001	0.259	0.293
	(0.987)	(0.990)	(0.186)	(0.499)
High RF options	-0.008	-0.008	-0.203**	-0.097
	(0.890)	(0.855)	(0.015)	(0.809)
Controls	Yes	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes	Yes
Firm-Cohort FE	Yes	Yes	Yes	Yes
N	2,922	2,922	2,922	2,922
Adj-R^2	0.277	0.201	0.134	0.249

Table 4-8 Cross-sectional analysis: The role of corporate culture

This table shows the results of the effect of adopting pay transparency laws on a firm's wage theft violations, considering the power of corporate culture. We obtain corporate culture measurement from Li et al. (2021). Among the five core cultural values of *innovation*, *integrity*, *quality*, *respect*, and *teamwork*, we specifically focus on *respect*, as a firm that scores highly on *respect* represents stronger employee engagement, collaboration, and fair treatment. *High Corporate Culture* equals 1 when the firm's score on *respect* is higher than the median value of the year, and 0 otherwise. We then interact *High Corporate Culture* with *Treat* and *Post,* and conduct a triple difference analysis. All specifications are OLS regressions with year-by-cohort and firm-by-cohort fixed effects. In parentheses are p-values based on standard errors that are adjusted for heteroskedasticity and state-level clustering. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. All controls and intercepts are included but not reported. All variables are defined in Appendix 4-1.

	(1)	(2)	(3)	(4)
	$Wage_theft_{i,t}$	$Num_Violations_{i,t}$	$Penalties_{i,t}$	$Backwage_{i,t}$
Treat×Post×High Corporate Culture	-0.282***	-0.198*	-0.432	-1.408**
	(0.006)	(0.074)	(0.209)	(0.050)
Treat×Post	0.350***	0.215***	0.545**	1.668***
	(0.000)	(0.007)	(0.050)	(0.000)
Treat×High Corporate Culture	0.003	0.043	-0.178	-0.023
	(0.967)	(0.631)	(0.332)	(0.972)
Post×High Corporate Culture	-0.070	-0.053	0.044	-0.124
	(0.281)	(0.372)	(0.784)	(0.739)
High Corporate Culture	-0.017	-0.030	0.003	-0.133
	(0.828)	(0.670)	(0.975)	(0.806)
Controls	Yes	Yes	Yes	Yes
Year-Cohort FE	Yes	Yes	Yes	Yes

Firm-Cohort FE	Yes	Yes	Yes	Yes
N	2,922	2,922	2,922	2,922
Adj-R^2	0.287	0.200	0.141	0.249

Appendix 4-1: Variable definition

Variable Name	Definition	Data Source
	Dependent Variables	
Wage_theft$_{i,t}$	Indicator variable equals to 1 if a firm is recorded at least one violation in the year, and zero otherwise.	WHISARD
Num_Violations$_{i,t}$	Total number of violations in a firm-year.	WHISARD
Penalties$_{i,t}$	Natural logarithm of 1 plus the total dollar amount of CMP (Civil Monetary Penalties) assessments in a firm-year.	WHISARD
Backwage$_{i,t}$	The logarithm of $ value of back pay collection paid attributable to firm *i* during year *t*.	WHISARD
Penalty_EE$_{i,ti,t}$	Natural logarithm of one plus the total dollar amount of CMP (Civil Monetary Penalties) assessments in a firm-year, divided by the total number of employees affected by the violations.	WHISARD
Backwage_EE	The logarithm of $ value of back wages paid attributable to firm *i* during year *t*, divided by the total number of employees affected by the violations.	WHISARD
	Explanatory Variables	
Transparency	Indicator variable equals to 1 in the year and the years after a firm's headquarter state adopt pay transparency laws, and 0 otherwise.	U.S. Department of Labour
	Control Variables	
$Size_{i,t}$	The natural logarithm of total assets.	Compustat
$BM_{i,t}$	The book value of total assets to the market value of total assets.	Compustat
$Lev_{i,t}$	Total debt divided by total assets.	Compustat
$ROA_{i,t}$	Income before extraordinary items divided by total assets.	Compustat

Variable Name	Definition	Data Source
Salesgrowth$_{i,t}$	Current year's sales amount less previous year's sales, scaled by previous year's sales.	Compustat
Cashholding$_{i,t}$	Cash and short-term investments to book value of total assets.	Compustat
Dividend$_{i,t}$	A dummy variable that takes a value of one if the firm pays dividends and 0 otherwise.	Compustat
	Additional Variables	
NumofInvestigation$_{i,t}$	Natural logarithm of 1 plus the total number of investigations in a firm-year.	WHISARD
Union Coverage	Ratio of employed workers who are covered by a collective bargaining agreement.	Unionstats.com
Mobility	Aggregated occupation-level concentration, weighted by the wage expense associated with each occupation within an industry.	Donangelo, (2014)
Board Co-option$_{i,t}$	Ratio of the sum of the tenure of co-opted independent directors divided by the total tenure of all directors. Co-opted independent directors are those who were elected after the CEO takes office.	Coles et al. (2014)
Competition	The average similarity of a firm to its top product market rivals, based on text analysis from the product descriptions in firms' 10-K filings.	Hoberg and Phillips (2016)
RF options	Ratio of the difference between firm's total options and top executives' granted options, divided by the outstanding shares.	Compustat
Corporate culture	Weighted-frequency count of respect-related words (e.g., 'people', 'team', 'company', 'hire', and 'folk') in the Q&A section of a firm's earnings calls averaged over a three-year window.	Li et al. (2021)

Appendix 4-2: Pay Transparency Law Adoption Years

State name	State	Adoption year	Act
Michigan	MI	1982	Mich. Comp. Laws § 408.483a(1)(a)-(c)
California	CA	1984	Cal. Lab. Code § 1197.5(k)(1)
Illinois	IL	2003	20 Ill. Comp. Stat. 112/10(b)
Vermont	VT	2005	Vt. Stat. Ann. § 495(a)(8)(D)
Maine	ME	2009	Me. Rev. Stat. tit. 26, § 628
Colorado	CO	2009	Colo. Rev. Stat. § 24-34-402(1)
Louisiana	LA	2013	La. Rev. Stat. § 23:644(D)
New Jersey	NJ	2013	N.J. Stat. § 10:5-12(r)
Minnesota	MN	2014	Minn. Stat. § 181.172(a)(1)-(3)
Connecticut	CT	2015	N.H. Rev. Stat. § 275:38-a(I)(b)
New Hampshire	NH	2015	Conn. Gen. Stat. § 31-40z(b)(1)-(4), (6)-(7)
District of Columbia	DC	2015	D.C. Law 20-219
Oregon	OR	2016	Or. Rev. Stat. § 659A.355(1)(a)
Delaware	DE	2016	Del. Code Ann. tit. 19 § 711(i)(1)-(3)
Maryland	MD	2016	Md. Code Ann., Lab. & Empl. § 3-304.1(a)(1)
New York	NY	2016	N.Y. Lab. Law § 194(4)(a)-(b)
Nevada	NV	2017	Nev. Rev. Stat. § 613.330(1)(c)
Massachusetts	MA	2018	Mass. Gen. Laws 149 § 105A(c)(1)
Washington	WA	2018	Wash. Rev. Code Ann. § 49.58.040(1)(a)-(b)
Hawaii	HI	2019	Haw. Rev. Stat. § 378-2.3(b)
Nebraska	NE	2019	Neb. Rev. Stat. § 48-1114(1)(d)
Virginia	VA	2020	Code of Virginia § 40.1-28.7:9

Appendix 4-3: Sample construction

Sample construct procedure	Remaining observations
WHD investigations data available in WHISARD database between 2000 - 2024	352,086
Requiring evenly attribution of the total penalty amount across the years of investigation	836,565
Requiring to aggregate the violations on firm-year level and non-missing parent firms	16,601
Requiring to aggregate the sample on parent firm-year level	7,344
Requiring sample to include firms which have at least been investigated once during the sample period	23,575
Requiring firms with non-missing financial data from Compustat	18,129
Requiring firms with non-missing historical headquarters data	17,311
Requiring firms not from financial industry (SIC code 6000-6900) or utilities industry (SIC code 4900-4999)	14,420
Requiring firms with matched control firms using propensity score matching	2,922

Appendix 4-4: Correlation Matrix

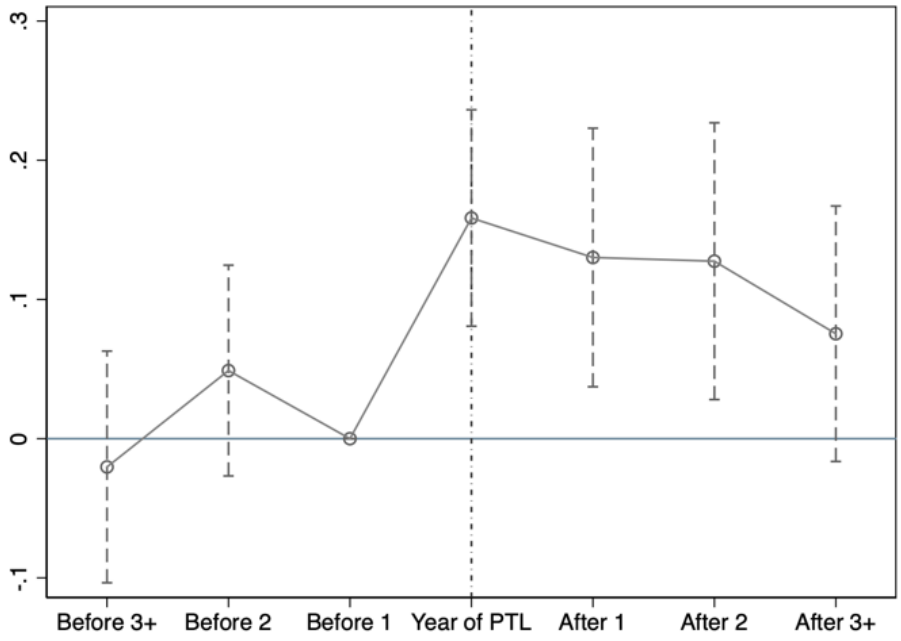
This table reports the coefficients between the main variables. Pearson (Spearman) correlation coefficients are shown below (above) the diagonal. All variables are described in the Appendix 4-1. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Wage_theft$_{i,t}$	1	0.988***	0.283***	0.685***	0.083***	0.113***	0.016	-0.024	0.023	-0.025	-0.064***	0.016
Num_Violations	0.648***	1	0.271***	0.661***	0.087***	0.125***	0.022	-0.030	0.026	-0.030	-0.061***	0.023
Penalties	0.279***	0.137***	1	0.199***	0.051***	-0.055***	0.051***	-0.020	0.002	0.003	-0.012	-0.016
Backwage	0.665***	0.402***	0.198***	1	0.078***	0.058***	0.011	0.001	0.006	-0.002	-0.060***	0.017
Transparency	0.083***	0.068***	0.044**	0.040**	1	0.062***	-0.030	-0.037**	0.016	-0.031*	0.023	0.041**
Size$_{i,t}$	0.121***	0.133***	-0.046**	0.059***	0.056***	1	-0.137***	0.005	0.270***	-0.043**	-0.088***	0.350***
BM$_{i,t}$	0.004	0.021	0.019	0.015	-0.016	-0.078***	1	-0.466***	-0.182***	-0.049***	-0.201***	-0.056***
ROA$_{i,t}$	-0.012	-0.025	-0.019	0.019	-0.027	0.097***	-0.184***	1	-0.148***	0.156***	0.111***	0.230***
Lev$_{i,t}$	0.022	0.046**	0.007	-0.002	-0.010	0.161***	-0.245***	-0.103***	1	-0.065***	-0.341***	0.010
Salesgrowth$_{i,t}$	-0.027	-0.033*	-0.007	-0.006	-0.046**	-0.039**	0.006	0.046**	-0.012	1	-0.024	-0.143***
Cashholding$_{i,t}$	-0.060***	-0.018	0.018	-0.058***	-0.007	-0.184***	-0.185***	-0.003	-0.238***	0.015	1	-0.022
Dividend$_{i,t}$	0.015	0.048***	-0.010	0.019	0.043**	0.356***	-0.003	0.257***	-0.059***	-0.158***	-0.118***	1

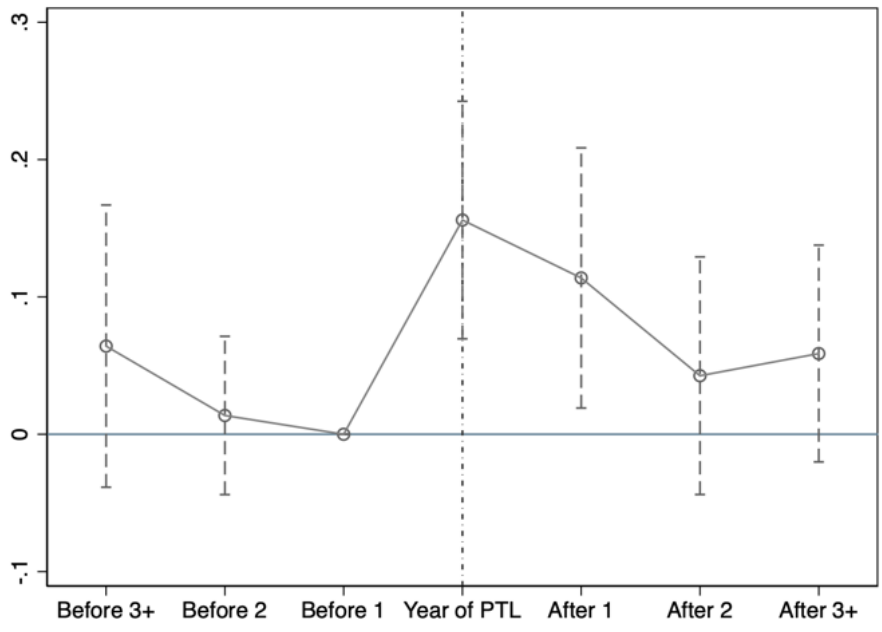
Figure 4-1: Plots for dynamic Difference-in-Differences test

The four figures plot the average outcome by event time for the treatment and control groups to examine the parallel trends assumption. The coefficients for the years prior to treatment are close to zero and statistically insignificant, indicating parallel pre-trends. We use the year before the treatment year as the reference year.

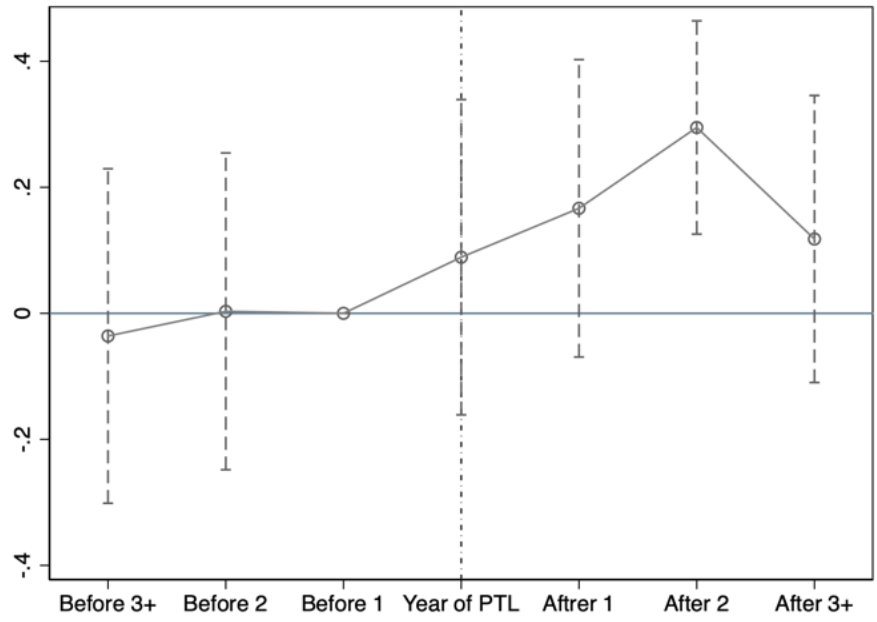
(1)Y= $Wage_theft_{i,t}$



(2) Y= $Num_Violations_{i,t}$



(3)Y= Penalties$_{i,t}$



(4) Y=Backwage$_{i,t}$

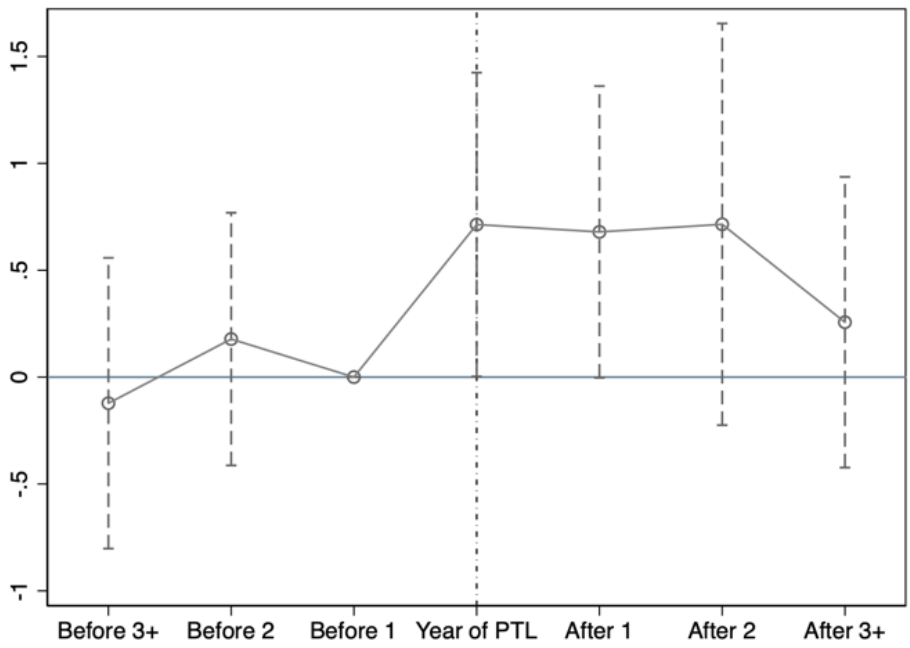
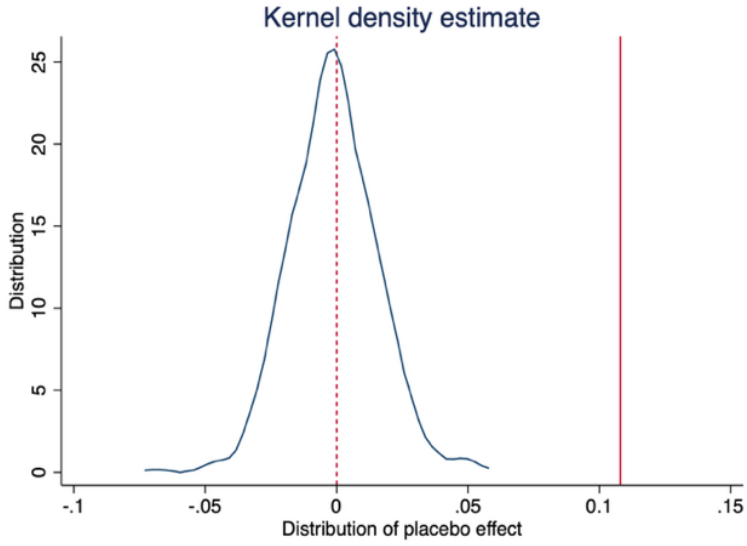


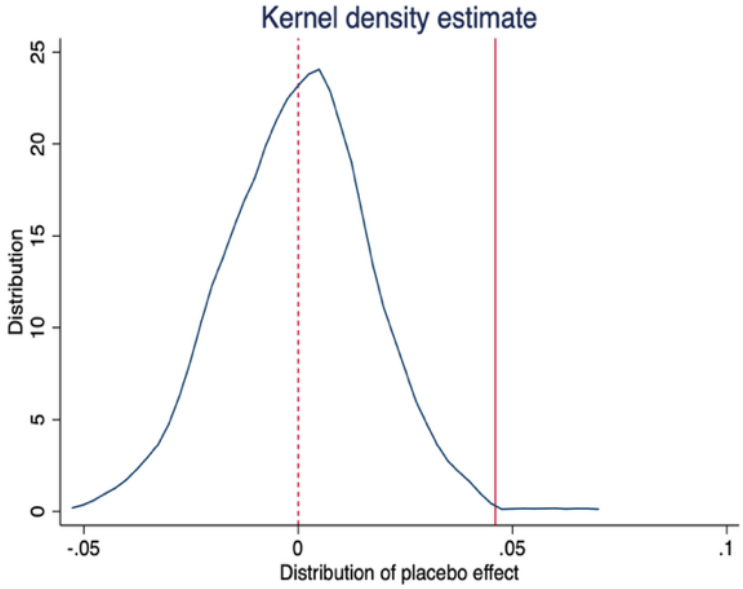
Figure 4-2: Placebo test

This figure presents the result of placebo tests when we randomise the state and adoption year of pay transparency laws and run the baseline regression. We repeat the procedure 500 times and store the coefficient estimates in *Transparency* each time. The vertical solid line in red shows the coefficient estimates from our baseline regression, while the vertical dashed line in red points out that most of the coefficients in placebo tests are around zero. The following figures show the placebo effect when the dependent variables are $Wage_theft_{i,t}$, $Num_Violations_{i,t}$, $Penalties_{i,t}$, and $Backwage_{i,t}$, accordingly.

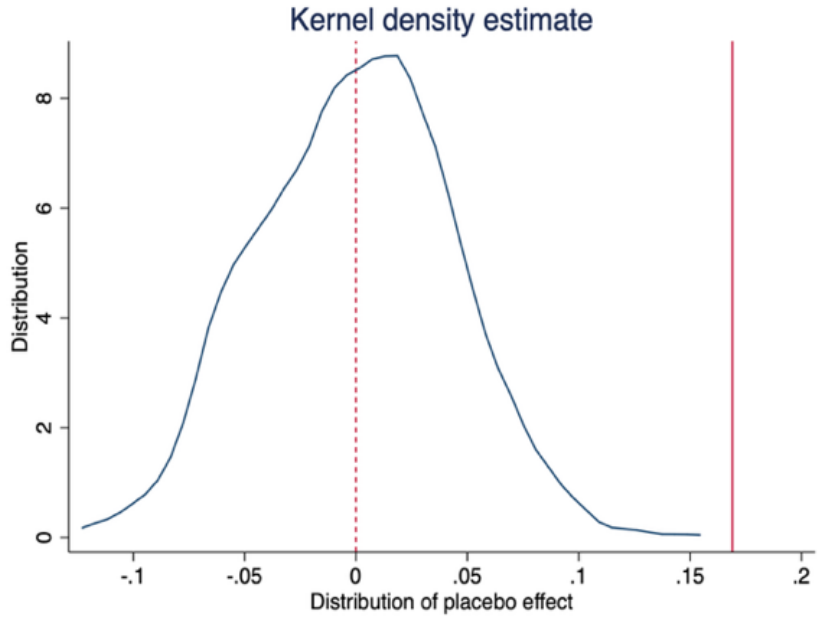
(1)Y= $Wage_theft_{i,t}$



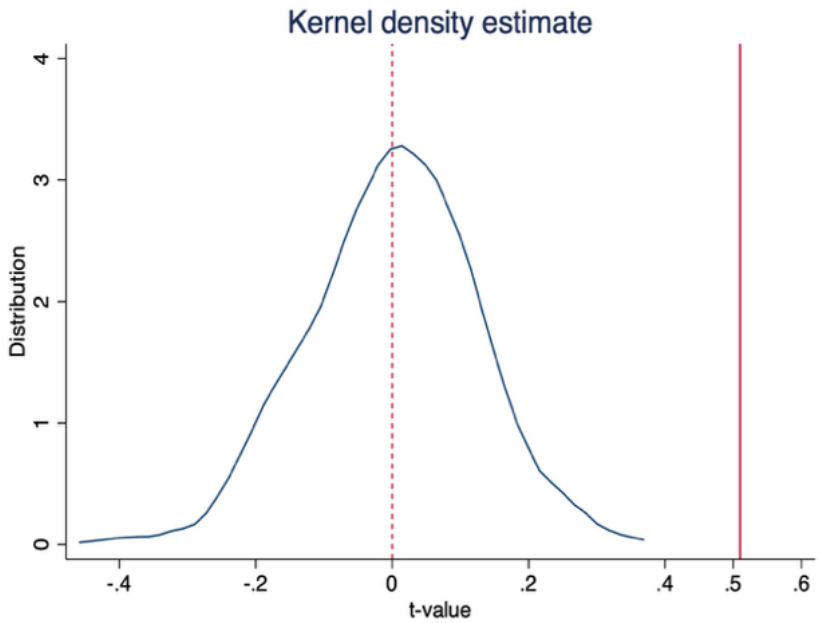
(2) Y= $Num_Violations_{i,t}$



(3)Y= Penalties$_{i,t}$



(4) Y=Backwage$_{i,t}$



Chapter 5: Conclusion

5.1 Summary of key findings

As research in corporate misconduct has gained increasing attention in corporate finance studies, this growing interest reflects a broader recognition of the economic and social consequences of a firm's unethical behaviours. Based on the findings from existing research, this study provides further evidence on the incentives of corporate misconduct. We discuss the background and motivation in Chapter 1, while chapters 2, 3, and 4 discuss the incentives of misconduct under three different settings.

The second chapter focuses on the managerial incentives from CEOs. We examine whether the CEOs with a three-year relative performance evaluation contract would be motivated to make unethical decisions, especially when the relative performance of the focal firm at the interim point is worse than its peer groups. Under the setting of a tournament-like competition, we find that poorly performing CEOs are likely to be more incentivised to commit violations after the mid-point, especially violations with severe penalties. Our main findings are consistent with the argument that executives tend to be self-benefitting under performance pressure. Under the circumstances that loser firms underperform their peers, they are more motivated to break the ethical code and boost short-term performance at a cost of future benefits. The effect of losing the tournament would be stronger when winning the competition is financially more important to the CEO and when the management is more entrenched.

The third chapter focuses on the change of election rules for board of directors. Based on agency theory, the board would mitigate agency conflicts between the

management and shareholders by overseeing executive performance and monitoring executives' key decision. However, while shareholder empowerment improves shareholder's rights in controlling firms' exercise, the increased career pressure to the board of directors could also affect their decisions on corporate policies regarding the firm's financial performance. We introduce the adoption of majority voting rules in the directors' election as a quasi-experiment and examine whether the change of director's career concern would affect their decisions. We find that MVR adoption is linked to a significant increase of a firm's wage theft violations. Notably, we focus on wage theft violations specifically because of two unique features: the first is that in wage theft violation cases, employees are less aware of the violation due to information asymmetries; the second is that the investigations against the employers in wage theft cases mostly depend on the claim reported by employees. Due to the difficulties in enforcement, wage theft is likely to be an easy way to cut corners. Our findings are consistent with this assumption, and we observe a stronger effect of MVR adoption when the firm is under financial pressure, such as when meeting meet-or-beat analysts' forecasts, under strong financial constraints, or with stronger compensation incentives. However, the positive effect of MVR adoption on wage theft violations would be mitigated when employee bargaining power is stronger, or when the corporate culture is better in employee treatment.

Aside from the incentives of corporate misconduct from the management, in chapter 4 we consider the potential relation between the increase in employee rights and firm's wage theft. We use the staggered adoption of the state-level pay transparency laws as a quasi-experiment and introduce the stacked Difference-in-Differences method in our analyses. We find that there is a significant increase in

wage theft violations after the adoption of PTL, and we provide evidence that one plausible mechanism for the increase could be the improvement of employee whistleblowing. The findings are consistent with our presumption that the enforcement difficulty of wage theft is greatly due to the information asymmetry within the firm, and when employees are able to freely discuss wages and compensation, they become easily aware of their rights in pay-related matters. We also find that the effect of adopting PTL tend to be stronger when the employees have stronger bargaining power, or when the corporate culture is better in employee treatment. While the positive effect of adopting PTL could also be mitigated when the corporate governance environment is stronger.

Overall, the findings in this thesis suggest that corporate governance has significant effect on corporate misconduct, and the firm's decisions to conduct unethical decisions could be affected by not only the management but also other stakeholders such as employees.

5.2 Limitations

This study is subject to the following limitations. Firstly, for all three chapters studying corporate misconduct, there is one shared concern that the violations measured in the analyses are based on the detected records from the database, instead of the actual timing of their commission. As violation detection could be significantly delayed from the commission, there could be bias in constructing violation-related measurements. To address this commonly shared concern in this field of research, we have also conducted the baseline analysis using the one-period-lagged violation measurement, and the results are consistent.

Secondly, the measurement of tournament incentives is still under debate. Since the concept of tournament theory was proposed in Lazear and Rosen (1981), it has been introduced to explain the incentive structure in internal competition between executives and employees. A tournament is then measured by the pay gap between CEO and non-CEO top executives, and the higher the gap is, the stronger the tournament incentives will be (Kale, Reis, and Venkateswaran, 2009; Kini and Williams, 2012). However, we following Do et al. (2022) and extend the tournament from internal competition to a tournament-like competition between the firm and its peer group. We assume that firms have high likelihood to compare their relative performance with its target peers and adjust their behaviour accordingly, and the target payout of the RPE would serve as the incentives of executives' decisions towards better relative performance, and consequently, potential unethical behaviours. Even though our results are robust to alternative measurements of tournament incentives, there are still concerns about the explanatory power of our measurement.

Thirdly, the sample sizes are constrained by the process of linking firm names to unique identifiers using fuzzy matching techniques. Since the raw dataset in either Violation Tracker or WHISARD provides only company names without standardised identifiers (e.g., GVKEY, CIK, or TICKER), we employed a fuzzy string-matching algorithm to match firms to their legal company names. Even with extensive manual validation and adjustments based on known company names, a considerable portion of observations could not be linked to valid identifiers and were excluded from the final sample in both Chapter 3 and Chapter 4. Therefore, this might bring unnecessary sample selection bias to our analysis.

Fourthly, while Chapter 4 focuses on a more narrowly defined behavioural channel with observable intermediate variables, the empirical settings in Chapters 2 and 3 do not lend themselves to clear or directly testable pathways linking the incentives and corporate misconduct. As such, while theoretical channels are discussed in those chapters, empirical identification of mechanisms remains an area for future investigation.

5.3 Insight for future research

The findings of this thesis extend the existing research in both corporate misconduct and corporate governance. Firstly, regarding the limitation of this study, future research should critically revisit the construct validity of tournament proxies and consider alternative or supplementary measures that better isolate internal competitive incentives. On the other hand, future studies in corporate misconduct may benefit from access to more structured identifiers and firm/facility level metadata to improve sample coverage and accuracy, and also contribute to the depth of causal exploration across studies. Furthermore, it is promising for future research to explore more exogenous experiments which could affect executives' decision-making, and explain how the changes would shape corporate financial and non-financial policies.

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