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Dividend Tax Gradation and Corporate Investment Efficiency: Evidence from China

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Abstract

This paper exploits China's Graduated Dividend Tax (GDT) policy as a quasi-natural experiment and applies a difference-in-differences approach to examine the effect of dividend tax adjustments on firms' investment efficiency. The results show that the policy improves investment efficiency, mainly by curbing overinvestment. Mechanism analyses indicate that the GDT policy operates by increasing individual investors' patience and improving corporate governance, including reducing information asymmetry. Heterogeneity analyses further show that the effects are more pronounced for highly leveraged firms with more frequent shareholder meetings. Overall, the results suggest that the GDT policy improves firms' investment efficiency by strengthening corporate governance and curbing overinvestment.

JEL classification numbers: G32, G34, D22.
Keywords: GDT policy, Investment efficiency, Long-term shareholding; Corporate governance.

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1. Introduction

Long-term capital (patient capital) refers to a form of capital that prioritizes long-term returns and is less sensitive to short-term market fluctuations. Its key characteristics include longer investment horizons and a higher tolerance for risk. Existing studies show that long-term investors can exert a significant influence on firms' investment decisions by strengthening monitoring, improving information disclosure, and constraining managerial behavior (Bushee, 1998; Gaspar et al., 2005; Aghion et al., 2013). As an important institutional arrangement shaping investors' holding horizons, dividend tax policy may affect corporate resource allocation by influencing investor behavior.

The existing literature on dividend taxation has primarily focused on payout behavior, firm value, and stock market reactions (Chetty and Saez, 2010; Hanlon and Hoopes, 2014; Desai and Dharmapala, 2011). Only a limited number of studies examine the effects of dividend tax policy on investment efficiency and its governance and financing channels (Chay et al., 2023), and the related evidence mainly comes from developed economies with mature capital markets and institutional-investor-dominated ownership structures. Whether these findings can be generalized to capital markets in developing economies, where individual investors play a dominant role, remains an open question. Moreover, many studies analyze dividend tax reforms implemented relatively early, such as those examined by Hanlon and Hoopes (2014), Lin and Flannery (2013), and Alstadsæter et al. (2017), where the policy changes occurred before 2003 and the sample periods typically end in 2012. Over the past decade, global capital market conditions, tax systems, investor behavior, and corporate governance mechanisms have evolved substantially, suggesting that conclusions drawn from earlier policy environments may not fully capture the effects of current institutional arrangements.

In China, the Graduated Dividend Tax (GDT) policy implemented in 2013 links dividend tax rates directly to individual investors' holding periods by applying a declining tax schedule as holding duration increases. This policy design provides an ideal quasi-natural experiment to identify how tax policy can induce long-term shareholding and influence corporate investment behavior. In principle, the policy may affect firms' investment efficiency through two channels. First, it may ease financing constraints by improving capital availability and thereby alleviating underinvestment (Li et al., 2023). Second, by lengthening investors' holding horizons and strengthening shareholder monitoring, the policy may improve corporate governance and curb managerial overexpansion and overinvestment. Although existing studies (e.g., Chay et al., 2023) document that dividend tax reforms in developed markets can operate through both governance and financing channels, the relative importance of these mechanisms in China's individual-investor-dominated market remains unclear.

Using data on Chinese A-share listed firms, this paper employs a difference-in-differences approach and treats the 2013 GDT policy as an exogenous shock to examine its impact on firms' investment efficiency. The results show that the GDT

policy significantly reduces inefficient investment, with the effect driven primarily by a decline in overinvestment, while no significant effect is found for underinvestment. Further mechanism analyses indicate that the policy operates through longer individual investor holding periods, improvements in corporate governance, and enhanced accounting information quality, rather than through easing financing constraints. These findings are robust to a range of robustness checks.

This paper contributes to literature in three ways. First, while prior studies largely focus on the short-term effects of dividend tax policies, this paper provides evidence on their longer-term implications for firms' investment efficiency. Second, in contrast to studies examining dividend tax reforms implemented before the mid-2000s, this paper analyzes a policy introduced in 2013, offering more timely evidence for evaluating contemporary tax policy effects. Third, by treating the GDT policy as an exogenous shock, this paper develops an integrated framework linking external policy shocks, patient capital, firm characteristics, and investment efficiency, thereby shedding light on the transmission mechanisms through which tax policy affects corporate investment behavior.

2. Institutional Background

To curb short-term speculation in the capital market and encourage long-term shareholding, China implemented the GDT policy in 2013. The reform introduced a three-tier, declining dividend tax schedule based on individual investors' holding periods. In contrast to the previous regime, under which dividend income was taxed at a uniform rate regardless of holding duration, the GDT policy was designed to promote long-term investment, discourage short-term trading, and foster the stable and sustainable development of the capital market. The applicable tax rates are reported in Table 1.

Table 1: Effective dividend tax rates before and after the implementation of the GDT policy

	Holding period ≤ 1 month	**1 month < Holding period ≤ 1 year**	**Holding period>1 year**
2005-2012	10%	10%	10%
2013-2015	20%	10%	5%
2015-present	20%	10%	0

As shown in Table 1, the GDT policy implemented in 2013 replaced the uniform dividend tax regime in place since 2005, under which dividend income was taxed at a flat rate of 10 percent regardless of investors' holding periods. Following the reform, the effective dividend tax rate for individual investors with holding periods of less than one month doubled, the rate for those holding between one month and one year remained unchanged, and the rate for those holding for more than one year

was reduced by half. By adopting a progressively declining tax schedule that rewards long-term holding and penalizes short-term trading, the policy was intended to guide individual investors toward longer investment horizons. Although the tax rates were further adjusted in 2015, these changes largely represented a continuation and marginal refinement of the original reform. Accordingly, this paper treats the GDT policy as the policy shock to examine its impact on firms' investment efficiency.

3. Literature Review

3.1 Inefficient Investment

In a frictionless market, firms are expected to undertake investment projects that maximize net present value (NPV). However, in the presence of market frictions such as information asymmetry and agency problems, firms' investment decisions often deviate from this benchmark (Myers and Majluf, 1984; Jensen and Meckling, 1976). Based on firms' fundamental characteristics—such as size, profitability, and growth opportunities—investment can be decomposed into expected and unexpected components, with the latter being the primary source of investment inefficiency (Richardson, 2006). In addition to traditional factors such as free cash flow and corporate governance, investment efficiency is also influenced by accounting conservatism, and ESG performance, and digital transformation (Biddle and Hilary, 2006; Bilyay-Erdogan, 2022).

Prior studies further distinguish inefficient investment into overinvestment and underinvestment (Chen et al., 2011). Overinvestment mainly stems from weaknesses in corporate governance. Managers may use excess free cash flow to expand firm size or build business empires by undertaking negative-NPV projects, leading to overinvestment (Jensen, 1986, 1993). In an ideal setting, effective corporate governance can prevent managers from engaging in such self-interested behavior (Bimo et al., 2022). Improvements in corporate governance mitigate overinvestment primarily through shareholder monitoring and information disclosure. Shareholder monitoring refers to shareholders' oversight of managerial actions through voting, proposals, and demands for information disclosure, which strengthens governance. In particular, greater board independence and the presence of lead independent directors enhance monitoring and communication with management, alleviate agency problems, and reduce overinvestment (Khedmati et al., 2020; Rajkovic, 2020). Media scrutiny, external audits, blockholders, non-controlling directors, and incentive schemes aligned with board responsibilities also help curb overinvestment through monitoring channels.

Information disclosure constitutes another key governance mechanism. Timely, accurate, and comprehensive disclosure of interim announcements and financial reports reduces information asymmetry between firms and shareholders. High-quality disclosure—both direct disclosure by firms and indirect disclosure by information intermediaries such as analysts—lowers investors' information acquisition and processing costs, strengthens external monitoring (Henry, 2000;

Chen et al., 2013), and effectively constrains overinvestment. In addition, firms' adoption of digital technologies and improvements in regulatory frameworks further enhance disclosure quality and mitigate overinvestment (La Porta et al., 2000). Overall, effective corporate governance plays a central role in alleviating overinvestment and improving resource allocation efficiency.

In contrast, underinvestment is primarily driven by financing constraints. In theory, when capital markets are complete and information is symmetric, firms can raise funds at reasonable costs and undertake optimal investment projects (Modigliani and Miller, 1958). In practice, limited access to external finance often restricts firms' normal operations and expansion, resulting in underinvestment (Fazzari et al., 1987). This problem is particularly severe for small and medium-sized firms (Stiglitz and Weiss, 1981). Financing constraints affect investment through both internal and external channels. Internally, constrained firms tend to hoard cash for precautionary motives rather than allocate funds to investment projects, leading to insufficient capital deployment (Almeida et al., 2004). Externally, information asymmetry and adverse selection limit firms' access to bank credit, causing them to forgo positive-NPV projects (Ullah et al., 2020). Macroeconomic crises, accounting conservatism, and voluntary disclosure of non-financial information can also influence the severity of financing constraints and, in turn, exacerbate underinvestment (Kahle and Stulz, 2013; Campello et al., 2010). Consequently, alleviating financing constraints is crucial for mitigating underinvestment.

3.2 Dividend Tax Policy

Dividend tax policy comprises a set of institutional arrangements, including whether dividend income is taxed, the applicable tax rates, and tax preferences. These arrangements can influence the allocation of funds across sectors and have significant implications for firms' payout policies and capital allocation efficiency. The effects of dividend tax policy on firms' investment levels and investment efficiency remain unsettled. Regarding investment levels, two perspectives dominate: the "traditional view" and the "neutral view" derived from neoclassical corporate tax theory. The traditional view argues that changes in dividend tax rates can increase aggregate corporate investment (Poterba and Summers, 1984; Auerbach and Hassett, 2006). In contrast, the neutral view emphasizes imperfect governance and pervasive agency conflicts, suggesting that dividend taxes do not affect retained earnings and therefore have no impact on firms' investment levels (Alstadsæter et al., 2017). From the perspective of investment efficiency, dividend tax policy may operate through governance and financing channels to mitigate overinvestment and underinvestment. For firms prone to overinvestment, dividend tax reductions can strengthen shareholder incentives to monitor managerial investment decisions to extract higher dividends. As conflicts of interest intensify, inefficient investments driven by managerial preferences and excessive expansion are constrained, helping investment converge to the optimal level. Given the high costs of monitoring, this mechanism is typically dominated by large shareholders

(Shleifer and Vishny, 1986, 1987). For underinvesting firms, dividend tax reductions can lower the cost of equity and debt financing, ease financing constraints, and expand investment toward the optimal level (Bond et al., 2007). Some studies extend the neutral view to investment efficiency, arguing that if dividend taxes do not affect investment levels, they cannot influence investment efficiency either (Bradford, 1981).

Dividend tax policy also affects firms' payout behavior. When a reform lowers dividend tax rates, the marginal after-tax return to dividends increases, strengthening investors' preference for dividend income. To cater to this preference, firms tend to increase dividend payouts. For example, the U.S. Jobs and Growth Tax Relief Reconciliation Act (JGTRRA) of 2003 reduced the top marginal tax rate on individual dividend income from 38.5 percent to 15 percent. Following the reform, average dividend payments by U.S. listed firms increased by about 20 percent, and the long-term decline in the number of dividend-paying firms reversed (Chetty and Saez, 2010). These effects were more pronounced among firms with strong principals and managers who were highly responsive to policy incentives. Moreover, in anticipation of a scheduled dividend tax increase at the end of 2010, many U.S. firms paid special dividends and shifted dividend payment dates forward—from January of the following year to December of the current year—to avoid higher tax liabilities (Hanlon and Hoopes, 2014). Similar "tax-cut–dividend-increase" responses have been documented in the Swedish and Finnish capital markets (Jacob and Michaely, 2017; Harju and Kari, 2017).

Notably, Chay et al. (2023) study the effects of the 2003 U.S. dividend tax reform in a context closely related to this paper. They find that while the reform had no significant effect on firms' aggregate investment, it improved investment efficiency by reducing both overinvestment—through enhanced corporate governance—and underinvestment—through eased financing constraints, indicating a dual-channel mechanism operating on both the governance and financing sides. Compared with the across-the-board tax cut in the U.S., China's GDT policy adopts a more flexible rate structure and provides stronger and more direct incentives for long-term shareholding. By incorporating China's institutional setting and investor structure, this paper empirically examines the governance and financing effects of the policy, offering evidence with strong practical relevance.

4. Data and Methodology

4.1 Data

This paper uses annual data on Chinese A-share listed firms from 2008 to 2017 as the initial sample, with all data obtained from the CSMAR database. The sample is screened according to the following criteria: (1) firms in the financial industry are excluded; (2) observations of ST and *ST firms during the sample period are removed; (3) firms listed in or after 2013 are excluded; and (4) observations with missing key financial variables are dropped. Finally, all continuous variables are winsorized at the 1st and 99th percentiles.

4.2 Methodology

Following Richardson (2006), this paper measures firms' inefficient investment using the residuals from Equation (1):

$$Invest_{i,t} = \beta_0 + \beta_1 Growth_{i,t-1} + \beta_2 Lev_{i,t-1} + \beta_3 Cash_{i,t-1} + \beta_4 Age_{i,t-1} + \beta_5 Size_{i,t-1} + \beta_6 Return_{i,t-1} + \beta_7 Invest_{i,t-1} + \lambda_i + \sigma_t + \varepsilon_{i,t} \quad (1)$$

The dependent variable, $Invest_{i,t}$, measures firm i's investment in year t and is defined as total investment net of maintenance investment. Specifically, it is calculated as the sum of cash payments for the acquisition and construction of fixed assets, intangible assets, and other long-term assets, plus net cash paid for acquiring subsidiaries and other operating units, minus cash received from the disposal of fixed assets, intangible assets, and other long-term assets, minus cash received from disposing of subsidiaries and other operating units, and minus depreciation of fixed assets, amortization of intangible assets, and amortization of long-term deferred expenses, all scaled by total assets at the beginning of the year. The regression controls for major firm-level characteristics lagged by one year, including growth opportunities ($Growth_{i,t-1}$), financial leverage ($Lev_{i,t-1}$), cash holdings ($Cash_{i,t-1}$), firm age since listing ($Age_{i,t-1}$), firm size ($Size_{i,t-1}$), annual stock return ($Return_{i,t-1}$), and prior investment ($Invest_{i,t-1}$). Industry fixed effects (λ_i) and year fixed effects (σ_t) are also included. In Equation (1), the residual term $\varepsilon_{i,t}$ captures firms' unexpected investment. A positive residual indicates overinvestment, whereas a negative residual indicates underinvestment. The absolute value of the residual reflects the deviation of actual investment from its predicted level. A larger deviation implies lower investment efficiency.

4.3 Model Specification and Variable Definitions

This paper defines firms that distributed dividends prior to the implementation of the GDT policy as the treatment group, and firms that did not distribute dividends as the control group. We then construct the following difference-in-differences model to examine the impact of the GDT policy on investment efficiency.

$$Abs\_IneffInvest_{i,t} = \alpha_0 + \alpha_1 Treat_i \times Post_t + \gamma X_{i,t} + \delta_i + \sigma_t + \varepsilon_{i,t} \quad (2)$$

In the above model, $Abs\_IneffInvest_{i,t}$ is the dependent variable measuring firms' investment efficiency. The interaction term $Treat_i \times Post_t$ is the difference-in-differences estimator. Specifically, $Treat_i$ is a dummy variable indicating whether firm i distributed dividends prior to the implementation of the GDT policy. $Treat_i = 1$ if the firm paid dividends during the five years before the policy implementation and is classified as a treated firm; $Treat_i = 0$ if the firm did not pay dividends during the same period and is classified as a control firm. In robustness checks, the definition of $Treat_i$ is alternatively based on dividend payments in the three years and one year prior to the policy implementation, and

the results remain robust. $Post_t$ is a dummy variable indicating the implementation of the GDT policy. Given that the policy took effect on January 1, 2013, $Post_t$ equals 0 for the period 2008–2012 and 1 for the period 2013–2017. The coefficient of primary interest is that on the interaction term $Treat_i \times Post_t$. A positive estimate of α_1 indicates that firms' investment efficiency improves following the implementation of the GDT policy. $X_{i,t}$ denotes a set of control variables. Firm fixed effects (δ_i) and year fixed effects (σ_t) are included in all regressions.

The control variables include firm size, ownership concentration of the largest shareholder, CEO duality, board size, the proportion of independent directors, managerial ownership, financial leverage, net cash flow from operating activities, and firm age since listing. Detailed variable definitions are provided in Table 2.

Table 2: Variable definitions

Variable	Definition
Inefficient investment	Investment efficiency calculated following Richardson (2006); see Model (1).
Treat	Dummy variable equal to 1 if the firm paid dividends before the implementation of the GDT policy (pre-2013), and 0 otherwise.
Post	Dummy variable equal to 0 for 2008-2012 and 1 for 2013-2017.
Firm size	Natural logarithm of total assets at year-end.
Largest shareholder ownership	Percentage of shares held by the largest shareholder at year-end.
CEO-chair duality	Dummy variable equal to 1 if the CEO and the board chair are the same person, and 0 otherwise.
Board size	Natural logarithm of the total number of board directors.
Independent director ratio	Proportion of independent directors on the board.
Managerial ownership	Percentage of shares held by managers at year-end.
Financial leverage	Total liabilities divided by total assets at year-end.
Operating cash flow	Net cash flow from operating activities divided by total assets at year-end.
Firm age	Natural logarithm of (firm age + 1).

4.4 Descriptive Statistics

Table 3 reports the descriptive statistics of the key variables. As shown in Table 3, the mean value of $Abs\_IneffInvest_{i,t}$ is 0.08, indicating that, on average, inefficient investment accounts for 8 percent of total assets for listed firms. In addition, $Abs\_IneffInvest_{i,t}$ has a standard deviation of 0.09, with a minimum value of 0.00 and a maximum value of 0.55, suggesting substantial heterogeneity in investment efficiency across firms.

Table 3: Descriptive statistics

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Inefficient investment	17389	0.08	0.09	0.00	0.55
Treat	17397	22.10	1.29	19.20	25.97
Post	17397	0.35	0.15	0.09	0.75
Firm size	17397	0.22	0.41	0.00	1.00
Largest shareholder ownership	17397	2.29	0.24	1.61	2.89
CEO–chair duality	17397	0.37	0.05	0.33	0.57
Board size	17397	0.08	0.16	0.00	0.64
Independent director ratio	17397	0.47	0.21	0.06	1.00
Managerial ownership	17397	0.04	0.08	-0.20	0.26
Financial leverage	17397	2.32	0.59	1.10	3.22

5. Empirical Results

5.1 Baseline Results

Table 4 presents the difference-in-differences estimates of the impact of the GDT policy on investment efficiency. Column (1) reports the baseline specification without fixed effects or control variables. The coefficient on the DID interaction term is −0.015 and is significant at the 1% level. Column (2) adds firm and year fixed effects, and Column (3) further includes control variables; in both cases, the interaction term remains negative and statistically significant, indicating robust results. We take Column (3) as the baseline specification. The estimated coefficient of −0.020 implies that, on average, the level of inefficient investment among listed firms declined by approximately 0.22 standard deviations (≈0.02/0.09) following the implementation of the GDT policy.

Following Chay et al. (2023), this paper classifies firms into overinvestment and

underinvestment groups based on investment deviations and examines the effects of the GDT policy on these two subsamples. Column (4) includes only firms with overinvestment. The coefficient on the interaction term Treat_i\times Post_t is negative and statistically significant at the 5% level, indicating that the policy effectively mitigates overinvestment. In Column (5), which focuses on underinvesting firms, the coefficient on Treat_i\times Post_t is negative but not statistically significant, suggesting that the policy has no significant effect on underinvestment.

A possible explanation for these findings is that overinvestment is primarily driven by weak corporate governance. Specifically, firms that overinvest typically have excess internal funds, which allow managers to pursue empire-building and waste corporate resources, whereas effective corporate governance can help alleviate this problem (Jensen and Meckling, 1976). For overinvesting firms, the GDT policy may strengthen corporate governance by encouraging longer-term shareholding, thereby reducing managers' incentives to overinvest. In contrast, underinvestment is mainly caused by financing constraints. For underinvesting firms, the GDT policy is unlikely to expand financing channels and therefore has limited ability to alleviate underinvestment arising from financing constraints. The following section further explores these mechanisms.

Table 4: Baseline results

	(1)	(2)	(3)	(4)	(5)
	Full sample			Overinvestment	Underinvestment
Treat*Post	-0.015***	-0.017***	-0.020***	-0.025**	-0.003
	(0.001)	(0.004)	(0.004)	(0.012)	(0.005)
_cons	0.084***	0.085***	-0.387***	-1.266***	0.003
	(0.001)	(0.002)	(0.060)	(0.121)	(0.078)
Year FE	No	Yes	Yes	Yes	Yes
Firm FE	No	Yes	Yes	Yes	Yes
Controls	No	No	Yes	Yes	Yes
Observations	17389	17389	17389	6699	9997
Adj. R2	0.006	0.227	0.238	0.225	0.397

Note: Robust standard errors are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

5.2 Mechanism

As discussed above, the GDT policy improves firms' investment efficiency, with the effect mainly driven by a reduction in overinvestment. This finding implies that the policy operates primarily by lengthening investors' investment horizons and improving corporate governance, rather than by easing financing constraints. Accordingly, the following analysis examines the underlying mechanisms from three dimensions: individual investors' investment behavior, corporate governance, and financing constraints.

5.2.1 Individual Investor Behavior

The core feature of the GDT policy is that applicable tax rates are explicitly linked to investors' holding periods: the longer the holding period, the lower the tax rate. This design creates clear incentives for long-term shareholding among individual investors, thereby discouraging short-term speculation and promoting more rational investment behavior. As a result, the policy may induce individual investors to form longer investment horizons, which would be reflected in lower trading frequency.

To directly capture the effect of the policy on investors' holding behavior, this paper constructs the variable *Turnover/100*, defined as the annual stock turnover ratio divided by 100, to proxy for investors' holding periods. A higher turnover ratio indicates a shorter holding period (Carhart, 1997; Gaspar et al., 2005). We replace the dependent variable in the baseline specification (Equation (2)) with *Turnover/100* to examine the impact of the GDT policy on investors' holding horizons. Column (1) of Table 5 shows that the coefficient on the interaction term $Treat_i \times Post_t$ is negative and statistically significant at the 1% level. This result indicates that, on average, investors' trading frequency declines and holding periods lengthen following the implementation of the policy, suggesting that the policy effectively reduces short-term trading behavior by encouraging long-term shareholding.

We further examine whether the GDT policy affects individual investors' willingness to hold stocks. Intuitively, by promoting long-term investment and discouraging short-term speculation, the policy may increase individual investors' propensity to hold equity. To test this mechanism, we replace the dependent variable in the baseline model with the shareholding ratio of individual investors. The results reported in Column (2) of Table 5 show that the coefficient on $Treat_i \times Post_t$is positive and significant at the 5% level, indicating an increase in individual investors' ownership after the policy implementation. Taken together, these findings suggest that the GDT policy lengthens holding periods and strengthens individual investors' willingness to hold shares, thereby fostering more rational investment behavior and effectively promoting patient capital. More rational investor behavior, in turn, contributes to a more favorable corporate governance environment, which is examined in the next section.

Table 5: Mechanism analysis I: Individual investor behavior

	(1)	(2)
	Turnover/100	**Individual investor ownership**
Treat*Post	-1.014***	6.447**
	(0.168)	(3.184)
_cons	6.588***	804.375***
	(0.156)	(69.475)
Year FE	Yes	Yes
Firm FE	Yes	Yes
Controls	Yes	Yes
Observations	16603	17252
Adj. R2	0.085	0.460

5.2.2 Corporate Governance v.s. Financing Constraints

According to Chay et al. (2023), dividend tax policy can enhance firms' investment efficiency through two channels. First, by improving corporate governance, it can reduce wasteful spending on inefficient projects and curb overinvestment. Second, by alleviating financing constraints, it can increase funding for high-quality projects and mitigate underinvestment. The baseline results show that the GDT policy improves investment efficiency mainly by restraining overinvestment, suggesting that its primary channel operates through corporate governance rather than financing constraints. To verify this conjecture, we examine the effects of the GDT policy on corporate governance and financing constraints, respectively.

We first test the impact of the GDT policy on corporate governance. Following Bebchuk et al. (2009), we construct a corporate governance index $CGI_{i,t}$ using principal component analysis to measure governance quality. Similar to Gompers et al. (2003), a higher $CGI_{i,t}$ indicates weaker corporate governance.

We then replace the dependent variable in the baseline model (2) with $CGI_{i,t}$ and re-estimate the regression. The results, reported in column (1) of Table 6, show that the coefficient on the interaction term $Treat_i \times Post_t$ is negative and statistically significant at the 1% level. This indicates that corporate governance improves significantly after the implementation of the GDT policy, implying that the policy enhances investment efficiency by strengthening corporate governance.

Next, we examine the effect of the GDT policy on financing constraints. As discussed above, financing constraints are an important source of underinvestment (Almeida et al., 2004; Ullah et al., 2020). However, the GDT policy does not significantly affect underinvestment in our analysis, suggesting that it may not alleviate firms' financing constraints. To test this conjecture, we follow Kaplan and Zingales (1997) and construct the KZ index to measure financing constraints, where a higher value indicates more severe constraints. In column (2) of Table 6, we replace the dependent variable in the baseline model (2) with the KZ index.

The coefficient on $Treat_i \times Post_t$ is positive but statistically insignificant, indicating that, on average, the GDT policy does not effectively ease firms' financing constraints.

In summary, the mechanism analysis shows that the GDT policy improves investment efficiency by enhancing corporate governance and thereby mitigating overinvestment, but it does not reduce underinvestment through the alleviation of financing constraints.

Table 6: Mechanism analysis II: Corporate governance v.s. financing constraints

	(1)	(2)
	CGI	**KZ index**
Treat*Post	-0.156***	0.021
	(0.014)	(0.041)
_cons	-5.753***	19.140***
	(0.181)	(0.653)
Year FE	Yes	Yes
Firm FE	Yes	Yes
Controls	Yes	Yes
Observations	16193	17389
Adj. R2	0.932	0.857

5.2.3 Accounting Information Quality

A large body of literature finds that high-quality accounting information, as an important component of corporate governance, significantly improves firms' investment efficiency (Biddle and Hilary, 2006; McNichols and Stubben, 2008; Chen et al., 2011). Specifically, higher accounting quality enhances shareholders' and managers' ability to identify and evaluate investment opportunities, improves information transparency, strengthens external monitoring, and constrains managerial self-serving behavior, thereby reducing inefficient investment. Accordingly, we further examine whether the GDT policy improves firms' accounting information quality as an additional governance channel. We consider two measures of accounting information quality: earnings quality and audit fees.

Earnings information is one of the most fundamental components of accounting information, and its quality directly affects the effectiveness of information disclosure and the soundness of investment decisions. Managerial earnings manipulation significantly impairs earnings quality and undermines the reliability of financial reports. Following Dechow et al. (1995), we employ the modified Jones model to construct discretionary accruals as a proxy for earnings quality. Lower discretionary accruals indicate greater transparency and reliability of financial reporting, enabling investors to better assess firms' true operating conditions and allocate resources more efficiently. To test this mechanism, we replace the dependent variable in the baseline model (2) with discretionary accruals. The results,

reported in column (1) of Table 7, show that the coefficient on the interaction term $Treat_i \times Post_t$ is negative and statistically significant at the 1% level, indicating that discretionary accruals decline significantly after the implementation of the GDT policy, and thus earnings quality improves.

Audit fees reflect firms' investment in external auditing resources and signal their emphasis on accounting transparency and governance quality (Prior et al., 2008). Firms facing more severe agency problems are also more likely to incur higher audit costs by hiring higher-quality external auditors to mitigate agency conflicts. In column (2) of Table 7, we replace the dependent variable in the baseline model (2) with audit fees. The coefficient on $Treat_i \times Post_t$ is positive and significant at the 1% level, suggesting that firms' investment in external auditing increases significantly following the implementation of the GDT policy.

Overall, these results indicate that the GDT policy improves investment efficiency by enhancing firms' information disclosure quality and strengthening corporate governance.

Table 7: Mechanism analysis III: Accounting information quality

	(1)	(2)
	Discretionary accruals	**Audit fees**
Treat*Post	-0.129***	13.730***
	(0.045)	(2.898)
_cons	-3.998***	-832.491***
	(0.950)	(53.106)
Year FE	Yes	Yes
Firm FE	Yes	Yes
Controls	Yes	Yes
Observations	17228	17014
Adj. R2	0.114	0.923

5.3 Heterogeneity Analysis

To further examine whether the GDT policy affects investment efficiency through the corporate governance channel, we conduct a heterogeneity analysis along two dimensions: the frequency of shareholders' meetings and financial leverage.

5.3.1 Frequency of Shareholders' Meetings

As discussed above, our main finding is that the GDT policy improves firms' investment efficiency by mitigating overinvestment through enhanced corporate governance. It is worth noting that this policy targets individual investors, whose primary channel for participating in corporate governance is the shareholders' meeting. As an important occasion for face-to-face interaction between shareholders and management, shareholders' meetings serve as a platform for exercising voting rights, electing directors, and approving major corporate decisions.

Accordingly, the frequency of shareholders' meetings reflects the extent to which individual investors can effectively participate in corporate governance.

If the proposed mechanism holds, the effect of the GDT policy should be stronger for firms that hold shareholders' meetings more frequently. To test this conjecture, we use the frequency of shareholders' meetings as a proxy for corporate governance quality and split the sample into two groups based on whether the number of meetings is above the sample median (three meetings). Specifically, firms are classified into a low-frequency group (fewer than three meetings) and a high-frequency group (three or more meetings), and we estimate the baseline model (2) separately for the two subsamples. The results are reported in Table 8. In column (1), the coefficient on the interaction term $Treat_i \times Post_t$ is negative but not statistically significant. In column (2), the interaction coefficient is positive and significant at the 5% level, indicating that the effect of the GDT policy is significant only among firms with more frequent shareholders' meetings.

Furthermore, we employ a triple-differences approach to conduct an additional heterogeneity test. The regression model is specified as follows:

$$Abs_{IneffInvest_{i,t}} = \alpha_0 + \alpha_1 Treat_i \times Post_t + \alpha_2 Treat_i \times GeneralMeeting_{i,t} + \alpha_3 Post_t \times GeneralMeeting_{i,t} + \alpha_4 Treat_i \times Post_t \times GeneralMeeting_{i,t} + \gamma X_{i,t} + \delta_i + \sigma_t + \varepsilon_{i,t} \quad (3)$$

Here, $GeneralMeeting_{i,t}$ is a dummy variable that equals one if a firm holds a relatively high number of shareholders' meetings, and zero otherwise. All other variables are defined in the same way as in the baseline regression. In this specification, we focus on the coefficient α_4 on the triple-differences interaction term $Treat_i \times Post_t \times GeneralMeeting_{i,t}$.

The results reported in column (3) show that the coefficient on this interaction term is negative and statistically significant at the 1% level. This finding provides further support for the conclusion that the effect of the GDT policy is more pronounced for firms that hold shareholders' meetings more frequently.

Overall, the heterogeneity analysis indicates that the GDT policy enhances firms' investment efficiency by encouraging individual investors to participate in shareholders' meetings and thereby improving corporate governance.

Table 8: Heterogeneity analysis I: Frequency of shareholders' meetings

	(1)	(2)	(3)
	Subsample regression		Triple-differences
	Low meeting frequency	High meeting frequency	
Treat*Post	-0.012	-0.016**	-0.014***
	(0.013)	(0.007)	(0.005)
Treat*Post*GeneralMeeting			-0.017***
			(0.005)
Treat*GeneralMeeting			0.013***
			(0.003)
Post*GeneralMeeting			0.005
			(0.004)
_cons	-0.253	-0.451***	-0.377***
	(0.172)	(0.080)	(0.059)
Year FE	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	6679	10068	17389
Adj. R2	0.189	0.208	0.240

5.3.2 Financial Leverage

The second dimension of our heterogeneity analysis focuses on firms' financial leverage. On the one hand, highly leveraged firms tend to have weaker governance mechanisms. Managers in these firms are more likely to expand operations through debt financing to pursue private benefits, which increases the likelihood of conflicts of interest with creditors (Berger et al., 1997). This is consistent with the corporate governance channel emphasized in this study, suggesting that the effect of the GDT policy should be more pronounced for firms with higher leverage. On the other hand, low-leverage firms rely more heavily on equity financing and have a more limited capacity to meet funding needs through borrowing, and thus face tighter financing constraints (Phan, 2025). In contrast, highly leveraged firms generally face weaker financing constraints. This also aligns with our finding that alleviating financing constraints is not the primary channel through which the GDT policy improves investment efficiency, implying that the policy effect should be less evident for low-leverage firms.

Based on this reasoning, we classify firms into high- and low-leverage groups according to whether their financial leverage (measured by the debt-to-asset ratio) is above or below the sample median. Firms in the high-leverage group typically exhibit more severe governance problems but have broader access to financing and lower borrowing barriers, and thus face relatively weaker financing constraints. In contrast, low-leverage firms generally have better governance mechanisms but face stronger financing constraints due to limited operating capacity or debt-servicing

ability. We estimate the baseline model (2) separately for the two groups, and the results are reported in Table 9. In column (1), the coefficient on the interaction term $Treat_i \times Post_t$ is negative but not statistically significant. In column (2), the interaction coefficient is negative and statistically significant at the 1% level, indicating that the GDT policy has a stronger effect on firms with higher leverage. Similar to the previous heterogeneity analysis, we further employ a triple-differences approach, with the regression specification given as follows:

$$Abs\_IneffInvest_{i,t} = \alpha_0 + \alpha_1 Treat_i \times Post_t + \alpha_2 Treat_i \times Leverage_{i,t} + \alpha_3 Post_t \times Leverage_{i,t} + \alpha_4 Treat_i \times Post_t \times Leverage_{i,t} + \gamma X_{i,t} + \delta_i + \sigma_t + \varepsilon_{i,t} \quad (4)$$

Here, $Leverage_{i,t}$ is a dummy variable that equals one if a firm's financial leverage is above the sample median, and zero otherwise. All other variables are defined in the same manner as in the baseline regression. In this specification, we focus on the coefficient α_4 on the triple-differences interaction term $Treat_i \times Post_t \times Leverage_{i,t}$.

The results reported in column (3) of Table 9 show that this coefficient is negative and statistically significant at the 5% level. These findings indicate that the GDT policy primarily affects highly leveraged firms with weaker corporate governance and relatively looser financing constraints, which further supports our conclusion that corporate governance—rather than the alleviation of financing constraints—is the main channel through which the policy improves investment efficiency.

Table 9: Heterogeneity analysis II: Financial leverage

	(1)	(2)	(3)
	Subsample regression		**Triple-differences**
	Low Leverage	High Leverage	
Treat*Post	-0.006	-0.028***	-0.011*
	(0.007)	(0.006)	(0.006)
Treat*Post*Leverage			-0.016**
			(0.007)
Treat*Leverage			0.011***
			(0.004)
Post*Leverage			-0.002
			(0.006)
_cons	-0.395***	-0.063	-0.372***
	(0.094)	(0.098)	(0.059)
Year FE	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	8611	8370	17389
Adj. R2	0.269	0.277	0.240

5.4 Robustness Checks

To verify the robustness of the baseline regression results, we conduct a series of robustness checks from five aspects, including a parallel trends test, a placebo test, matched-sample regressions, alternative definitions of the treatment group, and alternative definitions of the dependent variable.

5.4.1 Parallel Trends Test

The difference-in-differences approach requires that the treatment and control groups follow parallel trends prior to the shock of the GDT policy. To examine this assumption, we expand the sample by year and construct a series of time dummy variables, which are interacted with the treatment-group indicator $Treat_i$. This yields interaction terms Pre_i $(i = 5,4,3,2,1)$, $current$, and $Post_j (j = 1,2,3)$. Here, Pre_i denotes the i-th year prior to the policy implementation, with 2008 as the base year; $current$ represents the year of policy implementation; and $Post_j$ denotes the j-th year after the policy.

Figure 1 plots the estimated coefficients of these interaction terms along with their 95% confidence intervals. The coefficients on the pre-policy interaction terms Pre_i ($i = 5,4,3,2,1$) are all statistically insignificant, indicating that there is no significant difference in the pre-policy trends of investment efficiency between the treatment and control groups. In the year of policy implementation, the coefficient on $current$ is significantly negative. This result arises because our financial data are measured at year-end, while the policy was implemented at the beginning of 2013, and thus had already exerted a significant effect on investment efficiency in that year. After the policy implementation, the coefficients on the post-policy interaction terms $Post_j (j = 1,2,3)$ remain significantly negative. Taken together, these results support the validity of the difference-in-differences specification.

It is worth noting that after $Post_2$ (corresponding to 2015), the estimated coefficients exhibit a modest rebound. This turning point is closely related to the adjustment of the GDT policy in 2015, under which dividends received by investors holding shares for more than one year were temporarily exempt from dividend taxation. This policy adjustment further strengthened incentives for long-term shareholding and may have led firms to reassess and adjust their investment behavior, resulting in temporary fluctuations in investment efficiency. Nevertheless, the overall trend remains unchanged. The coefficient on $Post_3$ remains negative and statistically significant, indicating that the effect of the GDT policy is persistent over the longer term.

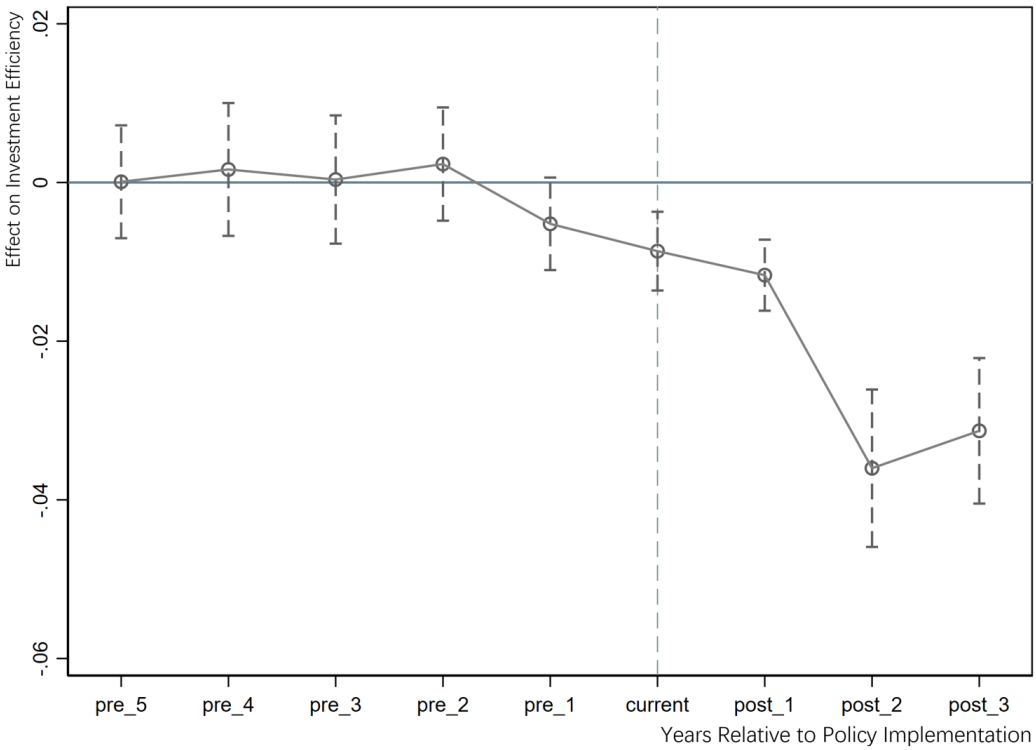

Figure 1: Parallel trend test

5.4.2 Placebo Test

To further rule out the influence of unobservable factors on our regression results, we conduct a placebo test. Specifically, we shift the timing of the GDT policy to artificially construct alternative policy shock dates. First, we move the exogenous shock forward by two years and one year, respectively, and assume that the policy was implemented in 2011 and 2012. Second, we shift the policy implementation date backward by one year and two years, respectively, and assume that the policy was implemented in 2014 and 2015. The results are reported in Table 10.

In columns (1) and (2), where the policy shock is assumed to occur earlier, the coefficients on the interaction terms are statistically insignificant. In contrast, when the policy implementation date is shifted backward, the interaction coefficients are negative and statistically significant at the 1% level, indicating that the policy effect exhibits a certain degree of persistence. These findings suggest that the post-policy improvement in investment efficiency is not driven by omitted variables or other contemporaneous shocks, thereby supporting the validity of our baseline results through the placebo test.

Table 10: Robustness check I: Placebo test

	(1)	(2)	(3)	(4)
	2011	**2012**	**2014**	**2015**
treat*post2011	-0.058			
	(0.038)			
treat*post2012		-0.082		
		(0.050)		
treat*post2014			-0.012***	
			(0.004)	
treat*post2015				-0.018***
				(0.005)
_cons	-4.613**	-4.978**	-0.384***	-0.387***
	(2.168)	(2.240)	(0.059)	(0.059)
Year FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Observations	17389	17389	17389	17389
Adj. R^2	0.010	0.008	0.238	0.238

5.4.3 Matched Sample DID regression

The baseline regression results indicate that the GDT policy significantly improves firms' investment efficiency. However, this conclusion may be affected by systematic differences in firm characteristics between the treatment and control groups, potentially leading to estimation bias (Gallemore et al., 2019). To enhance the comparability of the treatment and control samples in terms of observable characteristics and to mitigate the influence of unobservable factors on the estimates, we employ propensity score matching (PSM) to reconstruct the research sample.

Specifically, we use all control variables from the baseline regression as matching covariates and implement one-to-one nearest-neighbor matching without replacement, with a caliper of 0.01, to pair each treated firm with the most similar control firm. We then re-estimate the regressions using the matched sample, and the results are reported in Table 11. Consistent with the baseline findings, the coefficients on the interaction terms remain negative and statistically significant at the 1% or 5% levels, regardless of whether year and firm fixed effects are included or additional control variables are added. These results indicate that, after adjusting the sample composition, the positive effect of the GDT policy on firms' investment efficiency remains robust and stable.

Table 11: Robustness check II: PSM-DID

	(1)	(2)	(3)
treat*post	-0.013***	-0.012**	-0.013**
	(0.001)	(0.006)	(0.006)
_cons	0.083***	0.082***	-0.496***
	(0.001)	(0.003)	(0.070)
Year FE	No	Yes	Yes
Firm FE	No	Yes	Yes
Controls	No	No	Yes
Observations	13710	13710	13710
Adj. R2	0.005	0.223	0.237

5.4.4 Alternative Definitions of the Treatment Group

To examine whether the empirical results depend on a particular sample classification scheme, we redefine the treatment and control groups and conduct additional robustness checks. Specifically, we adopt two alternative definitions of the treatment group. First, firms that distributed dividends in the year prior to the implementation of the GDT policy (2012) are defined as the treatment group ($Treat1_i = 1$), while the remaining firms serve as the control group ($Treat1_i = 0$). Second, firms that distributed dividends during the three years prior to the policy implementation (2010–2012) are defined as the treatment group $(Treat3_i = 1)$, with all other firms constituting the control group ($Treat3_i = 0$).

The regression results are reported in Table 12. Regardless of whether the treatment group is defined based on dividend payments in the year immediately preceding the policy or in the three years prior to the policy, the coefficients on the interaction terms $Treat1_i \times Post_t$ and $Treat3_i \times Post_t$ are negative and statistically significant at the 1% level. These findings indicate that the GDT policy continues to significantly improve firms' investment efficiency under alternative treatment group definitions, confirming the robustness of our results.

Table 12: Robustness check III: Alternative definitions of the treatment group

	(1)	(2)
	Dividend paid in prior year	Dividend paid in prior three years
Treat1*Post	-0.029***	
	(0.006)	
Treat3*Post		-0.043***
		(0.007)
_cons	-0.245**	-0.227*
	(0.118)	(0.117)
Year FE	Yes	Yes
Firm FE	Yes	Yes
Controls	Yes	Yes
Observations	17228	17228
Adj. R2	0.254	0.256

5.4.5 Alternative Definitions of the Dependent Variable

Following Biddle and Hilary (2006) and Chen et al. (2011), we adopt alternative definitions of the dependent variable and construct two additional measures of inefficient investment, denoted as Inefficient Investment Index 2 and Index 3, to examine the robustness of our empirical results. The specific models are specified as follows:

$$Invest_{i,t} = \beta_0 + \beta_1 Growth_{i,t-1} + \varepsilon_{i,t} \quad (5)$$

$$Invest_{i,t} = \beta_0 + \beta_1 Growth_{i,t-1} + \beta_2 NEG_{i,t-1} + \beta_3 Growth_{i,t-1} \times NEG_{i,t-1} + \varepsilon_{i,t} \quad (6)$$

Here, $Growth_{i,t-1}$is defined in the same way as in the baseline regression, and $NEG_{i,t-1}$ is a dummy variable capturing firms' revenue growth, which equals one if the firm's revenue growth rate in year $t-1$ is negative, and zero otherwise. We estimate Equations (6) and (7) separately by year and industry, and take the absolute value of the resulting residuals to measure firms' inefficient investment.

Compared with the Richardson (2006) model, these alternative specifications more directly capture the relationship between firms' investment, revenue growth, and investment opportunities. We then re-estimate the baseline regression using Inefficient Investment Index 2 and Index 3 as the dependent variables, with the results reported in Table 13. The estimated coefficients are all negative and statistically significant at the 1% level, indicating that the empirical results remain robust to alternative definitions of the dependent variable.

Table 13: Robustness Check IV：Alternative Definitions of the Dependent Variable

	(1)	(2)
	Inefficient Investment 2	**Inefficient Investment 3**
Treat*Post	-0.017***	-0.018***
	(0.003)	(0.003)
_cons	-0.609***	-0.622***
	(0.065)	(0.065)
Year FE	Yes	Yes
Firm FE	Yes	Yes
Controls	Yes	Yes
Observations	17226	17225
Adj. R2	0.134	0.132

6. Conclusion

Using the GDT policy implemented in 2013 as a quasi-natural experiment and data from Chinese A-share listed firms, this paper systematically examines the effect of dividend tax policy on firms' investment efficiency. We find that the GDT policy significantly improves investment efficiency, with the effect mainly driven by a reduction in overinvestment, while no significant impact is observed on underinvestment. These results are robust to a range of robustness checks. Further mechanism analyses indicate that the policy enhances external monitoring of firms' investment decisions by lengthening investors' holding periods, improving corporate governance, and enhancing accounting information quality, thereby increasing investment efficiency. In contrast, alleviating financing constraints is not the primary channel through which the policy operates. Heterogeneity analyses show that the policy effects are more pronounced among firms with greater shareholder participation in governance and higher financial leverage, suggesting that investor monitoring channels and firms' internal governance conditions play an important role in the policy transmission process.

This study provides new empirical evidence on how tax policy influences firms' real investment decisions through its effects on investor behavior and corporate governance. Compared with the existing literature, which mainly focuses on dividend payouts and market reactions, this paper reveals the long-term real effects of dividend tax policy from the perspective of investment efficiency and extends the external validity of related research to settings with different investor structures. The findings also offer policy implications: tax incentives linked to holding periods can help guide investors toward longer-term investment behavior and improve the quality of firms' investment decisions through governance channels. However, the role of a single tax policy in alleviating financing constraints appears limited, and the potential synergies between tax policy and other financial institutional arrangements warrant further exploration.

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References

[1] Bushee, B.J. (1998). The influence of institutional investors on myopic R&D investment behavior. The Accounting Review, 73(3), pp. 305–333.
[2] Gaspar, J.-M., Massa, M. and Matos, P. (2005). Shareholder investment horizons and the market for corporate control. Journal of Financial Economics, 76(1), pp. 135–165.
[3] Aghion, P., Van Reenen, J. and Zingales, L. (2013). Innovation and institutional ownership. American Economic Review, 103(1), pp. 277–304.
[4] Chetty, R. and Saez, E. (2010). Dividend and corporate taxation in an agency model of the firm. American Economic Journal: Economic Policy, 2(3), pp. 1–31.
[5] Hanlon, M. and Hoopes, J.L. (2014). What do firms do when dividend tax rates change? An examination of alternative payout responses. Journal of Financial Economics, 114(1), pp. 105–124.
[6] Desai, M.A. and Dharmapala, D. (2011). Dividend taxes and international portfolio choice. The Review of Economics and Statistics, 93(1), pp. 266–284.
[7] Chay, J.B., Chong, B.U. and Im, H.J. (2023). Dividend taxes and investment efficiency: Evidence from the 2003 US personal taxation reform. Journal of Accounting and Economics, 75(1), pp. 101514.
[8] Lin, L. and Flannery, M.J. (2013). Do personal taxes affect capital structure? Evidence from the 2003 tax cut. Journal of Financial Economics, 109(2), pp. 549–565.
[9] Alstadsæter, A., Jacob, M. and Michaely, R. (2017). Do dividend taxes affect corporate investment? Journal of Public Economics, 151, pp. 74–83.
[10] Li, C., Wang, Y., Zhou, Z., Wang, Z. and Mardani, A. (2023). Digital finance and enterprise financing constraints: Structural characteristics and mechanism identification. Journal of Business Research, 165, pp. 114074.
[11] Myers, S.C. and Majluf, N.S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. Journal of Financial Economics, 13(2), pp. 187–221.
[12] Jensen, M.C. and Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics, 3(4), pp. 305–360.
[13] Richardson, S. (2006). Over-investment of free cash flow. Review of Accounting Studies, 11, pp. 159–189.
[14] Biddle, G.C. and Hilary, G. (2006). Accounting quality and firm-level capital investment. The Accounting Review, 81(5), pp. 963–982.

[15] Bilyay-Erdogan, S. (2022). Corporate ESG engagement and information asymmetry: The moderating role of country-level institutional differences. Journal of Sustainable Finance & Investment, pp. 1–37.
[16] Chen, F., Hope, O.K., Li, Q. and Wang, X. (2011). Financial reporting quality and investment efficiency of private firms in emerging markets. The Accounting Review, 86(4), pp. 1255–1288.
[17] Jensen, M.C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. American Economic Review, 76(2), pp. 323–329.
[18] Jensen, M.C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. The Journal of Finance, 48(3), pp. 831–880.
[19] Bimo, I.D., Engelbertha and Ni, L.K. (2022). Corporate governance and investment efficiency in Indonesia: The moderating role of industry competition. Journal of Financial Reporting and Accounting, 20(2), pp. 371–384.
[20] Khedmati, M., Sualihu, M.A. and Yawson, A. (2020). CEO-director ties and labor investment efficiency. Journal of Corporate Finance, 65, pp. 101492.
[21] Rajkovic, T. (2020). Lead independent directors and investment efficiency. Journal of Corporate Finance, 64, pp. 101690.
[22] Henry, P.B. (2000). Stock market liberalization, economic reform, and emerging market equity prices. The Journal of Finance, 55(2), pp. 529–564.
[23] La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R. (2000). Investor protection and corporate governance. Journal of Financial Economics, 58(1–2), pp. 3–27.
[24] Modigliani, F. and Miller, M.H. (1958). The cost of capital, corporation finance and the theory of investment. American Economic Review, 48(3), pp. 261–297.
[25] Fazzari, S.R., Hubbard, R.G. and Petersen, B.C. (1987). Financing constraints and corporate investment. NBER Working Paper W2387.
[26] Stiglitz, J.E. and Weiss, A. (1981). Credit rationing in markets with imperfect information. American Economic Review, 71(3), pp. 393–410.
[27] Almeida, H., Campello, M. and Weisbach, M.S. (2004). The cash flow sensitivity of cash. The Journal of Finance, 59(4), pp. 1777–1804.
[28] Ullah, I., Majeed, M.A., Fang, H.X. and Khan, M.A. (2020). Female CEOs and investment efficiency: Evidence from an emerging economy. Pacific Accounting Review, 32(4), pp. 443–474.
[29] Kahle, K.M. and Stulz, R.M. (2013). Access to capital, investment, and the financial crisis. Journal of Financial Economics, 110(2), pp. 280–299.
[30] Campello, M., Graham, J.R. and Harvey, C.R. (2010). The real effects of financial constraints: Evidence from a financial crisis. Journal of Financial Economics, 97(3), pp. 470–487.
[31] Kaplan, S.N. and Zingales, L. (1997). Do investment-cash flow sensitivities provide useful measures of financing constraints? Quarterly Journal of Economics, 112(1), pp. 169–215.

[32] Bond, S., Klemm, A.D. and Devereux, M.P. (2007). The effects of dividend taxes on equity prices: A re-examination of the 1997 UK tax reform. IMF Working Paper W07/204.
[33] Bradford, D.F. (1981). The incidence and allocation effects of a tax on corporate distributions. Journal of Public Economics, 15(1), pp. 1–22.
[34] Poterba, J.M. and Summers, L.H. (1984). New evidence that taxes affect the valuation of dividends. The Journal of Finance, 39(5), pp. 1397–1415.
[35] Shleifer, A. and Vishny, R.W. (1986). Large shareholders and corporate control. Journal of Political Economy, 94(3), pp. 461–488.
[36] Shleifer, A. and Vishny, R.W. (1997). A survey of corporate governance. The Journal of Finance, 52(2), pp. 737–783.
[37] Auerbach, A.J. and Hassett, K.A. (2006). Dividend taxes and firm valuation: New evidence. American Economic Review, 96(2), pp. 119–123.
[38] Bebchuk, L., Cohen, A. and Ferrell, A. (2009). What matters in corporate governance? The Review of Financial Studies, 22(2), pp. 783–827.
[39] Berger, P.G., Ofek, E. and Yermack, D.L. (1997). Managerial entrenchment and capital structure decisions. The Journal of Finance, 52(4), pp. 1411–1438.
[40] Gompers, P., Ishii, J. and Metrick, A. (2003). Corporate governance and equity prices. The Quarterly Journal of Economics, 118(1), pp. 107–156.
[41] Harju, J. and Kari, S. (2017). Dividend taxes and decisions of MNEs: Evidence from a Finnish tax reform. CESifo Economic Studies, 63(1), pp. 45–77.
[42] Carhart, M.M. (1997). On persistence in mutual fund performance. The Journal of Finance, 52(1), pp. 57–82.
[43] Jacob, M. and Michaely, R. (2017). Taxation and dividend policy: The muting effect of agency issues and shareholder conflicts. The Review of Financial Studies, 30(9), pp. 3176–3222.
[44] McNichols, M.F. and Stubben, S.R. (2008). Does earnings management affect firms' investment decisions. The Accounting Review, 83(6), pp. 1571–1603.
[45] Dechow, P.M., Sloan, R.G. and Sweeney, A.P. (1995). Detecting earnings management. The Accounting Review, 70, pp. 193–225.
[46] Prior, D., Surroca, J. and Tribó, J.A. (2008). Are socially responsible managers really ethical? Exploring the relationship between earnings management and corporate social responsibility. Corporate Governance: An International Review, 16(3), pp. 160–177.
[47] Gallemore, J., Gipper, B. and Maydew, E. (2019). Banks as tax planning intermediaries. Journal of Accounting Research, 57(1), pp. 169–209.
[48] Phan, Q.T. (2025). Investment and leverage: The moderating effect of financial constraints. Afro-Asian Journal of Finance and Accounting, 15(4), pp. 407–424.