Employee rights and investment cash flow sensitivity

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Abstract

We examine the impact of Right-to-Work (RTW) laws on firms' investment cash flow sensitivity. Using a large sample of U.S. public firms from 1950 to 2021, we find that firms located in the RTW states have a higher cash flow sensitivity of investment and lower investment efficiency. These firms, arguably with weaker employee rights, also receive less value from each additional dollar of investment in non-cash assets. The effect is stronger for firms with more financial constraints, higher information asymmetry and weak corporate governance. It is also more pronounced when firms have more intensive labour demands, weak union power and higher risk.

JEL classification: G12, G14, G32

Keywords: rights to work; investment-cash flow sensitivity; agency problem; value of investment

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Introduction

In 1944, eight decades ago, Arkansas and Florida became the first two states to adopt the so-called right-to-work laws, under which workers entering a unionized workplace can opt out of joining the union and paying union fees. Fast forward to 2022, twenty-seven states have adopted the law. In 2023, Michigan became the first state in 58 years to repeal their right-to-work law. Undoubtedly, the pros and cons of having a right-to-work law are still acutely relevant. Empirical research has explored various aspects of the issue, ranging from ideology (such as freedom of association, right of dissenting of minority etc), to economic impacts (such as employment growth, business environment, economic inequality, free rider issue etc) to financial outcomes (such as firm performance, costs of debt, leverage etc). In this paper, we analyse the impacts of right-to-work (RTW) laws on firms' investment. More specifically, we examine firms' investment cashflow sensitivity, as well as the market valuation of firms' cash and investment.

Existing theories propose a connection between the RTW law and firms' investment cashflow sensitivity. Firms can choose between internal and external funding, and the decision is much dependent on the relative cost for each source of funds. If the difference between internal and external funding increases, firms will rely more on internal funding, and their investment becomes more sensitive to the internal cashflow. The RTW may affect the cost of external funding via a few channels. First, employees in RTW states arguably have weaker protection and rights. They will be less active in efficient monitoring of the firms, and therefore intensifies agency problem and increases the risk of moral hazard problem for external investors. Second, weak worker and union power reduce the incentive for information collection which reduces information quality, and weakens investors' ability to evaluate a firm's investment opportunities and cash flows. Third, previous studies find that employee friendly companies and those with strong union take less risk

and face a lower cost of debt (e.g. Chen, et al., 2012; Stellner, et al., 2015). Contrarily, RTW companies may take more risk, face higher cost of debt and thus adopt lower leverage (Simintzi, Vig, and Volpin, 2015; Chava, et al., 2020). Altogether, external investors in RTW firms will require a higher rate of return to compensate for the risks and costs due to agency problem, moral hazard, monitoring and overall firm risk-taking behaviours. In short, firms in RTW states may face higher external cost of debt, forcing these firms to rely more on internal cashflow for its investments, and have higher cashflow sensitivities.

Using a large sample of U.S. public firms between 1950 and 2021, and applying the difference-in-difference approach, we find that RTW significantly increases the cash flow sensitivity of firms' investment. The market valuation analysis shows that the marginal value of one dollar's investment in non-cash assets is significantly lower for firms with weak employee rights than firms with strong employee rights. Our results are robust to various empirical test models and controls for endogeneity and reverse causality issues.

This study makes several contributions to the literature. First, we extend the literature that examines the investment cash flow sensitivity and provide the first evidence that relates the employee rights to the wedge between the costs of external and internal funds. Previous studies draw on the market frictions to explain the investment sensitivity to firm internal cash flows and report mixed evidence on the explanatory power of various factors, such as corporate governance (Agca and Mozumdar, 2008; Attig et al., 2012), information asymmetry (Cleary et al., 2007), institutional investment horizon (Attig et al., 2012), and so on. In this paper we adopt the passage of RTW laws as exogenous events that increased agency costs (John et al., 2015; Chava et al., 2020) which provides a natural experiment to test how agency theory explains firms' investment decision with minimum endogeneity concerns. Overall, this study confirms that in addition to the factors

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identified in previous studies, the employee rights are shown as an important factor affecting firm investment cash flow sensitivity.

Second, we contribute to the literature on the market valuation of cash and investment. Our results indicate that weak employee rights lead to lower investment sensitivity to Tobin's Q which implies lower investment efficiency. Consistently, the market valuation analysis show that weak employee rights lead to a lower value of investment in non-cash assets. In addition to the factors identified in previous studies (Hovakimian, 2011; Mulier, et al, 2016; Chen et al., 2017), the employee rights are shown to have explanatory power to firm investment efficiency which have a significant implication for firm market value. These results are in line with previous findings that firm investment is less sensitive to Tobin's Q and more sensitive to cash flow in the event of recession, more financial constraint or agency problem (McLean and Zhao, 2014).

Third, we add to the growing literature that examines the impact of labour protection on firm value (Barnes and Cheng, 2023) and various financial performance, such as, leverage and wage (Chava et al, 2020), cost of debt (Chen, et al., 2012), innovation (Nguyen and Qui, 2022), stock returns (Edmans, 2011), and M&A outcome (John et al., 2015). We show that the weaker labour protection has a significant impact on the firm investment policy. This paper also addresses to a broader line of research that examines the effect of stakeholder orientation on corporate financial policy and performance, including the relation with the employees, customers, suppliers, shareholders, etc (see e.g., Flammer and Kacperczyk, 2016; Bettinazzi and Zollo, 2017; Ni et al., 2020; Chowdhury et al., 2021; Li and Lu, 2022). In particular, we find that in the case of RTW laws, weak rights and bargaining power of employees increase the firm's investment sensitivity to internal cash flows and reduce its Q sensitivity. In line with the literature on the economic effect of strong stakeholder orientation, our results suggest that as one of the key stakeholders, employees

with more job security and labour protection can play an important role in efficient monitoring and information collection, which can help reduce the wedge between the costs of internal and external financing and improve firm performance. The overall findings of this paper reveal that active and protected employees play an important governance role in mitigating agency problems than unsecure employees.

The remainder of the paper proceeds as follows. Section 2 presents literature review and hypothesis. Section 3 describes the data and methodology. Section 4 discuss the empirical results and robustness tests. Section 5 concludes.

2. Literature Review

2.1 Rights-to-work law and labour protection

Employees are key stakeholders for businesses, and their wages as an important part of total operation costs have a significant impact on business operation. Prior literature shows that labour protection and negotiating power can affect the corporate financial policy, such as cost of debt, leverage, cash holdings and dividend policy (Simintzi, Vig, and Volpin, 2015; Serfling, 2016; Chava et al., 2020). This paper uses right-to-work (RTW) laws, which were passed by 27 states in the US, as exogenous events to the labour protection to examine how employee rights affect firm investment sensitivity to internal cash flow and Tobin's Q. In RTW law states, employees can join a unionized establishment without paying union fees. All employees, both the union members and non-members, are protected by the collective bargaining agreement negotiated by the union. As a result, after the RTW law, the bargaining power of the unions will be weakened which implies

weaker employee rights and protection. Weak labour protection may reduce employee job satisfaction and consequently, firms become less efficient as unsatisfied employees are less likely to identify and internalize the firms' objectives which can weaken firm efficiency (Akerlof and Yellen, 1986; Jiao, 2010). A lower level of employee job satisfaction may also reduce employee retention since unsatisfied workers may try to change their job (Shapiro and Stiglitz, 1984; Edmans, 2011). Barnes and Cheng (2023) show that firms with better employee satisfaction receive higher values as satisfied employees are more likely to recommend the firm to their friends, which implies that the firm is more attractive to future employees and potential customers.

Firms treating their employees well often adhere to value-maximizing practices. Previous studies report that employee-friendly policies have a positive impact on firm performance (e.g., Edmans, 2011; Chen et al., 2016; Guo et al., 2016; Fauver et al., 2018). For example, employee-friendly treatment can be a valuable tool for employee recruitment, retention and motivation via the interest alignment between employees and firms (Turban and Greening, 1997; Rajan and Zingales, 2001; Edmans, et al, 2017). Furthermore, staff turnover exposes firms to the labour market friction and leads to labour adjustment costs such as costs of searching (job advertising), selection and hiring (application screening and interviews), training and costs associated with productivity disruption (e.g., Hamermesh, 1995; Yashiv, 2007). In this paper, we test if the weak employee rights increase the cash flow sensitivity of investment and reduce Q sensitivity when RTW laws weaken the worker bargaining power and intensify the agency problem.

2.2 Cash flow sensitivity of investment

In a perfect capital market as assumed by Modigliani and Miller (1958), there is no difference between internal and external funds and thus firm investment and value are independent of

financing policy. However, when market imperfections are incorporated, such as agency cost and information asymmetry, there will be a wedge between the cost of internal and external financing and hence firms will prefer internal cash flows to external funds to finance their investments unless they face restricted access to external financing.

Theoretical researches provide various explanations for the sensitivity of firm investment to internal cash flows. The agency theory assumes that managers have objectives different from those of shareholders. The literature on the moral hazard problems suggests that managers may opportunistically invest the free cash flows in sub-optimal investments or undertake investment for empire building, entrenchment, or the wealth expropriation from shareholders (Jensen and Meckling, 1976; Stulz, 1990; Guariglia and Yang, 2016). On the other hand, strong corporate governance helps minimize overinvestment problems (Richardson, 2006; La Rocca, et al, 2011) and mitigates the dependency of firm investment on internal funding (Attig et al., 2012; Francis, et al., 2013).

Therefore, when RTW laws worsen the agency problem, investors require higher risk premium to compensate for agency cost which thus implies a positive association between agency problem and cost of external funds. Alternatively, information asymmetry hypothesis (e.g. Myers and Majluf, 1984; among other studies) suggests that the wedge between the costs of internal and external funds comes from the fact that management holds superior information compared to investors. Firms may be rationed in the capital market because of asymmetric information and thus, investors charge higher risk premium since they do not know the quality of the firm's investment and cash flow.

The empirical literature provides mixed evidence on the response of firm investment to internal cash flows. Earlier research report that firms with tighter financing constraints depend more on

internal cash flows and thus have higher cash flow sensitivity compared to less constrained firms (Fazzari et al., 1988; Lamont, 1997; Shin and Stulz, 1998). More recent studies challenged this view with contradictory evidence (e.g., Kaplan and Zingales, 1997; Cleary, 2006) that investments of more financially constrained firms are less sensitive to internal cash flows. Alti (2003) found that investment is sensitive to cash flow without financing frictions. Overall, the debate over investment-cash flow sensitivity is not settled yet (see Kaplan and Zingales, 2000).

In summary, asymmetric information and agency theory both predict financial constraint and thus a wedge between the cost of internal and external financing (Stulz, 1990). These theoretical researches predict that investors monitor management activities to avoid overinvestment and moral hazard problem which implies that investors require monitoring premium. Therefore, the wedge between the cost of internal and external funds will increase as agency cost and asymmetric information problem worsen. But research is still needed to isolate the source of capital-market imperfections that influence firm investment decisions.

This study uses passage of RTW laws as quasi-natural experiment to test if agency theory can explain the investment-cash flow sensitivity, since passage of RTW laws as an exogenous shock weakens the labour protection and mitigates the negotiating power of employees, further increases the agency cost and widens the wedge between the cost of internal and external financing. At the same time, we expect that the asymmetric information problem either has no significant change or drops after RTW laws which will have an opposite effect to increased agency cost. Addessi and Busato (2009) predict a positive effect of unions on volatility and the equity risk premium. Hilary (2006) argues that management facing strong organized labour seeks to preserve information asymmetries to retain an advantage in collective bargaining, resulting in higher bid-ask spreads and

lower analyst following. Therefore, after the employee and union power are weakened following RTW laws, information asymmetry may either remain unchanged or be reduced.

Overall, the discussion above suggests that both perspectives (i.e. monitoring and information) are likely to explain the impact of employee rights on investment cash flow sensitivity. We explore this research question to identify the effects of weak employee rights on the sensitivity of firm investment to cash flows. As RTW laws reduces the protection and bargaining power of employees, weak labour protection can reduce employee job satisfaction and firm efficiency (Shapiro and Stiglitz, 1984; Edmans, 2011; Barnes and Cheng, 2023). If weak employee rights intensify agency costs, we expect a larger wedge between external and internal financing costs which thus increases the investment sensitivity to internal cash flows. Based on the above discussion, we propose the following hypothesis:

H1: The cash flow sensitivity of firm investment increases as the employee rights are weakened after the passage of rights-to-work law.

2.3 Market value of investments

The agency theory predicts that the market gives a lower valuation to cash and investment held by firms with weak corporate governance. The market appears to be aware of the free cash flow problem in weakly governed firms and thus the marginal value of cash and investment is higher in the presence of good corporate governance (Dittmar & Mahrt-Smith, 2007; Drobetz et al., 2010; Tong, 2011). Since weak labour protection may reduce the monitoring and intensify the agency problem (Edmans, 2011; John et al., 2015; Barnes and Cheng, 2023), investors may be more concerned about the agency costs in firms with weak employee rights, and thus place a lower value

on firm investment compared to firms with strong employee rights. According to the above arguments, we propose and test the following hypothesis:

H2: the market value of investment in non-cash assets for firms with weak employee rights is lower than for firms with strong employee rights

3. Data and methodology

3.1 Data sample

The sample in this study is constructed by first taking all firm-year observations from Compustat between 1950 and 2021. Following previous research, financial and utilities firms (SIC codes 6000-6999 and 4900-4999, respectively) are removed from the sample. Firms missing any of the required financial data are also excluded, resulting in a final sample of 152,001 firm-year observations.

Following prior literature (Fazzari, et al, 1988; Agca and Mozumdar, 2008; Mulier, et al., 2016; Wang and Zhang, 2021), the investment sensitivity to cash flows are tested using two measures of investments: Capex/TA (the capital expenditure divided by lagged total assets) and (CAPEX+R&D)/TA (the sum of capital expenditure and R&D expense divided by lagged total assets). In the robustness check, we also report the results for alternative measures of investments: (CAPEX+ACQ)/TA (acquisition divided by lagged total assets) and (CAPEX+ACQ+R&D)/TA (the sum of capital expenditure, acquisition and R&D expense divided by lagged total assets). Similar to previous studies (e.g. John et al., 2015; Chava, et al., 2020; Nguyen and Qiu, 2022), we calculate the weak employee rights as the dummy variable that takes one if the firm is headquartered in the state that passed rights-to-work law in year t and zero, otherwise. We classify a firm as having strong employee rights if the firm is headquartered in the state without RTW in year t.

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Fourteen states implemented RTW legislation during our sample period: Nevada (1952), Alabama (1953), South Carolina (1954), Utah (1955), Kansas (1958), Mississippi (1960), Wyoming (1963), Louisiana (1976), Idaho (1986), Oklahoma (2001), Indiana (2012), Michigan (2013), Wisconsin (2015), and West Virginia (2016). We remove those firms from states that passed RTW legislation before 1950. We exclude all observations beyond five years before and after RTW introduction.

3.2 Research method to test the cash flow sensitivity of investment

We use a difference-in-differences (DID) approach to estimate the effect of RTW laws. The treatment group includes the firm observations in RTW states after the law was passed, and the control group includes firms in RTW states before the law was introduced and those in states without RTW laws. We estimate the following firm fixed-effects regression model to examine the hypotheses:

$$(Investment)_{it}/TA_{it-1} = \alpha + \beta_1 Weak\ right_{it} + \beta_2 Weak\ right_{it} * (Cashflow)_{it}/TA_{it-1} +$$
$$\beta_3 Tobin'Q_{it-1} + \beta_4 Log(TA)_{it} + \beta_5 (Cashflow)_{it}/TA_{it-1} + \beta_6 (Total\ debt)_{it}/$$
$$TA_{it-1} + \beta_7 (Cash)_{it}/TA_{it-1} + Fixed\ effects + \epsilon \tag{1}$$

where main dependent variables are Capex/TA (the capital expenditure scaled by lagged total assets) and (CAPEX+R&D)/TA (the capital expenditure plus R&D investment scaled by lagged total assets). *Weak right* is an indicator variable equal to one when the firm is headquartered in a state with RTW in year t, and zero otherwise. Following prior literature on the investment-cash flow sensitivity (e.g. Kaplan and Zingales, 1997; Attig et al., 2012; Moshirian et al., 2017; Wang and Zhang, 2021), we include control variables, such as Tobin's Q and firm size measured as the log of total assets. Cash flow (*Cashflow/lagged total assets*), leverage (*Total debt/lagged total assets*) and

cash holdings (*Cash/lagged total assets*) are also included. Last, we include year, state and industry/firm fixed effects and employ the standard errors clustering at the firm level. The definitions of these variables are provided in Appendix A.

We use several methods to address the endogeneity concerns. Our main approach is a difference-in-differences regression that exploits the fact that some states have introduced the RTW laws while other states have not. The difference-in-differences methodology reduces the risk that unobservable time-invariant state characteristics confound the estimation of the effect of RTW laws on cash flow sensitivity. We also address the reverse causality problem by estimating a dynamic difference-in-differences specification in which we estimate the effect of RTW laws in the years before, during, and after the laws were passed and results remain similarly significant.

3.3 Research method to test the market valuation of investments

If weak employee rights lead to a wider wedge between internal and external cost of funds, then it is important to know if the market expects the investment of non-cash assets to be value increasing or decreasing. Following prior studies on the market valuation (e.g., Dittmar and Mahrt-Smith, 2007; Denis and Sibilkov, 2010; Drobetz, et al., 2010; Chowdhury, et al, 2021), we estimate the model (2) below to examine the change in firm market value from a change in cash, change in investment in non-cash assets, and the interaction of change in investment and cash with weak employee rights while controlling for changes in a firm's profitability, financial policy, and investment policy.

$$R_{i,t} - RB_{i,t} = \beta_1 \text{weak right} + \beta_2 \text{weak right}_{i,t} * \frac{\Delta \text{Cash}_{i,t}}{\text{MV}_{i,t-1}} + \beta_3 \text{weak right}_{i,t} * \frac{\Delta \text{Net assets}_{i,t}}{\text{MV}_{i,t-1}} +$$

$$\beta_4 \frac{\Delta \text{Cash}_{i,t}}{\text{MV}_{i,t-1}} + \beta_5 \frac{\Delta \text{Earnings}_{i,t}}{\text{MV}_{i,t-1}} + \beta_6 \frac{\Delta \text{Net assets}_{i,t}}{\text{MV}_{i,t-1}} + \beta_7 \frac{\Delta \text{R\&D}_{i,t}}{\text{MV}_{i,t-1}} + \beta_8 \frac{\Delta \text{interest expense}_{i,t}}{\text{MV}_{i,t-1}} + \beta_9 \frac{\Delta \text{Dividend}_{i,t}}{\text{MV}_{i,t-1}} +$$

$$\beta_{10}\frac{\text{Cash}_{i,t-1}}{\text{MV}_{i,t-1}} + \beta_{11}\frac{\text{Cash}_{i,t-1}}{\text{MV}_{i,t-1}} * \frac{\Delta\text{Cash}_{i,t}}{\text{MV}_{i,t-1}} + \beta_{12}\text{Leverage}_{i,t} * \frac{\Delta\text{Cash}_{i,t}}{\text{MV}_{i,t-1}} + \beta_{13}\text{Leverage}_{i,t} +$$

$$+\beta_{14}\frac{\text{New Financing}_{i,t}}{\text{MV}_{i,t-1}} + \epsilon \tag{2}$$

Where $\Delta x_{i,t}$ indicates the change in variable x of firm i from year $t-1$ to year t. The dependent variable is excess return $(R_{i,t} - RB_{i,t})$ which is equal to a firm's stock return from year $t-1$ to year t, less the benchmark portfolio return ($RB_{i,t}$) of firm i from 25 Fama and French portfolios formed on firm size and book-to-market ratio. *Weak right* is as defined previously. *MV* is the market value of equity calculated as price multiplied by shares outstanding. *Earnings* is earnings before extraordinary items and *Net assets* (*NA*) is equal to total assets less cash holdings. *Leverage* is measured as total debt divided by total assets and *New Financing* is equal to net new equity issued (equity issued less repurchases) plus net new debt issued (debt issued less debt retired). β3 is the key variable of interest here as it shows how much an extra dollar of investment in non-cash assets affects the excess market return. To examine the impact of employee rights on the value of investment in addition to value of cash, we run the regression based on model (2) with both interaction variables, including β3 as the coefficient on the interaction term of weak rights with the investment: *weak rights*ΔNet asset* and β2 as the coefficient on the interaction term of weak rights with the cash holdings: *weak rights*ΔCash*.

4. Empirical results

4.1 Descriptive statistics

Table 1 presents summary statistics for the variables used in our analysis. The mean (median) *Capex/TA* ratio is 6.41% (4.38%) and the mean (median) of *(CAPEX+R&D)/TA*, is 11.07%

(7.41%), similar to previous U.S. studies (e.g. Kaplan and Zingales, 1997; Attig et al., 2012; Mulier, et al, 2016; Kabbach-de-Castro, et al., 2022).

[Insert Table 1 about here]

Table 2 reports the pairwise correlation coefficients for variables used in our analysis. The largest correlations between control variables used in the same test are between *Tobin's Q* and *Cash/TA* (0.272), and *log (Total assets)* and *Cash/TA* (-0.205). The correlations among other explanatory variables are all less than 0.2, suggesting that collinearity is not a problem. The correlations between the investment measures and control variables are mostly significant and consistent with the regression results.

[Insert Table 2 about here]

4.2 Cash flow sensitivity of investment

To examine the relation between weak employee rights and cash flow sensitivity of investment, we estimate the model (1) and the regression results for the full sample are reported in Table 3. The adjusted R-squared ranges from 30.7% to 74.5%. Looking across all columns, the coefficients on the interaction variable *weak right * cash flow/TA* are all positively significant (0.0980, 0.2009, 0.0610, and 0.1411, respectively) at the 1% level. These results demonstrate that when labour protection weakens (improves), the cash flow sensitivity of investment increases (decreases). The coefficients for control variables are consistent across columns (1) to (4) and are comparable to

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those in previous studies (e.g. Agca and Mozumdar, 2008; Attig et al., 2012; Mulier, et al, 2016; Kabbach-de-Castro, et al., 2022). Overall, these results support the prediction of hypothesis 1 that the weak employee rights intensify the firm investment sensitivity to its internal cash flows.

[Insert Table 3 about here]

4.3 The investment efficiency

The baseline regression results suggest that weak employee rights increase the investment cash flow sensitivity. Next, we examine if firms with weak employee rights experience lower investment efficiency. Following previous studies (Chen et al., 2017; Cook et al., 2019; Wang, 2023), we estimate the sensitivity of investment to Tobin's Q as measure of investment efficiency. We augment the model (1) with additional interaction variable of weak employee rights and lagged Tobin's Q and results are presented in Table 4. The coefficient on Tobin's Q is significantly positive, indicating a positive relation between investment and growth opportunities. However, the interaction between Tobin's Q and weak employee rights are significantly negative which indicates investment is significantly less sensitive to growth opportunities for firms with weak employee rights. The results are consistent across column (1) to (4) for both measures of investment: Capex and (Capex +R&D) scaled by lagged assets. For example, the coefficients of the interaction term *weak rights * Q* for the Capex/assets is -0.0035 and the coefficients of interaction term for (Capex +R&D) /assets is -0.0090 at 1% significance level.

[Insert Table 4 about here]

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Taken together, the results in Table 4 suggest the weak employee rights not only increases investment sensitivity to internal cash flow but also reduce the Q sensitivity which implying a lower investment efficiency. Both results are consistent with the prediction of agency theory. Our result is in line with the findings of recent studies that firms with better CSR performance enjoy higher capital investment efficiency (Benlemlih and Bitar, 2018; Cook et al., 2019).

4.4 The market value of investments

The results so far confirm a higher cash flow sensitivity of investment and lower Q sensitivity for firms with weak employee rights, and thus it is important to know if the market expects the investment in non-cash assets to be value-increasing or not. We estimate the model (2) to examine the market valuation of cash and investment and results are displayed in Table 5. Column (1) and (2) reports results when value of cash or value of investment is tested separately and columns (3) show results when both market value of cash and non-cash investment are examined together. While the coefficients on *ΔCash holdings/MV* are insignificant, the coefficients of investment in non-cash assets *ΔNet assets/MV* are significantly negative at the 1% significance level. Other control variables are similar to results reported in prior studies (e.g., Dittmar and Mahrt-Smith, 2007; Drobetz et al., 2010; Chowdhury, et al, 2021).

[Insert Table 5 about here]

We first include in column (1) the interaction variable between weak employee rights and change in investment of net assets and coefficient on the interaction term *Weak Right*ΔNet assets*

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is significantly negative -0.0923 at 1% significance level, illustrating that each marginal dollar of investment in non-cash assets in firms with weak employee rights is worth significantly less than firms with strong employee rights. The market value of cash is tested in column (2) in which the interaction term *Weak Right*ΔCash* is negative yet insignificant. To determine the marginal value of investment in addition to the value of cash holdings for weak employee rights firms, we include in column (3) both the interaction terms of weak rights with cash holdings and investment in non-cash assets and test the market valuation of cash and investment together. Similarly, in column (3) interaction term *Weak Right*ΔNet assets* remains significantly negative -0.0921 at 1% level while the coefficient of *Weak Right*ΔCash* is negative yet insignificant. The results in Table 5 confirm the hypothesis 2 that the investment of non-cash assets in firms with weak employee rights receives lower market value compared to firms with strong rights, which is consistent with the prediction of agency theory.

These results imply that strong employee rights improve the market valuation of investment in non-cash assets while have no significant impact of market value of cash. One potential explanation of the above findings is that the market expects investment in non-cash net assets for firms with weak rights to be spent on value-decreasing investments and, as a result, such firms suffer more from the moral hazard problems which may outweigh investors' concerns regarding the agency costs of free cash flow for cash holdings in weak rights firms. This result is in line with the prior study that reports insignificant effect of the weak employee rights on cash holdings after RTW law (Chava, et al., 2020) and are also consistent with the recent evidence on the impact of employee-friendly policies on firms' operation and performance (Edmans, 2011; Chen et al., 2016; Fauver et al., 2018; Mao and Weathers, 2019).

4.5 Moderating effects of financial constraint, information asymmetry and corporate governance

The baseline regression results confirm a significant positive impact of weak employee rights on the cash flow sensitivity of investment. We next conduct further analyses of the heterogeneity in this positive relation between employee rights and investment-cash flow sensitivity. The main purpose is to provide evidence which firms are more affected by RTW law adoption and thus test the potential channels driving investment-cash flow sensitivity.

First of all, we explore the several potential mechanisms underlying the effect of labour protection on cash flow sensitivity of investment: corporate governance, information asymmetry and financial constraint. We partition the data sample into subsamples of three terciles based on various measures of market imperfections and estimate model (1) with the subsamples based on the top tercile and bottom tercile which results of subsample analysis are displayed in Table 6 below.

[Insert Table 6 about here]

Panel A of Table 6 demonstrates the results testing the moderating effect of corporate governance. The data sample is divided into subsamples using three measures of corporate governance commonly used in prior literature: free cash flow, GINDEX and board share ownership (e.g., Dittmar & Mahrt-Smith, 2007; Harford et al., 2008; Tong, 2011). We run model (1) on the subsample and the results in Panel A confirms the positive impact of weak rights on cash flow sensitivity is more pronounced in firms with weak corporate governance (top tercile high free cash flow, high GINDEX and bottom tercile low board ownership) compared to those strongly governed firms (bottom tercile low free cash flow, low GINDEX and top tercile high board ownership). For example, the coefficients of interaction variable *weak rights * cash flow* are significantly positive

at 0.1642 (0.3075) for firms with high free cash flow/GINDEX (more agency problem), while at the same time, the coefficients of interaction become insignificant at 0.0273 (-0.1292) for subsamples with low free cash flow/GINDEX (strong corporate governance). As we expected, the results in Panel A suggest that weak corporate governance (severe agency problem) further intensifies the cash flow sensitivity of investment which is consistent with the agency theory.

Next, we explore whether the effect of employee rights on cash flow sensitivity varies with the level of information asymmetry. Panel B displays the test results when we divide into subsamples based on three measures of information asymmetry: analyst forecast error, number of analysts and bid-ask spread, as motivated by previous studies (e.g. Drobetz, et al, 2010; Chen, et al, 2017; Li, et al, 2023). As illustrated by the significantly positive coefficients of interaction *weak right * cash flow*, the effect of employee rights on cash flow sensitivity is stronger for firms with higher asymmetric information (top tercile high forecast error, large bid-ask spread and below tercile low number of analysts). These results suggest that positive effect of weak employee rights on the investment sensitivity of cash flow is intensified when there is higher information asymmetry.

Our third test is based on financial health to examine the moderating effect of financial constraint. Financially constrained firms have a greater demand for external funds as their internal cash flows are insufficient to support their operations (Raddatz, 2006; Li et al., 2021). Thus, the weak employee rights are more likely to intensify the cash flow sensitivity of their investment. Following prior literature (Whited and Wu, 2006; Hadlock and Pierce, 2010; Bao et al, 2012), we construct three measures of financial constraint: Whited-Wu Index (WWI), firm size and Size-age Index (SA). We divide the full sample based on these measures and report the subsample regresson results of financially constrained and unconstrained firms in Panel C. The coefficients of the interaction *weak right * cash flow* are much stronger for financially constrained firms (top tercile

high WWI, high SA and bottom tercile small firm size) compared to less constrained firms (bottom tercile low WWI, low SA and top tercile large firm size). This result in Panel C indicates that weak employee rights intensify a firm's financial constraint due to worsened agency problem and thus cause a rise in investment cash flow sensitivity, which is consistent with prior studies that financial constraint increases a firm's investment cash flow sensitivity (Lamont, 1997; Shin and Stulz, 1998; Mulier, et al, 2016).

Overall, the results in Table 6 suggest that firms with weak employee rights may face more agency problem and financial constraints, thus experience higher cash flow sensitivity of investment and such effect of weak rights are intensified when companies are exposed to more severe agency problem and information asymmetry, as well as higher financial constraint.

4.6 Cross-sectional analysis: the role of labour intensity, union power, risk and state political power

The main regression results suggest that RTW laws increase agency costs by weakening the labour protection and thus intensify the investment sensitivity to internal cash flows. As a further channel analysis, we next explore the moderating effect of various firm labour and risk characteristics, as well as the union power and state political power. We estimate model (1) with subsamples divided by firms' labour intensity, union power, state political power and firm risks. The empirical results are displayed in Table 7 below.

[Insert Table 7 about here]

Panel A of Table 7 reports the regression results for the moderating effect of labour intensity. The data sample is divided into subsamples based on the ratio of company employees to total assets. The baseline regression is run on the subsample of labour intensive (top tercile employee/assets ratio) and low intensive firms (bottom tercile labour intensity). The results in Panel A confirm the positive association between weak rights and cash flow is stronger in firms with more intensive labour for both investment measures of Capex/assets and (Capex+R&D). For example, when Capex/assets are used as dependent variable, the interaction variables *weak rights * cash flow* has a significant and positive coefficient 0.2011 for labour intensive subsample in column (1) while it become insignificant at 0.0092 for low labour intensity counterparts in column (2). Similarly, when (Capex+R&D)/assets acts as the depend variable, the coefficient of *weak rights*cash flow* has a significant and positive coefficient 0.3938 for labour intensive subsample while become insignificant at 0.0932 for firms with low labour intensity. These results suggest that firm labour intensity strengthens the impact of employee rights on the cash flow sensitivity of investment.

Panel B of Table 7 displays the results for the tests on the moderating effect of union power. The data sample is divided into subsamples using the industry union membership that the firm belongs to[2]. We run model (1) for the subsample analysis based on strong union power (top tercile high union membership) and weak union power (bottom tercile low union membership). The results reported in Panel B suggest the positive impact of weak rights on cash flow sensitivity is more pronounced in firms with weak union power (weak labour protection). For example, when Capex/assets is used as the dependent variable, the interactions variables *weak rights x cash flow/assets* have a significant and positive coefficient 0.1038 for weak union power subsample in column (1) while become insignificant at 0.5015 for strong union power counterparts in column

[2] Industry union membership data is provided by the Bureau of Labor Statistics: www.bls.gov

(2). We observe a similar pattern when (Capex+R&D)/assets acts as depend variable. These results suggest that weak union power intensifies the effect of labour protection on the cash flow sensitivity of investment.

Next, we test the moderating effect of state political power and results are displayed in Panel C. The data is divided into subsamples using state political power measured by the governor party of the state where the company is headquartered. The model (1) is regressed on the subsamples based the indicator variable that takes one if the state governor is republican party, zero otherwise. The results in Panel C suggest the positive effect of weak rights on cash flow sensitivity is stronger in firms that are headquartered in states with republican party governor while becomes insignificant for those in states with democratic party governor. Results show similar pattern when both Capex/assets and (Capex+R&D)/assets are used as depend variables. This result is consistent with previous findings (e.g. Rubin, 2008; Gupta, et al, 2017) that liberal-leaning companies and states (Democrat states) engage in more CSR activities than conservative-leaning companies and states (Republican states). Our results show that the impact of weak employee rights on the investment-cash flow sensitivity is stronger for companies based in states that are less likely to engage in CSR activities.

Last, we test the moderating effect of firm risk and estimate model (1) using subsamples based on the financial risk measured by interest coverage. The results in Panel D indicate that the positive impact of weak rights on cash flow sensitivity is more pronounced in firms with high financial risk (bottom tercile interest coverage) while the effect becomes insignificant in firms with low financial risk (top tercile interest coverage). Overall, the results in Table 7 indicate that the positive association of weak employee rights and firm investment sensitivity to cash flows are moderated by firm labour intensity, financial risk as well as industry union power and state political power.

4.7 Accounting for endogeneity: entropy balancing approach

Unobserved omitted variables which are correlated with both employee rights and investment decision may bias the coefficient estimates from model (1). The firm fixed effects included in our main tests can control for endogeneity when the unobserved correlated variables are constant over time. To further alleviate endogeneity concerns, we employ entropy balancing, a generalized multivariate propensity score weighting approach to address another concern that our baseline results might be driven by the fundamental differences between the treatment and control firms. Entropy balancing matches treatment and control groups using continuous weights for all control sample observations, rather than a zero-one approach used in propensity-score matching (which can significantly reduce a sample size).

In essence, entropy balancing weights the observations of the control group so that the mean, variance, and skewness of all covariates are balanced across the treatment and the control groups. This weighing scheme allows observations that would have been dropped to remain in the sample albeit with a small weight. At the same time, entropy balancing strives to maintain the weights as equal as possible (Hainmueller, 2012). The observations of the treated group and the adequately weighed observations of the control group can then be used in place of the original sample. McMullin and Schonberger (2020) document that entropy balancing approach noticeably improves covariate balance when compared with propensity-score approaches. This approach is also used by recent empirical studies (e.g., Boasiako, et al, 2022; Kabbach-de-Castro, et al., 2022).

The treatment group includes companies headquartered in states that passed RTW law at time t and control group are those companies based in states that did not have RTW law at time t. Table 8 displays results using the entropy balanced sample. The descriptive statistics of the unmatched and matched sample in Panel A shows that we achieve a desirable covariate balance. Using the entropy balanced sample, we estimate the impact of RTW laws on the investment sensitivity to cash flow using model (1) and the results are displayed in Panel B.

[Insert Table 8 about here]

Similar to results in Table 3, the coefficients on the interactions *weak rights * cash flow* are significantly positive (p<0.01) across all columns which suggest that weak labour protection intensifies the firm cash flow sensitivity of investment. Overall, the results from the entropy balancing analysis removes observable differences other than the difference in the passage of RTW laws between the treatment and control firms. Any difference in investment cash flow sensitivity between the two samples is due to the adoption of RTW laws. These findings confirm that our main results are not driven by endogeneity.

4.8 Accounting for reverse causality: dynamic difference-in-difference and propensity score matching

A potential concern related to our main results on the relation between the adoption of RTW laws and investment is reverse causality. Following previous studies (e.g., Nguyen and Qiu, 2022), we implement a dynamic DID regression framework to mitigate such concern and validate the

parallel-trends assumption for the efficacy of DID approach. The parallel trends assumption requires the cash flow sensitivity of the treat and control firms follow parallel trends absent the changes in the status of the RTW laws. To test the validity of our empirical analysis, we employ the dynamic difference-in-difference approach and augment the model (1) with additional variables building from a new list of indicator variables interacting with the cash flow scaled by lagged assets, including: *post0*cashflow, post1* cashflow, post2*cashflow, pre2*cashflow, pre1*cashflow* and *RTW*cashflow*. The variable *post0* is an indicate variable that takes one if the firm is based in a state that passed RTW in year t, and zero, otherwise. The indicate variable *post1* (*post2*) equals to one if the firm is based in a state that passed RTW one (two) year before year t, and zero otherwise. The indicate variable *pre1* (*pre2*) equals to one if the firm is based in a state that passed RTW one (two) year after year t, and zero otherwise. The indicate variable *RTW* equals to one if the firm is based in a state that passed RTW during the sample period, and zero otherwise. The regression results are reported in Table 9.

[Insert Table 9 about here]

Consistent with the baseline results in Table 3, the coefficients on the interactions between weak employee rights and investment sensitivity to cash flow: *post0*cashflow, post1* cashflow, post2*cashflow* are all significantly positive across all columns for both Capex/assets and (Capex+R&D)/assets which suggest that weak labour protection intensifies the firm cash flow sensitivity of investment in both capital expenditure and research development after the RTW laws. At the same time, the coefficients of all pre-treatment dummies *pre2*cashflow, pre1*cashflow* are

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not significant which support the parallel trend assumption of the DiD tests (Roberts & Whited, 2013). These findings confirm that our main results are not subject to reverse causality problem.

To further address the endogeneity concerns, we also run the dynamic difference-in-difference regression on the propensity score matched (PSM) sample and the results are reported in Table 10. The treatment group includes companies headquartered in states that passed RTW law at time t and control group are those companies based in states that did not have RTW law at time t. We then employ a logistic regression to estimate the likelihood of being a treated firm using the firm-level controls in model (1) and then we match each treatment firm to a control firm based on the closest propensity score. The panel A presents the baseline regression results on the propensity score matched sample with firm year observations of 7,677 and the interaction variables *weak right * cashflow* remain significantly positive for both Capex/assets and (Capex+R&D)/assets. The dynamic DID regression results on propensity score matched sample are reported in the Panel B. Similarly, the interactions between weak employee rights and investment sensitivity to cash flow: *post0*cashflow, post1* cashflow, post2*cashflow* are all significantly positive across all columns for both Capex/assets and (Capex+R&D)/assets while the coefficients of *pre2*cashflow, pre1*cashflow* are insignificant. Hence, these results indicate that the reverse causality or violation of the parallel trend assumption is unlikely to explain our key finding that weak employee rights increase firm's investment-cash flow sensitivity after the RTW law.

[Insert Table 10 about here]

4.9 Robustness check: alternative measures of investments

As a robustness check, we re-estimate the baseline regression of model (1) based on several alternative measures of investment calculated as Capex and (Capex + R&D) scaled by net PPE or sales: Capex/Net PPE, Capex/Sales, (Capex + R&D)/ Net PPE, (Capex + R&D)/Sales and results are reported in Panel A of Table 11. The coefficients of the interaction variables *weak right * cash flow* remain significant and positive across all columns. Second, we add firm acquisition value into investments and adopt alternative investment measures of (Capex + Acquisition) and (Capex + Acquisition + R&D) scaled by total assets or sales and results are presented in Panel B. The coefficients of the interaction variables *weak right * cash flow* remain significantly positive for all alternative measures of investment. As can be seen from the results in both Panel A and B of Table 11, the baseline results are not sensitive to alternative measures of investments and remain robust.

[Insert Table 11 about here]

This evidence is in line with the interpretation that weaker employee rights cause more agency problem and thus higher financial constraints, leading to significantly higher cash flow sensitivity of investments. Our findings are consistent with the hypothesis that the rise of investment-cash flow sensitivities reflect the worsened agency problem and financial constraints in our sample after the passage of RTW laws.

4.10 Robustness check: Subperiod analysis

Our findings suggest that investment-cash flow sensitivities arise in the presence of financial market imperfections and are intensified when the agency problem is worsened. As another robustness check to ensure our results are not driven by any particular sample period, we

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estimate the baseline regression model (1) using subsample of various sample periods: 1950-1979, 1980-1994, 1995-2005 and 2006-2021.

[Insert Table 12 about here]

The subperiod regression results of main dependent variables Capex/assets and (Capex + R&D)/assets are reported in Panel A and B of Table 12. The main results still hold that the coefficients of the interaction *weak right * cash flow* remain significantly positive across all sub-sample periods. We do observe the coefficients of interaction variables reduce magnitude and become less significant after 2006, consistent with some recent findings (Wang and Zhang, 2021). However, the subperiod analysis of alternative investment measures (Capex + Acq)/assets and (Capex + Acq + R&D)/assets reported in Panel C and D are significantly positive at 1% level across all columns. This suggests that the impact on the cash flow sensitivity of investment in capital expenditure may have declined after year 2006 but its effect have been partially replaced by the impact on the investment of R&D and acquisition, possibly due to the shift from investment of traditional assets to more investments spending on the intangible assets of the R&D and various domestic and international acquisitions. These results confirm that though the cash flow sensitivity of investment has declined in more recent years, the effect of weak employee rights on the cash flow sensitivity remain significant across all time periods.

5. Conclusion

The RTW law impacts the society in many ways, of which the impact on businesses is undoubtedly an important consideration. This study provides the first evidence that firms based in RTW states experience a significantly higher sensitivity of investment to internal funds. As firms

in the states with RTW laws arguably have weaker employee rights, we conjecture that weak labour protection reduces staff retention and employees' incentives to engage in effective monitoring and information collection of the companies that they work for. As a result, the increased agency costs cause a wider wedge between the costs of internal and external financing, which intensifies a firm's investment sensitivity to internal cash flows and reduces its investment efficiency.

We adopt the difference-in-difference approach to analyse a large sample of US public firms 1950-2021 and confirm that after the passage of RTW laws, weak employee rights significantly increase the investment sensitivity to cash flow and reduce the Q sensitivity, consistent with the agency theory. To further check the prediction of agency theory, we test the market valuation of investment and show that each marginal dollar of investment in non-cash assets receives a significantly lower value in firms with weak employee rights compared to firms with strong labour protection. These results indicate that the market expects the potential costs of moral hazard for weak rights firms outweigh the benefits of investments. We then perform the channel analysis and investigate the moderating effects of various firm financial and risk characteristics as well as the industry union power and state political power on the relation between employee rights and cash flow sensitivity of investment and find that this positive association is more pronounced for companies with more agency problem and information asymmetry as well as high financial constraint. Further cross-sectional analyses reveal that the positive effect of weak employee rights on investment sensitivity is stronger when firms have more intensive labour, higher risk and weaker union power.

Our results are robust to alternative measures of investments, various sample periods, different econometric specifications and controlling for endogeneity. This study suggests that the increase in agency costs associated with weak employee rights may affect major financial decisions such as

investment and capital structure policy. From an investment perspective, one could argue that the improved monitoring associated with strong active employees can improve corporate governance. On the other hand, after the passage of RTW law, firms may experience weaker governance and thus more financial constraint, which is consistent with agency theory to explain investment-cash flow sensitivity using capital market imperfection.

This study contributes to the growing literature on labour protection and stakeholder orientation by showing that employee rights have additional explanatory power in investment-cash flow sensitivity, investment efficiency and market valuation of investment. Overall, our findings suggest that employee right is an important factor that influences firm financial policy and market valuation which effect should be taken into consideration by the company management and market regulators.

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Appendix A – Variable definition

Variable	Source	Definition
Dependent variables		
Capex/TA	Compustat	Capex divided by lagged total assets
(Capex+R&D)/TA	Compustat	Sum of Capex and R&D divided by lagged total assets
Excess Return	CRSP	Excess return = $(R_{i,t} - RB_{i,t})$ which is firm's stock return from year t-1 to year t, less the benchmark portfolio return $(RB_{i,t})$ of firm i from 25 Fama and French portfolios formed on firm size and book-to-market ratio.
Key independent variables		
Weak employee rights	Compustat	Indicate variable that takes one if the firm is headquartered in the state that passed rights-to-work law in year t and zero, otherwise.
Control variables		
Log(Total assets)	Compustat	Natural log of total assets
Cash flow/total assets	Compustat	(Income before extraordinary items + depreciation and amortization expense) / lagged total assets
Tobin's Q	Compustat	(Stock price × shares outstanding)/book equity
Total debt/total assets	Compustat	Total debt divided by lagged total assets
Cash/total assets	Compustat	Cash holdings divided by lagged total assets
Dividend Paying	Compustat	Is an indicator variable equal to one if the firm pays a dividend in the year and zero, otherwise.
WW Index	Compustat	Whited-Wu Index (Whited and Wu 2006) = -0.091 * (Cash flow/total assets – 0.062 * dividend paying +

		0.021 * Long-term debt/total assets – 0.044* Log(total assets) + 0.102 * (firm's three-digit industry sales growth) – 0.035 * firm sales growth
G-Index	Investor Responsibility Research Center (IRRC)	Gompers et al. (2003) corporate governance index. G-Index is equal to the number of antitakeover provisions in the firm's charter as reported by the Investor Responsibility Research Center (IRRC) and ranges between 0 and 24
Board share ownership	BoardEx Organization Summary	Number of shares held by board members
Free cash flow	Compustat	(Operating Cash Flow −Capital Expenditures) / total assets
Analyst following	IBES Summary History File	The number of analysts covering a company
Forecast error	IBES Summary History File	Difference between most recent median analyst earnings estimate and IBES actual earnings
Bid-ask spread	CRSP	Average closing bid-ask spread over the past calendar year
Labour intensity	Compustat	Number of employees divided by total assets
Interest coverage	Compustat	EBIT/interest costs
Industry union membership	Bureau of Labor Statistics: www.bls.gov	The union membership in a given industry
State political power	Partisan composition of governors: ballotpedia.org	Indicate variables that takes value of one if the state governor is republican party, zero otherwise
ΔCash Holdings	Compustat	Change of Cash holdings from year t-1 to year t
MV	CRSP	The market value of equity calculated as price multiplied by shares outstanding in year t-1

ΔEarnings	Compustat	Change in operating income before depreciation and amortization from year t-1 to year t
Leverage	Compustat	Total debt divided by total assets
ΔNA	Compustat	Change of net assets from year t-1 to year t, measured as total assets minus cash holdings
ΔR&D	Compustat	Change of R&D from year t-1 to year t
ΔDividend	Compustat	Dividends in year t minus dividends in year t-1
ΔInterest Expense	Compustat	Interest expense for year t minus interest expense for year t-1
New Financing	Compustat	Net new equity issued (equity issued less repurchases) plus net new debt issued (debt issued less debt retired)

Table 1 Descriptive statistics

Panel A Variables for Investment cash flow sensitivity regression	Mean	Median	SD	Q25	Q75
(Capex/TA) (%)	6.41	4.38	6.70	1.88	8.47
(Capex+R&D)/TA (%)	11.07	7.41	11.50	3.21	14.65
Weak rights (%)	1.03	0	10.11	0	0
Cash flow/TA (%)	6.76	8.03	13.99	1.52	13.90
Total debt/TA (%)	25.63	22.06	22.79	6.97	37.87
Log(Total assets)	5.77	5.61	2.47	3.84	7.49
Tobin's Q	2.33	1.55	2.61	0.92	2.68
Cash/TA (%)	13.10	4.50	23.64	1.27	13.89
Observations	152,001				

Panel B Variables for value of investment regression	Mean	Median	SD	Q25	Q75
Excess return (%)	3.13	7.45	48.16	-19.86	30.59
ΔEarnings/MV (%)	3.51	1.31	21.94	1.78	5.11
ΔInterest expense /MV(%)	0.25	0	2.84	-0.11	0.32
ΔR&D/MV(%)	0.15	0	1.68	0	0.12
ΔDividend/MV(%)	0.28	0	2.51	0	0.20
ΔNA/MV(%)	20.77	6.12	73.64	-4.48	25.46
ΔCash/MV(%)	1.38	0.002	10.51	1.65	3.11
New finance/MV(%)	0.061	0	47.80	-6.94	7.06
Leverage (%)	19.68	14.80	18.88	3.72	30.24
Observations	129,947				

This table presents the summary statistics of the main dependent and control variables in this paper. All variables are winsorized at the 1st and 99th percentiles. Variable definitions are listed in Appendix A.

Table 2   Correlation matrix

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1)	Capex/TA	1.00							
(2)	(Capex + R&D)/TA	0.656***	1.00						
(3)	Weak rights	-0.022***	-0.041***	1.00					
(4)	Weak rights x Cashflow/TA	0.024***	0.004*	0.668***	1.00				
(5)	Log(Total assets)	-0.095***	-0.258***	0.053***	0.029***	1.00			
(6)	Tobin's Q	0.134***	0.315***	-0.003***	0.014***	-0.086***	1.00		
(7)	Cashflow/total assets	0.251***	-0.044***	0.011***	0.058***	0.171***	0.038***	1.00	
(8)	Total debt/total assets	0.174***	-0.008***	-0.001	0.002	0.164***	0.077***	-0.017***	1.11
(9)	Cash/total assets	0.081***	0.438***	-0.022***	-0.011***	-0.205**	0.272***	-0.055***	-0.121***

This table presents the pairwise correlation coefficients for the variables used in this study. The sample period is from 1950 to 2021. Variable definitions are listed in Appendix A. *All variables* are winsorized at the 1st and 99th percentiles.

Table 3   Baseline regressions of employee rights on the cash flow sensitivity for investment

	(1)	(2)	(3)	(4)
Dep. Var. =	Capex/TA	(Capex+RD)/TA	Capex/TA	(Capex+RD)/TA
Weak rights*	0.0980***	0.2009***	0.0610***	0.1411***
Cashflow/TA	(0.000)	(0.000)	(0.000)	(0.006)
Weak rights	-0.0036	-0.0152	-0.0036	-0.0066
	(0.208)	(0.161)	(0.136)	(0.173)
Cashflow/TA	0.0779***	-0.0612***	0.0699***	0.0320***
	(0.000)	(0.000)	(0.000)	(0.000)
Log (TA)	-0.0005**	-0.0024***	-0.0009	-0.0108***
	(0.021)	(0.000)	(0.218)	(0.000)
Tobin'Q	0.0025***	0.0075***	0.0037***	0.0049***
	(0.000)	(0.000)	(0.000)	(0.000)
Total debt/TA	0.0296***	0.0019	0.0366***	0.0492***
	(0.000)	(0.763)	(0.000)	(0.000)
Cash/TA	0.0332***	0.1610***	0.0303***	0.0873***
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.0398***	0.0874***	0.0406***	0.1355***
	(0.000)	(0.000)	(0.000)	(0.000)
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	No	No
Firm FE	No	No	Yes	Yes
Observations	152,001	152,001	152,001	152,001
Adj. R-squared	0.307	0.434	0.573	0.745

This table presents the panel regression results for the impact of weak labor rights on the cash flow sensitivity. The firm is considered to be from a weak labor right state if it is headquartered in a state with a right-to-work statute at time t. Standard errors are corrected for White's heteroskedasticity (1980) and clustered by state. P-values are in parentheses. ***, **, * indicate significance at the 1%, 5% and 10% level. Variable definitions are listed in Appendix A.

Table 4   Regressions of employee rights on investment efficiency

	(1)	(2)	(3)	(4)
Dep. Var. =	Capex/TA	(Capex+RD)/TA	Capex/TA	(Capex+RD)/TA
Weak rights*	-0.0035***	-0.0094***	-0.0020**	-0.0074***
Tobin'Q	(0.000)	(0.000)	(0.026)	(0.000)
Weak rights *	0.1951***	0.3185***	0.1054***	0.2248***
Cashflow/TA	(0.000)	(0.000)	(0.000)	(0.005)
Weak rights	0.0007	-0.0014	0.0001	-0.0002
	(0.707)	(0.785)	(0.974)	(0.980)
Cashflow/TA	0.0931***	0.0575***	0.0740***	0.0669***
	(0.000)	(0.000)	(0.000)	(0.000)
Log (TA)	0.0007	-0.0014	0.0001	-0.0002
	(0.707)	(0.785)	(0.974)	(0.980)
Tobin's Q	0.0931***	-0.0575***	0.0740***	-0.0669***
	(0.000)	(0.000)	(0.000)	(0.000)
Total debt/TA	0.0250***	-0.0637***	0.0007	-0.0710***
	(0.000)	(0.000)	(0.794)	(0.000)
Cash/TA	0.0172***	0.2006***	0.0154***	0.1671***
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.0454***	0.1023***	0.0481***	0.0974***
	(0.000)	(0.000)	(0.000)	(0.000)
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	No	No	Yes	Yes
Observations	152,001	152,001	152,001	152,001
Adj. R-squared	0.181	0.315	0.288	0.406

This table presents the panel regression results for the impact of weak labor rights on the investment efficiency. The firm is considered to be from a weak labor right state if it is headquartered in a state with a right-to-work statute at time t. P-values are in parentheses. ***, **, * indicate significance at the 1%, 5% and 10% level. Variable definitions are listed in Appendix A.

Table 5   Regressions of the value of cash and investment on weak employee rights

	(1) Excess return	(2) Excess return	(3) Excess return
Weak rights*Δ Investments		-0.0923** (0.000)	-0.0921*** (0.000)
Weak rights*ΔCash Holdings	-0.2307 (0.501)		-0.2183 (0.325)
Weak rights	0.0350* (0.097)	0.0501** (0.011)	0.0520*** (0.009)
ΔEarnings	0.8271*** (0.000)	0.8254*** (0.000)	0.8254*** (0.000)
ΔNet assets	0.0725*** (0.000)	0.0754*** (0.000)	0.0754*** (0.000)
ΔR&D	1.619*** (0.000)	1.609*** (0.000)	1.609*** (0.000)
Δ Interest Expense	-1.600*** (0.000)	-1.296*** (0.000)	-1.621*** (0.000)
Δ Dividends	1.564*** (0.000)	1.603*** (0.000)	1.604*** (0.000)
Cash Holdings(t-1)	6.298*** (0.000)	6.288*** (0.000)	6.286*** (0.000)
Cash Holdings(t-1)*Δ(Cash Holdings)	-1.297*** (0.000)	-1.296*** (0.000)	-1.297*** (0.000)
Leverage	-0.5794*** (0.000)	-0.5795*** (0.000)	-0.5795*** (0.000)
Leverage*Δ(Cash Holdings)	-0.8228*** (0.000)	-0.8327*** (0.000)	-0.8317 (0.000)
New Financing	0.0428*** (0.000)	0.0422*** (0.001)	0.0421*** (0.000)
Constant	0.0771*** (0.000)	0.0769*** (0.000)	0.0769*** (0.000)
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
State fixed effect	Yes	Yes	Yes
Observations	129,947	129,947	129,947
Adjusted R^2	0.299	0.299	0.299

This table presents the panel regression results of excess stock return on weak employee rights, change in cash holdings, change in investment of non-cash assets and other control variables based on model (2). *, **, *** denote a two-tailed p-value of less than 0.10, 0.05, and 0.01, respectively. P-values are in parentheses. ***, **, * indicate significance at the 1%, 5% and 10% level. Variable definitions are listed in Appendix A.

Table 6 Employee rights and cash flow sensitivity: channel analysis of corporate governance, information asymmetry and financial constraints

Panel A	(1)	(2)	(3)	(4)	(5)	(6)
Corporate governance variables	Weak CG (High FCF)	Strong CG (Low FCF)	Weak CG (High GINDEX)	Strong CG (Low GINDEX)	Weak CG (Low Board Share)	Strong CG (High Board Share)
Weak rights* Cashflow/TA	**0.1642*****	**0.0273**	**0.3075*****	**-0.1292**	**0.2166*****	**0.0223**
	(0.000)	**(0.567)**	**(0.000)**	**(0.518)**	**(0.000)**	**(0.681)**
Weak rights	-0.0165***	0.0038	-0.0428***	0.0131	-0.0124***	-0.0044
	(0.004)	(0.226)	(0.000)	(0.599)	(0.006)	(0.563)
Cashflow/TA	0.1999***	0.0140***	0.1375***	0.1437***	0.1208***	0.1315***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	69,931	44,677	10,110	9,903	18,878	20,757
Adj. R-squared	0.308	0.306	0.463	0.416	0.375	0.452

Panel B	(1)	(2)	(3)	(4)	(5)	(6)
Information asymmetry variables	High IA (High Forecast error)	Low IA (Low Forecast error)	High IA (Small Analysts)	Low IA (Large Analysts)	High IA (Large bid-ask spread)	Low IA (Small bid-ask spread)
Weak rights* Cashflow/TA	**0.1009****	**0.0353**	**0.0855***	**-0.0301**	**0.1197****	**0.0514**
	(0.018)	**(0.225)**	**(0.084)**	**(0.560)**	**(0.031)**	**(0.159)**
Weak rights	-0.0113***	-0.0015	-0.0014	0.0032	0.0017	-0.0074*
	(0.000)	(0.665)	(0.798)	(0.694)	(0.691)	(0.059)
Cashflow/TA	0.0607***	0.0932***	0.0621***	0.1028***	0.0824***	0.0541***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24,606	22,019	38,117	36,682	66,480	44,172
Adj. R-squared	0.310	0.431	0.319	0.434	0.257	0.396

Panel C	(1)	(2)	(3)	(4)	(5)	(6)
Financial constraint variables	High FC (WWI)	Low FC (WWI)	High FC (Small firm)	Low FC (Large firm)	High FC (High SA)	Low FC (Low SA)
Weak rights*	**0.0766****	**0.0094**	**0.1345****	**-0.0025**	**0.1546*****	**-0.0095**
Cashflow/TA	**(0.024)**	**(0.571)**	**(0.037)**	**(0.892)**	**(0.000)**	**(0.780)**
Weak rights	-0.0017	-0.0018	-0.0002	0.0005	0.0199**	-0.0030
	(0.636)	(0.330)	(0.962)	(0.830)	(0.039)	(0.381)
Cashflow/TA	0.0479***	0.1615***	0.0491***	0.1424***	0.0461***	0.0753***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	51,191	55,241	48,441	51,975	28,773	22,002
Adj. R-squared	0.216	0.505	0.226	0.494	0.285	0.412

This table presents the panel regression results for the moderating effects on weak labor rights impact on the cash flow sensitivity of investment for corporate governance, financial constraint and information asymmetry. The firm is considered to be from a weak labor right state if it is headquartered in a state with a right-to-work statute. ***, **, * indicate significance at the 1%, 5% and 10% level. Variable definitions are listed in Appendix A.

Table 7 Cross-section analysis: Moderating role of labour intensity, union power, political power and business/financial risk

Panel A	(1)	(2)	(3)	(4)
Labour intensity	Capex/TA (High labour)	Capex/TA (Low labour)	(Capex+RD)/TA (High labour)	(Capex+RD)/TA (Low labour)
Weak rights* Cashflow/TA	**0.2011***** **(0.000)**	**0.0092** **(0.771)**	**0.3938***** **(0.000)**	**0.0932** **(0.170)**
Weak rights	-0.0119 (0.242)	-0.0017 (0.434)	-0.0301*** (0.000)	-0.0119 (0.204)
Cashflow/TA	0.1181*** (0.000)	0.0468*** (0.000)	-0.0131 (0.214)	-0.0452*** (0.000)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	51,761	50,083	51,761	50,083
Adj. R-squared	0.255	0.418	0.362	0.526

Panel B	(1)	(2)	(3)	(4)
State Union membership	Capex/TA (Weak Union)	Capex/TA (Strong Union)	(Capex+RD)/TA (Weak Union)	(Capex+RD)/TA (Strong Union)
Weak rights* Cashflow/TA	**0.1038***** **(0.000)**	**0.5015** **(0.118)**	**0.1954***** **(0.001)**	**1.191*** **(0.062)**
Weak rights	-0.0067*** (0.001)	-0.0707 (0.345)	-0.0214*** (0.000)	-0.1366 (0.350)
Cashflow/TA	0.0529*** (0.000)	0.1090*** (0.000)	-0.1168*** (0.000)	0.0258*** (0.009)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	53,547	56,137	53,547	56,137
Adj. R-squared	0.364	0.274	0.485	0.303

Panel C	(1)	(2)	(3)	(4)
State political power	Capex/TA (Republican)	Capex/TA (Democratic)	(Capex+RD)/TA (Republican)	(Capex+RD)/TA (Democratic)
Weak rights* Cashflow/TA	**0.1762***** **(0.000)**	**0.0285** **(0.522)**	**0.2351**** **(0.011)**	**0.1210** **(0.113)**
Weak rights	-0.0127*** (0.009)	-0.0014 (0.564)	-0.0223** (0.018)	-0.0136 (0.199)
Cashflow/TA	0.0683*** (0.000)	0.0734*** (0.000)	-0.0837*** (0.000)	-0.0474*** (0.000)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	34,235	115,009	34,235	115,009
Adj. R-squared	0.332	0.287	0.474	0.406

Panel D	(1)	(2)	(3)	(4)
Financial risk (Interest coverage)	Capex/TA (High risk)	Capex/TA (Low risk)	(Capex+RD)/TA (High risk)	(Capex+RD)/TA (Low risk)
Weak rights*	**0.1129*****	**0.0540**	**0.2076*****	**0.1796**
Cashflow/TA	**(0.000)**	**(0.187)**	**(0.008)**	**(0.154)**
Weak rights	-0.0064	0.0035	-0.0176**	-0.0057
	(0.164)	(0.269)	(0.021)	(0.556)
Cashflow/TA	0.0875***	0.0279***	-0.0603***	-0.1349***
	(0.000)	(0.000)	(0.000)	(0.000)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	74,934	39,030	74,934	39,030
Adj. R-squared	0.397	0.233	0.484	0.463

This table presents the panel regression results for the moderating effects on weak labor rights impact on the cash flow sensitivity of investment for labour intensity, union membership, state political power and risk. The firm is considered to be from a weak labor right state if it is headquartered in a state with a right-to-work statute. P-values are in parentheses. ***, **, * indicate significance at the 1%, 5% and 10% level. Variable definitions are listed in Appendix A.

Table 8 Entropy Balancing method

Panel A: Mean variance of matched sample

Before Matching	Mean	Treat Variance	(Weak right state) Skewness	Mean	Control Variance	(Strong right state) Skewness
SIZE	7.221	6.809	-0.0699	5.766	4.879	0.3268
TOBIN'Q	1.605	5.166	3.65	2.546	7.242	3.054
TOTAL DEBT /TA	0.216	0.022	0.276	0.191	0.022	0.447
CASH FLOW/TA	0.0754	0.0176	-1.073	0.066	0.020	-1.217
CASH/TA	0.125	0.029	2.309	0.116	0.032	2.35

After Matching	Mean	Treat Variance	(Weak right state) Skewness	Mean	Control Variance	(Strong right state) Skewness
SIZE	7.221	6.809	-0.0699	7.221	6.809	0.063
TOBIN'Q	1.605	5.166	3.65	1.605	5.166	5.633
TOTAL DEBT /TA	0.216	0.022	0.276	0.216	0.022	0.338
CASH FLOW/TA	0.0754	0.0176	-1.073	0.0754	0.0176	-0.857
CASH/TA	0.125	0.029	2.309	0.125	0.029	2.037

Panel B: Regression results

Dep. Var. =	(1) Capex/TA	(2) (Capex+RD)/TA	(3) Capex/TA	(4) (Capex+RD)/TA
Weak rights*	0.1376***	0.1576***	0.0763***	0.1129***
Cashflow/TA	(0.000)	(0.000)	(0.000)	(0.000)
Weak rights	-0.0069***	-0.0133***	-0.0058***	-0.0133***
	(0.001)	(0.000)	(0.001)	(0.000)
Cashflow/TA	0.1352***	0.0652***	0.1097***	0.0475***
	(0.000)	(0.000)	(0.000)	(0.000)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	No	No	Yes	Yes
Observations	152,001	152,001	152,001	152,001
Adj. R-squared	0.240	0.276	0.370	0.394

This table reports the entropy balancing method regression estimates. Panel A reports a comparison of mean, variance and skewness of the variables between treated and control groups. Panel B reports the entropy balancing regression results. *, **, *** denote a two-tailed p-value of less than 0.10, 0.05, and 0.01, respectively. Variable definitions are listed in Appendix A.

Table 9

Dynamic Difference-in-Difference analysis: Employee rights and cash flow sensitivity

Dep. Var. =	(1) Capex/TA	(2) (Capex+RD)/TA	(3) Capex/TA	(4) (Capex+RD)/TA
Post0*Cashflow/TA	0.1453***	0.1863*	0.1362***	0.2036**
	(0.001)	(0.059)	(0.005)	(0.032)
Post1*Cashflow/TA	0.2125**	0.2996*	0.1875**	0.2984*
	(0.015)	(0.051)	(0.017)	(0.054)
Post2*Cashflow/TA	0.0350	0.1352***	0.0345	0.1559***
	(0.394)	(0.000)	(0.374)	(0.000)
Pre1*Cashflow/TA	0.0228	0.0245	0.0227	0.0135
	(0.479)	(0.730)	(0.544)	(0.802)
Pre2*Cashflow/TA	-0.0240	0.0038	0.0052	0.0375
	(0.708)	(0.964)	(0.933)	(0.655)
RTW*Cashflow/TA	0.0727*	0.1095	0.0214	0.0255
	(0.051)	(0.151)	(0.495)	(0.713)
RTW	0.0043	-0.0067	0.0021	-0.0062
	(0.293)	(0.536)	(0.558)	(0.613)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	No	No	Yes	Yes
Observations	152,001	152,001	152,001	152,001
Adj. R-squared	0.200	0.349	0.303	0.437

This table reports the dynamic difference-in-difference regression results of the full sample for the relation between employee rights and investment cash flow sensitivity. *, **, *** denote a two-tailed p-value of less than 0.10, 0.05, and 0.01, respectively. The regression is based on the model (1) augmented with additional variables that build from the cash flow scaled by lagged assets interacting with a list of indicator variables: *Pre2, Pre1, RTW, Post0, Post1, Post2*. The indicator variables *Pre2, Pre1* take the value of one if year t is two years, one year before the state passes RTW laws. The indicator variables *Post0, Post1, Post2* take the value of one if year t is the year of RTW law introduction, one year, two years after RTW laws. The indicate variable RTW takes the value of one if the firm is based in a state that passed RTW during the sample period. Variable definitions are listed in Appendix A.

Table 10

Propensity score matching analysis: Employee rights and cash flow sensitivity

Panel A	(1)	(2)	(3)	(4)
Dep. Var. =	Capex/TA	(Capex+RD)/TA	Capex/TA	(Capex+RD)/TA
Cashflow/TA*	0.0911***	0.1687***	0.0698***	0.1602***
Weak rights	(0.000)	(0.002)	(0.000)	(0.001)
Weak rights	-0.0058**	-0.0015	-0.0024	-0.0090**
	(0.042)	(0.868)	(0.226)	(0.023)
Cashflow/TA	0.1375***	0.0032	0.1155***	-0.0157
	(0.000)	(0.917)	(0.000)	(0.591)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	No	No	Yes	Yes
Observations	7,677	7,677	7,677	7,677
Adj. R-squared	0.355	0.356	0.537	0.480

Panel B	(1)	(2)	(3)	(4)
Dep. Var. =	Capex/TA	(Capex+RD)/TA	Capex/TA	(Capex+RD)/TA
Post0*Cashflow/TA	0.1149**	0.1543**	0.1374***	0.1987***
	(0.044)	(0.047)	(0.004)	(0.005)
Post1*Cashflow/TA	0.1551*	0.2057*	0.1661**	0.2435**
	(0.067)	(0.056)	(0.014)	(0.029)
Post2*Cashflow/TA	0.0475	0.1514	0.0550	0.1693***
	(0.550)	(0.188)	(0.204)	(0.000)
Pre1*Cashflow/TA	0.0617	-0.0008	0.0523	-0.0003
	(0.108)	(0.991)	(0.138)	(0.995)
Pre2*Cashflow/TA	0.0578	0.0404	0.0720	0.0795
	(0.218)	(0.611)	(0.137)	(0.393)
RTW*Cashflow/TA	0.0072	0.0273	-0.0283	-0.0369
	(0.858)	(0.698)	(0.422)	(0.682)
RTW	0.0064	-0.0017	0.0005	-0.0115
	(0.184)	(0.836)	(0.762)	(0.239)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	No	No	Yes	Yes
Observations	7,677	7,677	7,677	7,677
Adj. R-squared	0.355	0.355	0.540	0.481

This table reports difference-in-difference regression results on the propensity score matched sample for the relation between employee rights and investment cash flow sensitivity. *, **, *** denote a two-

tailed p-value of less than 0.10, 0.05, and 0.01, respectively. The regression is based on the model (1) augmented with additional variables that build from the cash flow scaled by lagged assets interacting with a list of indicator variables: *Pre2, Pre1, RTW, Post0, Post1, Post2*. The indicator variables *Pre2, Pre1* take the value of one if year t is two years, one year before the state passes RTW laws. The indicator variables *Post0, Post1, Post2* take the value of one if year t is the year of RTW law introduction, one year, two years after RTW laws. The indicate variable RTW takes the value of one if the firm is based in a state that passed RTW during the sample period. Variable definitions are listed in Appendix A.

Table 11

Robustness check: Alternative measures of investments

Panel A	(1)	(2)	(3)	(4)
Dep. Var. =	(Capex)/NPPE	(Capex+RD)/NPPE	Capex/Sales	(Capex+RD)/Sales
Cashflow/TA*	0.2222*	0.8443*	0.0940**	0.3754**
Weak rights	(0.055)	(0.068)	(0.017)	(0.022)
Weak rights	-0.0317***	-0.1923***	0.0043	-0.0227
	(0.000)	(0.003)	(0.320)	(0.183)
Cashflow/TA	0.1858***	-1.908***	-0.0155	-0.5816***
	(0.000)	(0.000)	(0.131)	(0.000)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	152,001	152,001	152,001	152,001
Adj. R-squared	0.172	0.322	0.253	0.270

Panel B	(1)	(2)	(3)	(4)
Dep. Var. =	(Capex+Acq)/TA	(Capex+Acq+RD)/TA	(Capex+Acq)/Sales	(Capex+Acq+RD)/Sales
Cashflow/TA*	0.1648***	0.3132***	0.0798*	0.3894**
Weak rights	(0.000)	(0.000)	(0.098)	(0.024)
Weak rights	-0.0176**	-0.0356**	-0.0140**	-0.0428**
	(0.030)	(0.031)	(0.033)	(0.050)
Cashflow/TA	0.1493***	-0.1149***	0.0157	-0.5828***
	(0.000)	(0.000)	(0.289)	(0.000)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	138,344	138,344	138,344	138,344
Adj. R-squared	0.234	0.355	0.219	0.247

This table reports the panel regression results for the relation between employee rights and investment cash flow sensitivity based on alternative measures of investments. The investment is measured by the following alternative variables: Capex/NPPE, Capex/Sales, (Capex + R&D)/NPPE, (Capex + R&D)/Sales, (Capex + Acquisition)/total assets, (Capex + Acquisition)/Sales, (Capex + Acquisition + R&D)/total assets, and (Capex + Acquisition + R&D)/Sales. *, **, *** denote a two-tailed p-value of less than 0.10, 0.05, and 0.01, respectively. Variable definitions are listed in Appendix A.

Table 12

Robustness check: subperiod analysis

Panel A	(1)	(2)	(3)	(4)
Dep. Var. = (Capex)/TA	1950-1979	1980-1994	1995-2005	2006-2021
Cashflow/TA* Weak rights	0.3027** (0.012)	0.3649*** (0.000)	0.3056*** (0.000)	0.0514** (0.035)
Weak rights	-0.0195 (0.444)	-0.0059*** (0.005)	-0.0261*** (0.000)	-0.0034** (0.043)
Cashflow/TA	0.4261*** (0.000)	0.1289*** (0.000)	0.0675*** (0.000)	0.0445*** (0.000)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	13,705	34,879	45,181	58,234
Adj. R-squared	0.400	0.250	0.288	0.361

Panel B	(1)	(2)	(3)	(4)
Dep. Var. = (Capex + R&D)/TA	1950-1979	1980-1995	1996-2005	2006-2021
Cashflow/TA* Weak rights	0.7043*** (0.000)	0.5905*** (0.000)	0.4223*** (0.000)	0.1112*** (0.000)
Weak rights	-0.0617 (0.303)	-0.0262*** (0.007)	-0.0375*** (0.000)	-0.0154* (0.063)
Cashflow/TA	0.4981*** (0.000)	0.0475*** (0.000)	-0.0768*** (0.000)	-0.1211*** (0.000)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	13,705	34,879	45,181	58,234
Adj. R-squared	0.381	0.334	0.461	0.526

Panel C	(1)	(2)	(3)	(4)
Dep. Var. = (Capex + Acq)/TA	1950-1979	1980-1995	1996-2005	2006-2021
Cashflow/TA* Weak rights	0.6459	0.6869***	0.3410***	0.1177***
	(0.167)	(0.000)	(0.006)	(0.001)
Weak rights	-0.0983*	-0.0415***	-0.0552***	-0.0185***
	(0.055)	(0.000)	(0.000)	(0.005)
Cashflow/TA	0.5060***	0.1950***	0.1468***	0.1212***
	(0.000)	(0.000)	(0.000)	(0.000)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	6,055	32,709	43,271	56,307
Adj. R-squared	0.363	0.244	0.251	0.229

Panel D	(1)	(2)	(3)	(4)
Dep. Var. = (Capex + Acq + R&D)/TA	1950-1979	1980-1995	1996-2005	2006-2021
Cashflow/TA* Weak rights	0.5971	0.8835***	0.4228***	0.2680***
	(0.202)	(0.000)	(0.000)	(0.000)
Weak rights	-0.0915*	-0.0799***	-0.0463***	-0.0364**
	(0.097)	(0.000)	(0.000)	(0.015)
Cashflow/TA	0.5524***	0.0286*	-0.1297***	-0.1807***
	(0.000)	(0.095)	(0.000)	(0.000)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	6,055	32,709	43,271	56,307
Adj. R-squared	0.359	0.271	0.369	0.404

This table reports the sub-period regression results for the relation between employee rights and investment cash flow sensitivity based on various measures of investments. The investment is measured by the following variables: Capex/total assets, (Capex + R&D)/total assests, (Capex + Acquisition)/total assets, and (Capex + Acquisition + R&D)/total assets. *, **, *** denote a two-tailed p-value of less than 0.10, 0.05, and 0.01, respectively. Variable definitions are listed in Appendix A.