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Shareholder Litigation Rights and Bank Dividends

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Abstract
We use the staggered adoption of Universal Demand (UD) laws, which significantly reduces the shareholder litigation rights of listed banks incorporated in 23 US states during the period from 1989 to 2005, as a quasi-natural experiment to examine the impact of shareholder litigation rights on bank dividends. The results of the difference-in-difference analysis show that weakened shareholder litigation rights lead to an increase in bank dividends. Further, we find that the impact of UD laws is only evident for banks with greater agency conflicts and higher information asymmetry. However, we find no evidence that litigation rights affect banks' share repurchases.

Keywords Shareholder Litigation Rights · Universal Demand Laws · Dividend · Difference-in-Difference

1 Introduction

Banking is one of the highest dividend-paying industries, with at least 80% of banks persistently paying dividends during the last three decades (Floyd et al. 2015; Gambacorta et al. 2020). Even in times of economic turmoil when banks suffer losses and depleted capital, most of them still maintain their dividend payouts rather than cutting them to preserve their financial health (Acharya et al. 2011). However, this practice could threaten their capacity to retain internal capital that can reduce their safety and soundness, and ultimately contribute to systemic fragility (Kanas 2013). For this reason, banking regulators and supervisory bodies alike, such as the Federal Reserve Board (FRB 2011) and the Basel Committee on Banking Supervision (BCBS 2011), have emphasized the necessity of increasing the

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oversight of dividend payouts by banks and have issued a call for a greater understanding of the factors that affect their policies.

We respond to this call by examining the effect of shareholder litigation rights on bank dividends. In principle, shareholder litigation rights are perceived as the most crucial right among the various rights that shareholders possess (Houston et al. 2018). They refer to the rights of shareholders to place legal claims against directors and officers when they believe that these officials are breaching their fiduciary duties (Chen et al. 2021). Thus, these rights can often be a vital mechanism of corporate governance to mitigate agency conflicts in banks. Given that dividend payouts are also commonly used by banks to mitigate agency conflicts and to attract investors (Jensen 1986; Floyd et al. 2015), we anticipate that shareholder litigation rights will affect the extent to which banks pay dividends.

The effect of shareholder litigation rights on bank dividends is unclear. On the one hand, weakened shareholder litigation rights could result in decreased dividend payments. The literature on banks has shown that shareholders can use their litigation powers to pressure managers to pay dividends as a way of reducing their suboptimal investing that then increases shareholder wealth (La Porta et al. 2000). Under greater pressure from litigation, the risk of exposing oneself to costly legal expenses and reputational defects is high, and therefore managers strive to avoid these costs by paying dividends to please shareholders. In this regard, weakened litigation rights could lower the ability of shareholders to pressure bank managers to pay dividends.

Alternatively, there are reasons to expect that weakened shareholder litigation rights will induce banks to increase dividend payouts. Arguably, both dividends and shareholder litigation rights are useful devices for reducing agency conflicts between banks managers and outside investors. Litigation rights give bank shareholders effective monitoring powers and disciplining tools to mitigate information asymmetry and agency conflict. Thus, when these are diminished due to weakened litigation rights, agency conflict may arise. To counterbalance the shareholders' need for monitoring and to reduce agency conflict, banks may choose to increase dividends. This increase could help them build a good reputation for treating shareholders well and thus attract future equity investors (La Porta et al. 2000).

In our study, we focus on shareholder litigation rights through derivative lawsuits. A derivative lawsuit is a legal action brought by an individual shareholder or a group of shareholders on behalf of a firm against directors or officers who they perceive have breached their fiduciary duties and caused harm to the firm. Given that individual shareholders often have little influence on the day-to-day management of a firm, derivative lawsuits provide them with a weighty governing power over directors' and officers' moral hazard problems. Accordingly, studies have often regarded shareholder litigation rights via derivative lawsuits as "the most important procedure the law has yet developed to police the internal affairs of corporations" (Rostow 1959), and "the earliest and principal constraint on director mismanagement" (Thompson and Thomas 2004).

Examining the causal effects of shareholder litigation rights on bank dividends is empirically challenging for two main reasons: the endogeneity of shareholder litigation rights and the difficulties associated with measuring them. Similar to many other empirical finance studies, endogeneity can yield biased and inconsistent estimates that hinder us from obtaining a creditable causal interpretation of the nexus between shareholder litigation rights and dividends. Arguably, the failure of bank managers to dispense free cash to shareholders may exacerbate expropriation and consequently trigger stronger governance from shareholders. In other words, unhappy shareholders may be more inclined to initiate litigation against bank managers if the dividend decisions are not in their favor (a negative dividend–litigation nexus). Alternatively, a low payout ratio for dividends may reduce the

monitoring and disciplining incentives (via litigation) of shareholders because of the positive effect this payout has on bank stability (a positive dividend–litigation nexus). In these contexts, shareholder litigation rights can be the outcome rather than the determinant of bank dividends. The second empirical challenge lies in measuring these rights. The literature mainly relies on ex post filings of lawsuits and ex ante corporate characteristics as proxies for shareholder litigation rights (Kim and Skinner 2012). However, these measures have their own limitations since they are either subject to backward-looking bias or correlated with other unobserved corporate fundamentals (Bourveau et al. 2018). As a consequence, these measurement problems may hinder the accuracy of the empirical results.

To overcome these challenges, we follow the recent literature and exploit a sudden and unexpected reduction in shareholder litigation rights following the staggered adoption of universal demand (UD) laws in several US states as a quasi-natural experiment (Ni and Yin 2018; Le et al. 2021; Nguyen et al. 2020). Prior to 1989, shareholders in the US had significant litigation rights, which allowed them to easily initiate derivative lawsuits against directors and officers who they perceived had breached their fiduciary duties. However, over the period from 1989 to 2005, 23 (out of 50) US states gradually adopted the UD laws; these laws required shareholders to seek the board of directors' approval before filing any derivative lawsuits. Since the directors' names are often listed as the defendants, the board often rejects the shareholders' demand. This legislative change has significantly increased the procedural barriers to filing derivative lawsuits against directors and officers, and it has consequently weakened shareholder litigation rights (Bourveau et al. 2018). Anecdotal evidence suggests that the number of incidents of derivative litigations has lowered by more than 50 percent since the adoption of the UD laws (Houston et al. 2018). Arguably, a political process has shaped the staggered adoption of these laws, and these adoptions have no apparent relationship with banks' prior or intended future dividend payout policies. It therefore constitutes a natural experiment for the purposes of this study.[1] A number of studies on nonfinancial firms have also used UD laws as an exogenous shock and have examined how weakened shareholder litigation rights following the adoption of UD laws affected various corporate decisions and economic outcomes (e.g., Houston et al. 2018; Bourveau et al. 2018; Nguyen et al. 2020).

We test our model's implication using a sample of publicly listed banks operating in the US during the period from 1987 to 2007. The sample consists of 5,847 bank-year observations from 744 unique banks. Bank financial data were retrieved from the CSRP-Compustat Merged database. Using a difference-in-differences (DiD) analysis, we find that weakened shareholder litigation rights as a result of the adoption of UD laws increased bank dividends on average by US$2.1 million annually. This effect is economically large given that the average annual dividend paid by banks is US$23.2 million.

In order to draw a reliable causal inference, the DiD analysis must satisfy the "parallel trend" assumption (Roberts and Whited 2013). This assumption requires that the outcomes in both the treatment and control groups follow similar trends given the absence of legislative change. In our case, the assumption of parallel trends would be violated if there

[1] One may be concerned that some banks in our sample may be shielded from the UD laws in accordance with the preemption laws introduced by the OCC in 2003. However, the state UD laws are not subject to these preemption laws (OCC 2004). This exemption further ensures our identification strategy as our sampled banks are not shielded from the state UD laws. For details, please refer to: "Office of the Comptroller of the Currency (2004). OCC Issues Final Rules on National Bank Preemption and Visitorial Powers; Includes Strong Standard to Keep Predatory Lending out of National Banks."

were omitted shocks that occurred at about the same time as the adoption of the UD law. To mitigate this concern, we performed two falsification tests in which we first randomly assigned the UD law's adoption year to at least two years before the actual event year in states that actually adopted the law, and then we randomly assigned the UD laws' adoption years to the non-adopted states while keeping the original distribution of adoption years. Thus, we were able to determine whether our results were driven by prior trends or other unobserved factors that correlated with dividends and triggered the adoption of the UD laws. The results illustrated that these falsely assigned events had no effect on bank dividends and thus corroborated the idea that our results were not influenced by prior trends or omitted shocks.

Although the UD laws were passed by the state authority and unanticipated by banks, there was still a concern that state-level factors that manifested differently across states could influence the timing of their adoption across states. In other words, our results could be driven by reverse causality where changes in dividend payout policies drove the state authorities to adopt the UD law. To mitigate this concern, we followed Bertrand and Mullainathan (2003) and examined the dynamic effects of UD laws' enactment on the level of dividend payouts. We found that there were no secular trends in the payouts prior to the adoption. This finding demonstrated that our results were not driven by reverse causality. Apart from this, the result corroborated the proposition that our baseline results were not affected by the prior trends in dividend payout policies.

Another potential concern is that there could be other state-level legislative changes coinciding with the implementation of UD laws that could influence the pattern of bank dividends.[2] Without isolating the effects of these events, our baseline results might be the outcome of confounding events rather than of the adoption of UD laws. For example, the passage of laws between 1986 and 2002 to reduce the liabilities of directors and officers may have triggered dividend changes by reducing their liabilities via weakened corporate governance. Likewise, the decision by the Ninth Circuit Court of Appeals in nine states to uphold a law that blocked shareholders from engaging in class action lawsuits over securities after 1999 may have also influenced bank dividends. To rule out the concern that our results were affected by confounding events, we conducted several additional tests that controlled for these events. The results illustrate that our baseline results remain intact after other legislative changes surrounding the adoption of UD laws.

Motivated by the literature on bank dividends that pertains to the motives behind agency conflicts, we conducted additional analyses to shed light on the mechanism through which weakened shareholder litigation rights affected bank dividends after the adoption of UD laws. We constructed a measure to capture the levels of agency conflicts at individual banks and found evidence that the agency conflicts of banks increased following the adoption of UD laws. Then, we sequentially interacted this measure with our DiD coefficient to evaluate the effect of UD laws on dividend payouts for banks with different levels of agency conflicts prior to the adoption. We found that the positive effect of UD laws on bank dividends existed only for banks with greater agency conflicts. These results therefore indicated that weakened shareholder litigation rights could accelerate agency conflicts and subsequently induce banks to increase dividends in order to attract and retain investors.

[2] These events are: 1) director-liability-reduction laws; 2) Ninth Circuit Court Appeals; 3) Nevada's 2001 legislation on managers' liabilities; 4) Control Share Acquisition laws; 5) the Business Combination laws; 6) the Fair Price laws; and 7) the Directors' Duties law; the Poison Pill laws.

Our work contributes to the literature in a number of ways. First, we contribute to the small but growing body of work on bank dividends. Although banks persistently pay significant dividends, our understanding of these payout policies is still limited (Onali 2014; Tripathy et al. 2021). Banks are often excluded from empirical finance research, mostly because of their complex, opaque, and heavily regulated nature that makes them incomparable to nonfinancial firms (Lepetit et al. 2018). Abreu and Gulamhussen (2013) also cast doubt on the possible application of dividend theories developed for nonfinancial firms to banks. In this paper, we extend this nascent literature by focusing on bank governance and agency conflicts when assessing the decisions by banks to pay dividends. We join other studies, such as Casey and Dickens (2000) and d'Udekem (2021), by providing empirical evidence to support the role of bank dividends in mitigating agency conflicts. Our study also complements several other studies that examine how internal governance as an alternative mechanism to mitigate agency conflicts influences bank dividends (e.g., insider ownership in Dickens et al. (2002); CEO pay structure in Srivastav et al. (2014); and board monitoring in Onali et al. (2015)). While we all conclude that agency conflicts play a significant role in influencing bank dividends, our paper differs from these other studies by showing that an external change in legislation can influence banks' agency conflicts with shareholders that can trigger changes in banks' dividend policies.

Second, we contribute to the literature on shareholder litigation rights in banks. A paucity of studies on the shareholder litigations rights exists that is surprising given the number of high-profile cases regarding shareholder lawsuits over the past few years. There are only two studies on shareholder litigation rights that are perhaps closely related to ours: Ashraf and Zheng (2015) and Lepetit et al. (2018). However, these studies investigate the relationship between shareholder protection laws (in general) and bank dividends but not specifically shareholder litigation rights. Our study, however, directly highlights the role of shareholder litigation rights in explaining banks' dividend policies. Moreover, unlike Athari et al. (2016) and Lepetit et al. (2018), we carry out a quasi-natural experiment on a sample of firms operating in a single industry (banking) in one country (the US). This setting enables us to control for confounding social, economic, and political factors (Nguyen et al. 2019) and therefore obtain more credible empirical results.

Third, we add to a burgeoning body of literature with evaluations of the real economic effects of UD laws. Since its inception, academic scholars and policymakers have devoted significant effort to understanding the real effects of UD laws. The evidence thus far is largely controversial on whether UD law is detrimental or beneficial to firms. One strand of literature makes the argument that UD laws elevate agency conflicts as they remove shareholders' motivation to file derivative lawsuits that substantially reduces the risk of managers being sued for any misconduct (Appel 2019; Foroughi et al. 2022). Other studies have also shown that UD laws reduce the quality of financial reporting and result in a rise in the cost of capital (Houston et al. 2018; Ni and Yin 2018). By contrast, proponents of UD laws argue that firms can benefit from the weakened shareholder litigation rights following the passage of UD laws, as this reduces the frivolous burden imposed on firm managers, allowing them to make more efficient decisions for firms (Nguyen et al. 2018; Chu and Zhao 2021). Lin et al. (2021) also find that firms invest more in R&D and see an improvement in both the quantity and quality of patents. Meanwhile Nguyen et al. (2020) shows that firms can enhance shareholder value by using higher leverage after the adoption of UD laws. We contribute to this line of research by showing how US banks altered their dividend payout policies in response to the staggered adoption of UD laws across states. We show that UD laws incentivize banks to increase their dividend payouts in order to attract and retain shareholders when facing exaggerated agency conflicts. This incentive indicates that

following the adoption of UD laws, shareholders wealth is likely to be enhanced as they receive higher dividends. Given this effect, our paper provides additional evidence to support the passage of UD laws.

Finally, our paper also has a critical policy implication for the current global economic and health crisis triggered by the COVID-19 pandemic, when many banking regulators around the world, including the Federal Reserve and the European Central Bank, were directing banks to suspend dividends (Svoronos and Vbraski 2020). By showing that a change in legislation that lowers shareholder litigation rights can exert an effect on bank dividends, our study indicates that as well as imposing strict restrictions on dividend payments, regulators can devise alternative mechanisms, for example by influencing bank governance, to effectively regulate banks' dividends.

The rest of the paper is structured as follows: In Sect. 2, we discuss the related literature and institutional background. Section 3 presents our empirical strategy. Section 4 presents the main empirical results, Sect. 5 has the details on the robustness tests and Sect. 6 has the tests for the potential economic mechanisms. In Sect. 7, we examine share repurchases as an alternative payout method, while Sect. 8 is the conclusion.

2 Literature review and institutional background

2.1 Bank dividend policies

Since the introduction of the dividend irrelevance theorem in Miller and Modigliani (1961), there has been a large body of literature that has studied dividend policy in the context of market frictions. One major strand of literature relies on the principle-agent framework to explain the dividend puzzle. According to this framework, dividend payouts could alleviate the agency conflicts between shareholders and managers (Jensen and Meckling 1976; Jensen 1986). Specifically, dividends could lower the free cash flows available to managers (Jensen 1986) that hence reduces the chance for overinvestment or expropriation. Additionally, distributing cash to shareholders may also require the firms to raise funds externally; thus, firms may become subject to the oversight of investors and professional authorities (Easterbrook 1984). Via this process, dividend payments impose discipline on managers.

The agency conflicts between shareholders and managers are more severe in banking than in the nonfinancial sector (John et al. 2010) due to its unique business model (Diamond and Dybvig 1983) and its inherent opacity (Flannery et al. 2004). Under this circumstance, the payment of dividends can reduce agency conflicts between the shareholders and managers of banks as it could lower the free cash flows available to managers for the potential extraction of private benefits (Jensen 1986).

The literature on dividends generally finds support for their role in mitigating agency conflicts in banks. For example, Casey and Dickens (2000) show that banks increase dividends when shareholder dispersion is high in order to reduce monitoring costs. d'Udekem (2021) further posits that banks maintain their dividend payments during a financial crisis to attract institutional investors. In a similar vein, several other studies have shown that banks tend to lower their dividend payments when agency conflicts are low. For instance, Dickens et al. (2002) and Abreu and Gulamhussen (2013) find that banks with a higher percentage of insider ownership (which implies less agency conflict) pay lower dividends. Likewise, Onali et al. (2015) report that strong board monitoring, which corresponds to lower agency conflicts, also leads to lower payouts. Lepetit et al. (2018) highlight the

disciplining role of dividends when agency costs are heightened in countries with less protection for shareholder rights. Overall, these findings indicate that dividend payments serve as an effective mechanism for instilling discipline in managers.

2.2 Derivative lawsuits and universal demand laws

In the US, shareholders can use derivative lawsuits to file legal claims against a board of directors and the managers if they perceive that these officers have breached their fiduciary duties and engaged in activities that harm the entire firm (Chen et al. 2021). Derivative lawsuits are distinct from direct (class action) lawsuits in which shareholders are the main plaintiffs when suing a firm for wrongdoings that cause direct harm to its shareholders. Under derivative lawsuits, shareholders act on behalf of the firm to sue its directors or managers if their actions cause harm to the firm itself and indirectly affect the shareholders. This effect means that in derivative lawsuits, the firm is in fact the main plaintiff and shareholders are the derivative plaintiffs (Appel 2019). Therefore, the settlement payment, if any, is not paid to the initiating shareholders but to the firm itself. Derivative lawsuits are mostly filed against acts of misconduct such as accounting fraud, insider trading, mergers and acquisitions, and corporate governance (Chen et al. 2021; Nguyen et al. 2020).

To initiate a derivative lawsuit, shareholders must first demand that the board of directors take remedial action against the wrongdoing of directors or managers. This requirement reflects a fundamental tenet of US corporate law that states that directors and not individual shareholders are responsible for dealing with the firm's business and affairs (Swanson 1992). If the board of directors accept the demand, they can either resolve the issues internally or proceed to a lawsuit (Chen 2017). However, this process can potentially involve a conflict of interest if the lawsuit targets board members. In this case, the affected directors could potentially influence the decision of the board that could lead it to inevitably rejecting the shareholders' demand in order to protect the directors.

To address this conflict of interest, courts have established the "futility exception" that enables shareholders to file derivative lawsuits without having the board's prior approval if they can prove that the board is not independent and cannot make an unbiased and impartial decision (Kinney 1994). However, opponents of the "futility exception" argue that this rule is often misused by shareholders as they focus too much on proving that the directors are not impartial rather than sending the demand to the board in the first place. This misuse leads to courts having to spend a great deal of time investigating whether the shareholders' demand could be excused for being futile (Kinney 1994). Even more noteworthy, the futility exception gives rise to unnecessary derivative lawsuits that impose a frivolous burden on both firms and courts (Ni and Yin 2018).

These criticisms eventually have led to the staggered adoption of UD laws in 23 (out of 50) states across the US during the period from 1989 to 2005. The UD law removes the futility exception and requires shareholders to make a demand to the board of directors and gain their approval before filing any derivative lawsuits. Anecdotal evidence shows that, following the adoption of UD laws, the number of derivative lawsuits declined significantly; by as much as one third (Appel 2019; Nguyen et al. 2018). Meanwhile. the number of class action lawsuits remains steady in states that had adopted UD laws (Appel 2019; Lin et al. 2021), suggesting that shareholders do not use class action lawsuits as a substitute for derivative lawsuits. Generally, the evidence shows that shareholder litigation rights are significantly reduced after the adoption of UD laws (Appel 2019; Nguyen et al. 2018; Lin et al. 2021).

Since their inception, academic scholars and policymakers have devoted significant effort to understanding the real effects of UD laws. The evidence thus far is largely controversial on whether they are detrimental or beneficial to firms. One strand of literature makes the argument that UD laws elevate agency conflicts as they remove shareholders' motivation to file derivative lawsuits that substantially reduces the risk of managers being sued for any misconduct. In line with this argument, Appel (2019) has shown that since the adoption of UD laws, firms have increased their use of manager-friendly governance provisions, including poison pills, supermajority voting requirements, and classified boards. Foroughi et al. (2022) find that these manager-friendly provisions can also be transmitted to board-interlocked firms that are located in states that did not adopt the UD laws. Other studies (Houston et al. 2018; Ni and Yin 2018) have also shown that UD laws reduce the quality of financial reporting and result in a rise in the cost of capital.

By contrast, proponents of UD laws argue that firms can benefit from the weakened shareholder litigation rights after the adoption of UD laws as these weaker rights reduce the frivolous burden imposed on managers by allowing them to make more efficient decisions for their firms. For example, Nguyen et al. (2018) conclude that UD laws motivate firms to reduce their cash holdings to invest in value-enhancing projects, which leads to better value for shareholders. Similarly, Chu and Zhao (2021) argue that when the litigation risk is high, firms make suboptimal takeover decisions to avoid lawsuits. Thus, when the litigation risk is reduced by the passage of UD laws, firms report more efficient corporate takeovers. Lin et al. (2021) also find that firms invest more in R&D and see an improvement in both the quantity and quality of patents, while Nguyen et al. (2020) shows that firms can enhance shareholder value by using higher leverage after the adoption of UD laws.

3 Empirical strategy

3.1 Data and sample overview

We obtained the financial data for all publicly listed US commercial banks (SIC code 6020) from the CSRP-Compustat Merged database. The examined period spans from 1987 to 2007. The period starts two years prior to the time when the UD laws were first adopted by Georgia and Michigan in 1989, and it ends two years after the last passage of the laws by Rhode Island and South Dakota in 2005. Table 1 presents the timeline of the adoption of UD laws in the US.

To ensure the homogeneity of banks' businesses, we exclude from our sample those banks operating in international markets. We also exclude banks owned by other banks. Finally, we exclude banks that are headquartered in Puerto Rico. The final sample comprises 5,847 bank-year observations of 744 unique publicly listed commercial banks over a 21-year period.

3.2 Model specification

To examine the impact of shareholder litigation on banks' dividend payouts, we follow the previous literature (i.e., Bourveau et al. 2018; Le et al. 2021; Nguyen et al. 2020), and utilise the staggered adoption of the UD laws across the US. as an exogenous shock to shareholders' litigations rights. This shock enables us to examine what would have happened to

Table 1 Universal Demand Laws. This table provides information about the year in which each of the 23 states adopted a UD law. Source: Appel (2019)

Year of UD laws implementation	State	Citation
1989	GA	Ga. Code Ann. §14–2-742
1989	MI	Mich. Comp. Laws Ann. §450.1493a
1990	FL	Fla. Stat. Ann. §607.07401
1991	WI	Wis. Stat. Ann. §180.742
1992	MT	Mont. Code. Ann. §35–1-543
1992	UT	Utah Code. Ann. §16-10a-740(3)
1992	VA	Va. Code Ann §13.1–672.1B
1993	MS	Miss. Code Ann. §79–4-7.42
1993	NC	N.C. Gen. Stat. §55–7-42
1993	NH	N.H. Rev. Stat. Ann. §293-A:7.42
1996	AZ	Ariz. Rev. Stat. Ann. §10–742
1996	NE	Neb. Rev. Stat. §21–2072
1997	CT	Conn. Gen. Stat. Ann. §33–722
1997	ME	Me. Rev. Stat. Ann. 13-C, §753
1997	PA	Cuker v. Mikalauskas 692 A.2d 1042
1997	TX	Tex. Bus. Org. Code. Ann. §21.553
1997	WY	Wyo. Stat. §17–16-742
1998	ID	Idaho Code §30–1-742
2001	HI	Haw. Rev. Stat. §414–173
2003	IA	Iowa Code Ann. §490.742
2004	MA	Mass. Gen. Laws. Ann. Ch. 156D, §7.42
2005	RI	R.I. Gen. Laws. §7–1.2–710(C)
2005	SD	S.D. Codified Laws §47-1A-742

banks' dividend payout policies if the shareholder litigation rights had never been weakened by the passage of UD laws.

For our analyses, we follow the method by Gormley and Matsa (2011) and Ni and Yin (2018) and create a cohort for each adoption of UD laws (i.e., states that adopt UD laws in the same year). Within each cohort, we only keep three years before and after the adoption year (i.e., event window). Banks incorporated in states that adopted UD laws in one cohort are treated observations, while all banks incorporated in states that did not adopt UD laws during the event window are control observations. Banks are not required to be in the sample for the full six years around the adoption year. However, we require that all banks in the sample must appear both before and after the adoption year. In this way, we restrict our sample to a smaller window around each adoption that mitigates the potential confounding effects of time and bank varying covariates. Thus, our DiD model is specified as follows:

$$\begin{aligned} Dividend_{ist} = \beta_0 + \beta_1 Treated_{is} + \beta_2 Post_t + \beta_3 Treated_{is} \times Post_t \\ + \beta_4 Control_{ist} + FixedEffects + \varepsilon_{ist} \end{aligned} \quad (1)$$

where i denotes firms, s denotes states, and t denotes years. In our model, *Dividend* is the dependent variable that reflects the level of dividend payouts at a particular bank in a given year. We follow the common practice in the banking literature (i.e., Kanas 2013; Onali

2014; Acharya et al. 2017; Johari et al. 2020) and measure *Dividend* as the ratio of total dividends to total equity. We use total equity in the denominator because total equity is one of the most important items in banks and is closely followed by bank regulators and market participants. Given that equity is the key component of its regulatory capital, a bank must consider its level of capital when making decisions about dividends.[3] The use of total equities to scale dividends also allows us to ensure that the results are not driven by volatile stock prices or manipulated earnings.

Treated is a dummy that equals one if bank *i* is incorporated in state *s* that adopted the UD laws in a certain cohort, and zero otherwise. *Post* is a dummy that equals one if the observation is in the year of or the year after the adoption of UD laws in a certain cohort, and zero otherwise. Our key variable of interest is the interaction *Treated*×*Post*. A positive and significant coefficient for *Treated*×*Post* indicates that the weakened shareholder litigation rights following the adoption of UD laws induces banks in affected states to pay higher dividends. By contrast, a negative and significant coefficient for *Treated*×*Post* indicates that banks reduce their dividend payout when shareholder litigation rights become weaker.

In line with the literature (Onali 2014; Onali et al. 2015; Abreu and Gulamhussen 2013; Johari et al. 2020), we also add several control variables that could potentially affect payout policies. Specifically, we control for the size (*Size*), measured as the natural logarithm of total assets; profitability (*ROA*), measured as return on total assets; and the inefficiency (*Inefficiency*), measured as total current operating expenses to total assets of banks. The literature (i.e., Abreu and Gulamhussen 2013) finds that large and profitable banks pay higher dividends because they have easier access to alternative sources of funds and greater stability in earnings. Likewise, inefficiency can also be negatively associated with dividends since banks with bad control over costs generate lower profits and thus pay a lower level of dividends.

We also control for bank liquidity that is measured as total cash to total assets (*Cash*). DeAngelo et al. (2006) suggest that firms could use their cash balance to either build up investment funds or to pay a dividend that has a negative or positive effect on dividends, respectively. In the banking context, Johari et al. (2020) report a negative but insignificant association between liquidity and dividend payouts.

As banks operate in a highly regulated environment, we also add the equity to total assets ratio to represent their capitalization (*Capital*). There are two opposing predictions of the effect of capital on dividends. On the one hand, under regulatory pressure, a positive association is expected as low-capitalized banks pay lower dividends to preserve their capital and prevent it from falling below the minimum required rate (Acharya et al. 2017). On the other hand, if banks' capital already exceeds the minimum regulatory rate, the signaling effect could come into play that creates a negative relationship. Specifically, a well-capitalized bank is expected to pay lower dividends since it has a greater need to signal its ability to generate future cash flows (Forti and Schiozer 2015).

Finally, we use the ratio of customer deposits to total assets (*Deposit*) to represent banks' charter value. Onali (2014) posits that banks with higher charter values have an

[3] Some other papers also use the dividend to earnings ratio as a measure of dividend payouts. However, we do not use this measure because a large number of studies (e.g., Curcio and Hasan 2013) have pointed out that banks are highly incentivized to manipulate earnings and they can easily do so via the use of discretionary loan loss provisions. Additionally, the use of earnings in the denominator could lead to the potential problem of negative dividend ratios when banks suffer losses. We do, however, also use several alternative measures of dividend payouts and present these results in subSect. 4.4 Robustness tests.

incentive to pay lower dividends to preserve their charter. Likewise, Acharya et al. (2017) also show that the optimal dividend policy depends on the bank's charter value.

In Eq. (1), we include bank fixed effects and state-year fixed effects to control for any unobserved heterogeneity between banks and states over time. In addition, standard errors, unless otherwise stated, are clustered at the bank level. Table 2 lists the main variables used in our studies, along with their definitions and summary statistics.

4 Empirical results

4.1 Descriptive statistics

We report the sample's descriptive statistics in Table 2. The average dividend payout ratio is 3.8%; the payout decision also largely varies across the sampled banks as the standard deviation of this ratio is 2.8%. The independent variable *Treated* has a mean of 0.035 that indicates those observations in our sample are for banks incorporated in states that adopt UD laws. *Post* has a mean of 0.690 that means those bank-years in our sample are in the year of or the year after the adoption of UD laws in a certain cohort. Regarding the control variables, the average bank size is 7.334 and the average cash holding ratio is 4.7%. Banks are relatively profitable and capitalized with a *ROA* and an equity ratio being 0.9% and 8.8%, respectively. The mean value of the inefficiency ratio is 6.4% and bank deposit growth rate is 12.8%.

In Table 3, we report the correlation matrix for the main variables included in the model. *Dividend* is positively correlated with *Size* (0.362) and *ROA* (0.288) that indicates larger and more profitable banks pay higher dividends. However, *Dividend* is negatively correlated with *Cash* (-0.083), *Inefficiency* (-0.154), and *Deposit Growth* (-0.073) that means that banks with a higher level of liquidity, a greater charter value, and a higher level of inefficiency are likely to pay lower dividends. Overall, the main variables in our model are not highly correlated with each other that means their joint inclusion is unlikely to lead to concerns about multicollinearity. This is also confirmed by the reported tests for the variance inflation factor (VIF) in the last column of Table 3.

4.2 Baseline results

In Table 4, we report the baseline results of the DiD model in order to examine the effect of shareholder litigation rights on bank dividends. Column 1 shows the regression results with no control variables but with the inclusion of bank fixed effects in the regression model to account for omitted bank-specific characteristics that could affect our results, and state-year trend fixed effects to control for pre-trends in the data. Column 2 presents the results of the baseline model (1) when all control variables and both bank fixed effects and state-year fixed effects are incorporated.

We find that in all regressions, the estimated coefficient for *Treated*×*Post* is positive and statistically significant. This coefficient indicates an increase in banks' *Dividend* following the adoption of the UD laws. In other words, we find that banks increase their dividend payouts when there is an exogenous shock that suddenly weakens shareholder litigation rights. The effect is economically meaningful. For example, in column 2, which includes all control variables and both banks and year fixed effects, the adoption of UD laws is

Table 2 Specifications and summary statistics of variables. This table provides the definitions of the main variables and their summary statistics. It also gives the number of observations (N) means (Mean), standard deviations (Std.), 25th percentile (p25), median (p50), and 75th percentile (p75)

Variables	Definition	N	Mean	Std.	p25	p50	p75
Dividend	Total dividends as a percentage of total equity capital	12,176	3.786	2.783	2.010	3.795	5.332
Treated	A dummy variable equal to one if a bank's state of incorporation adopted UD laws, and zero otherwise	12,176	0.035	0.184	0.000	0.000	0.000
Post	A dummy variable equal to one if the observation is in the year of or the year after the adoption of UD laws in a certain cohort, and zero otherwise	12,176	0.690	0.462	0.000	1.000	1.000
Size	The natural logarithm of a bank's total assets	12,176	7.334	1.411	6.336	7.237	8.216
Cash	Total cash as a percentage of total assets	12,176	4.702	3.091	2.740	3.949	5.728
Capital	Total equity capital as a percentage of total assets	12,176	8.799	2.764	7.169	8.445	9.857
ROA	Net income as a percentage of total assets	12,176	0.949	0.835	0.758	1.018	1.279
Inefficiency	Total current operating expenses as a percentage of total assets	12,176	6.428	2.081	5.213	6.169	7.096
Deposit Growth	The percentage growth rate of a bank's total deposits	12,176	12.848	27.391	2.568	8.332	17.455

Table 3 Correlation matrix. This table presents the correlation coefficients for the main variables. The results of the variance inflation factor (VIF), which tests for possible multicollinearity, are also provided in the last column. Variables are defined in Table 2

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	VIF
(1)	*Dividend*	1									
(2)	*Treated*	0.031*	1								1.00
(3)	*Post*	0.036*	−0.001	1							1.02
(4)	*Size*	0.362*	−0.007	0.048*	1						1.08
(5)	*Cash*	−0.083*	0.005	−0.112*	0.013	1					1.10
(6)	*Capital*	0.010	−0.017	0.012	−0.174*	−0.101*	1				1.22
(7)	*ROA*	0.288*	0.009	−0.003	0.124*	−0.090*	0.339*	1			1.38
(8)	*Inefficiency*	−0.154*	0.019	−0.076*	−0.040*	0.285*	−0.268*	−0.438*	1		1.38
(9)	*Deposit Growth*	−0.073*	−0.008	−0.018	0.002	−0.039*	0.014	0.012	−0.115*	1	1.02

Table 4 Baseline results. This table presents the results of the DiD models to estimate the effect of shareholder litigation rights on bank dividend payouts. The dependent variable is *Dividend* that is a bank's total dividends as a percentage of total equity. *Treated* is a dummy variable equal to one if a bank's state of incorporation adopted UD laws, and zero otherwise. *Post* is dummy variable equal to one if the observation is in or after the year of UD laws adoption, and zero otherwise. The control variables are defined in Table 2. Standard errors (in parentheses) are clustered at the state level

	Dependent variable: *Dividend*	
	(1)	(2)
Treated x Post	0.462***	0.349**
	(0.172)	(0.157)
Treated	0.491	−0.102
	(0.308)	(0.393)
Post	0.035	−0.037
	(0.055)	(0.058)
Size		0.946***
		(0.108)
Cash		0.003
		(0.025)
Capital		−0.192***
		(0.017)
ROA		0.389***
		(0.063)
Inefficiency		−0.072
		(0.079)
Deposit Growth		−0.002*
		(0.001)
Constant	3.733***	−1.334
	(0.036)	(1.178)
Bank FEs	YES	YES
State-year FEs	YES	YES
Observations	12,176	12,176
R-squared	0.663	0.703

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively

associated with an approximately 9.2% (0.349/3.784 × 100) increase in banks' dividend payouts. In terms of dollar value, this is equivalent to an increase of US$2.1 million in dividends when we consider that banks in our sample pay an average dividend of US$23.2 million.

Our results lend support to the proposition that dividend payments can be used as a substitute mechanism to reduce the increased conflict between shareholders and managers (Short et al. 2002). Thus, when shareholders' protection is reduced, they will demand higher dividends to counterbalance this reduction. Our finding is consistent with the conclusion by La Porta et al. (2000) who show that investors demand higher dividends when the risk of insider expropriation is high. It also corroborates Athari et al. (2016) who find that banks with less protection for shareholders pay higher dividends. Our conclusion is also consistent with La Porta et al. (2000) in the sense that we both find that the legal protection of shareholders can exert a significant effect on dividend policy.

Regarding the control variables in our regression, we find that *Capital* has a negative effect on *Dividend*. This effect illustrates that the more capitalized banks pay less in dividends, which is in line with Forti and Schiozer's (2015) finding. As seen in Table 2, our sampled banks are relatively well-capitalized with an equity ratio of 8.8%. As explained in subSect. 3.1, given this level of capital, the signaling effect could dominate the regulatory

effect that leads to a negative relationship. Our results also show that *ROA* has a positive effect on *Dividend* that indicates banks' dividends increase when banks are more profitable. These results are consistent with the studies on both financial and nonfinancial firms, for example, Srivastav et al. (2014), Onali (2014), Forti and Schiozer (2015), Lepetit et al. (2017), Acharya et al. (2017) and Tripathy et al. (2021). We also show that *Deposit Growth* has a marginally significant and negative effect on *Dividend*. This is in line with the idea that high growth organizations retain their earnings and pay lower dividends (Myers and Majluf 1984; Ho et al. 2004). We, however, find that *Size, Cash,* and *Inefficiency* have no significant effect on banks' *Dividend*.

4.3 Parallel trend assumption

The validity of DiD estimations relies on the parallel trend assumption. That is, in the absence of the intervention, the changes in the outcome variables for both the affected and the control groups have similar trends. If this is not the case, our results are likely to be driven by the permanent differences between the two groups or other unobserved factors rather than the intervention itself.

In our context, the established result is creditable only when, prior to the adoption of UD laws, the payout levels of treated and control banks had similar trends. These similar trends before the litigation shock facilitate the evaluation of what would have happened to the payout policies if the rights were never weakened – the true counterfactual.

To test for the parallel trend assumption, we explore how the increase in dividend payout differs between treated and control banks affected by the adoption of UD laws. Specifically, w*e first provide Fig. 1, which contains visual plots of the outcome* variable of interest *Dividend* (i.e., Dividend to Equity) of the treated (blue line) and control (red line) samples for the three years before to the three years after the adoption of UD laws. Overall, we find a parallel trend for *Dividend* in the window before the adoption of UD laws. However, after the adoption, *Dividend* for the treated sample has a steeper increase compared to that of the control sample. These plots strengthen our main findings that these adoptions have a positive effect on *Dividend*. At the same time, it further confirms the parallel trend assumption holds for this sample.

To further ensure the validity of the DiD estimations and to mitigate the concern that unobserved factors have affected our results instead of the adoption of UD laws, we conduct two falsification tests to examine whether our results change systematically when we falsely assume that the adoption of UD laws occurs in states and years other than the actual ones.

In the first test, we randomly assign placebo adoption years to each of the affected states. We further require that each placebo year is at least two years before the actual event year so that the placebo and the actual one cannot become confounded (Berger et al. 2021). In the second falsification test, we randomly assign non-UD states to each of the adoption years for the laws. This is to keep the original empirical distribution of the adoption years unchanged while disrupting the actual assignment of these years to states. In both tests, we reconstruct our samples to only keep three years before and after the randomly assigned adoption year and for the randomly assigned states that adopt the laws for our stacked DiD regression. In both the tests, if any unobserved events took place around the time of the actual adoption, they could still influence our baseline results. Thus, the coefficients for *Treated*×*Post* could be statistically significant. Otherwise, if there are no omitted shocks and the adoption is indeed driving dividend payouts, then this randomization process should not yield any significant coefficients for *Pseudo UD Laws*.

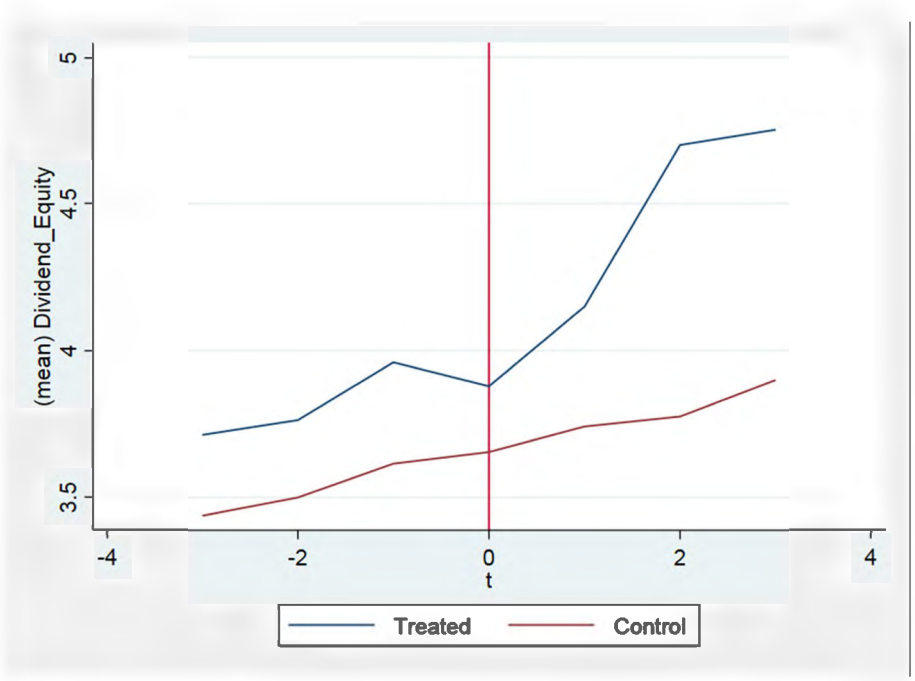


Fig. 1 The changes in the dividend to equity ratio of the treatment and control samples over the event window. This figure visualizes the change in the average values of Dividend (i.e., banks' total dividends as a percentage of total assets) around the adoption of UD laws. The blue line denotes treated banks that are those incorporated in 23 states that passed the UD laws. Meanwhile, the red line represents control banks, whose states of incorporation do not adopt the UD laws in a certain cohort. Table 1 provides the detailed lists of those treated and control banks

The regression results of the two falsification tests are reported in Table 5. Column 1 presents the results from our first test. Meanwhile, column 2 shows the results from the second test. Both the columns show that the estimated coefficients for $Treated \times Post$ are not statistically significant, which is consistent with our expectation. Thus, these coefficients illustrate that our results are not driven by omitted shocks.

4.4 Dynamic timing effects

Although the passage of UD laws introduces an exogenous legal shock that is unanticipated by banks, our identification strategy might still be undermined by reverse causality. It could be possible that some changes in bank dividend payout policies drove the state authorities to adopt a legislation change related to corporate governance. This may have therefore influenced the timing of the adoption of UD laws across states.

In this subsection, we conduct a dynamic timing test to evaluate whether the treatment effects can be attributed to the adoption of the UD laws rather than to any secular trends or reverse causality. That is, we investigate the timing of any changes in bank dividend payouts relative to the timing of the adoptions. To do so, we run a regression of the pre-event trends for the outcome variable using the following equation:

Table 5 Falsification tests. This table presents the results of the falsification tests for a DiD regression to estimate the effect of shareholder litigation rights on bank dividend payouts. The dependent variable is *Dividend* that is a bank's total dividends as a percentage of total equity. *Treated* is a dummy variable equal to one if a bank's state of incorporation adopted UD laws, and zero otherwise. *Post* is dummy variable equal to one if the observation is in or after the year of adopting the UD laws, and zero otherwise. The control variables are defined in Table 2. Standard errors (in parentheses) are clustered at the state level

	Dependent variable: *Dividend*	
	Randomly Assigned Years of Adoption	Randomly Assigned States of Adoption
	(1)	(2)
Treated x Post	−0.214	−0.288
	(0.231)	(0.192)
Treated	3.853***	3.547***
	(0.743)	(0.880)
Post	0.181***	0.011
	(0.064)	(0.024)
Size	1.372***	0.859***
	(0.134)	(0.122)
Cash	0.037	−0.023
	(0.044)	(0.017)
Capital	−0.077	−0.196***
	(0.048)	(0.053)
ROA	0.450***	0.338***
	(0.089)	(0.110)
Inefficiency	−0.058	0.041
	(0.096)	(0.043)
Deposit Growth	−0.003***	−0.005**
	(0.001)	(0.002)
Constant	−7.087***	−2.123***
	(1.633)	(0.631)
Bank FEs	YES	YES
State-year FEs	YES	YES
Observations	4,918	8,687
R-squared	0.723	0.793

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively

$$Dividend_{ist} = \gamma_0 + \gamma_1 Treated_{is} \times Year_{t-1} + \gamma_2 Treated_{is} \times Year_{t-2} + \gamma_3 Treated_{is} \times Year_{t-3} + \gamma_4 Control_{ist} + FixedEffects + \mu_{ist} \quad (2)$$

in which we regress *Dividend* against the interaction of *Treated* and the dummy variables that represent the three years before the adoptions (i.e. $Year_{t-1}$, $Year_{t-2}$, $Year_{t-3}$). This pre-event period is to map out any changes in the outcome variable in comparison with the adoption years. Arguably, if UD laws indeed drive the average change in bank dividend payouts, we should not find any significant coefficients for the interaction terms.

The results are reported in column 1 of Table 6. They show that the coefficients for $Treated_{is} \times Year_{t-1}$, $Treated_{is} \times Year_{t-2}$, and $Treated_{is} \times Year_{t-3}$ are not statistically significant. These coefficients illustrate that there is no difference in the value of *Dividend* between our treated and control samples during the pre-event period.

To further confirm this conclusion, we run a regression to detect any difference in *Dividend* between our treated and control samples in each year prior to the adoptions of UD laws using the following equation:

Table 6 Dynamic timing effects. This table provides the regression results from the model for the dynamic timing effects of adoption of the UD laws on bank dividends. The dependent variable is *Dividend* that is a bank's total dividends as a percentage of total equity. *Treated* is a dummy variable equal to one if a bank's state of incorporation adopted UD laws, and zero otherwise. *Year*$_{-3}$, *Year*$_{-2}$, and *Year*$_{-1}$ are dummy variables indicating three, two, and one year(s) prior to the year of adoption of the UD laws, respectively. In column 1, we conduct the dynamic timing test for the pre-UD period. Columns 2–4 subsequently restrict the sample period to three, two, and one year(s) before the UD laws were adopted. The control variables (included but not reported for brevity) are defined in Table 2. Standard errors (in parentheses) are clustered at the state level

	Dependent variable: *Dividend*			
	Dynamic Timing Test	Three years prior to the UD laws adoption	Two years prior to the UD laws adoption	One year prior to the UD laws adoption
	(1)	(2)	(3)	(4)
Treated x Year$_{-3}$	0.146			
	(0.310)			
Treated x Year$_{-2}$	0.003			
	(0.256)			
Treated x Year$_{-1}$	−0.028			
	(0.327)			
Treated		0.290	−0.026	−0.209
		(0.452)	(0.262)	(0.389)
Constant	−4.279***	−6.660***	−4.386***	−2.033
	(1.101)	(0.916)	(1.071)	(1.651)
Control variables	YES	YES	YES	YES
Bank FEs	YES	YES	YES	YES
State-year FEs	YES	YES	YES	YES
Observations	3,741	1,757	1,911	2,038
R-squared	0.739	0.834	0.835	0.627

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively

$$Dividend_{ist} = \gamma_0 + \gamma_1 Treated_{is} + \gamma_4 Control_{ist} + FixedEffects + \mu_{ist} \quad (3)$$

In this test, we use the subsample of three, two, and one year(s) prior to the adoptions, respectively. The results are reported in Columns 2 to 4 of Table 6. We find that the coefficient for $Treated_{is}$ is insignificant in all three regressions that confirms there is no significant difference in the level of *Dividend* between our treated and control samples in each year prior to the adoption of UD laws. Taken together, these findings provide confirmation that our baseline results are not driven by any systematic pre-trends or reverse causality.

5 Robustness tests

5.1 Controlling for confounding effects

An important concern related to our DiD method is that other state-level legislative changes that coincided with the adoption of the UD laws could independently influence bank dividend policies. Thus, in this section, we attempt to deal with these confounding

Table 7 Controlling for confounding effects. This table presents the results from the estimation of a DiD regression on the effect of shareholder litigation rights on bank dividend payouts after controlling for several potential confounding effects. Across all the columns, the dependent variable is *Dividend*, that is a bank's total dividends as a percentage of total equity. *Treated* is a dummy variable equal to one if a bank's state of incorporation adopted UD laws, and zero otherwise. *Post* is dummy variable equal to one if the observation is in or after the year of the adoption of UD laws, and zero otherwise. Column 1 excludes all banks in the Ninth Circuit states. Column 2 drops all banks incorporated in Nevada. Column 3 controls for the passage of D&Os liability reduction laws. Columns 4–8 sequentially control for the adoption of CF laws, BC laws, FP laws, DD laws and PP laws. Control variables (included but not reported for brevity) are defined in Table 2. Standard errors (in parentheses) are clustered at the state level

	Dependent variable: *Dividend*							
	Excluding banks in Ninth Circuit States	Excluding banks incorporated in Nevada	Control for the D&Os liability reduction laws	Control for CS Laws	Control for BC Laws	Control for FP Laws	Control for DD Laws	Control for PP Laws
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treat x Post	0.328*	0.348**	0.342**	0.339**	0.343*	0.348**	0.349**	0.361**
	(0.169)	(0.158)	(0.159)	(0.153)	(0.173)	(0.157)	(0.162)	(0.156)
Treated	−0.056	−0.104	−0.091	−0.088	−0.102	−0.101	−0.109	−0.106
	(0.404)	(0.392)	(0.390)	(0.403)	(0.393)	(0.393)	(0.392)	(0.394)
Post	−0.064	−0.034	−0.037	−0.036	−0.038	−0.036	−0.037	−0.037
	(0.059)	(0.059)	(0.058)	(0.058)	(0.057)	(0.058)	(0.058)	(0.059)
Liability Reduction Law			−0.280***					
			(0.089)					
CS Law				−0.138				
				(0.167)				
BC Law					0.077			
					(0.269)			
FP Law						−0.162		
						(0.124)		
DD Law							0.076	
							(0.173)	
PP Law								0.199
								(0.145)

Table 7 (continued)

	Dependent variable: *Dividend*							
	Excluding banks in Ninth Circuit States	Excluding banks incorporated in Nevada	Control for the D&Os liability reduction laws	Control for CS Laws	Control for BC Laws	Control for FP Laws	Control for DD Laws	Control for PP Laws
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	−1.675 (1.483)	−1.393 (1.204)	−1.085 (1.197)	−1.283 (1.185)	−1.388 (1.270)	−1.257 (1.161)	−1.354 (1.176)	−1.323 (1.138)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
Bank FEs	YES	YES	YES	YES	YES	YES	YES	YES
State-year FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	10,122	12,078	12,176	12,176	12,176	12,176	12,176	12,176
R-squared	0.687	0.701	0.703	0.703	0.703	0.703	0.703	0.703

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively

effects in order to ensure the validity of our DiD results. The test results are presented in Table 7.

First, a ruling of the Ninth Circuit Court of Appeals considerably diminished the litigation risk for firms incorporated in the nine states covered by the Ninth Circuit after 1999, as it imposed a roadblock for shareholders engaging in securities class action lawsuits. To rule out the concern that our findings could be driven by this ruling rather than by the UD laws, we follow Houston et al. (2018) and eliminate all banks incorporated in the Ninth Circuit states from our sample, that is, Alabama, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, and Washington. We then reestimate Eq. (1) and report the results in column 1 of Table 7. The positive and strongly significant coefficient for *Treated*×*Post* reaffirms that our initial findings are unlikely to be affected by this contemporaneous legal change.

In 2001, a law change was passed by legislators in Nevada that aimed to reduce legal liabilities for managers of Nevada-incorporated firms. Specifically, this amendment stipulated that managers were only liable if they simultaneously engaged in a breach in the duty of loyalty, an intentional fraud, misconduct, or violation of the law (Donelson and Yust 2014). To show that our baseline results are not confounded by this legislative change, we exclude all of the listed banks incorporated in Nevada and reestimate our model accordingly. The regression results are in column 2 of Table 7; they continue to support our original findings.

The next concern is that our results could be confounded by the director-liability-reduction laws. The escalation in the number of shareholder derivative lawsuits incentivized a number of firms to routinely take out director and officer (D&O) liability insurance to attract and retain qualified directors. This type of insurance could shield firms' directors and officers against personal financial liabilities by covering the defense costs and any settlements resulting from shareholder litigations (Cao and Narayanamoorthy 2014). Nevertheless, due to the crisis in D&O insurance markets around 1984, all 50 states had to gradually modify their corporation statutes in various ways from 1986 to 2002 (Basu and Liang 2019). There were three distinct approaches adopted by legislators to reduce the directors' liability: (i) relaxing the standard for "wrongdoing", (ii) revising charters to narrow down or waive liability, and (iii) restricting the level of statutory damage (Romano 2006). Arguably, these legislative changes could have led to a substantial diminution in the litigation risk from shareholders, which confounded the real effects of UD laws. To alleviate such a concern, we explicitly control for whether or not a bank's state of incorporation was covered by the D&Os liability reduction laws and reestimate Eq. (1) accordingly.[4] As shown in column 3 of Table 7, the positive and statistically significant coefficient for *Treated*×*Post* indicates that our initial findings are unlikely to be driven by the change in the legal environment regarding directors' liability.

Other potential confounding effects that should be taken into consideration derive from the adoption of several second-generation anti-takeover laws. There were five main anti-takeover laws: the Control Share Acquisition laws, the Business Combination laws, the Fair Price laws, the Directors' Duties laws, and the Poison Pill laws. They all became effective in some US states at some point during our testing window.[5]Specifically, between

[4] Data for the state-level adoption years of the director-liability-reduction laws were retrieved from Basu and Liang (2019).

[5] See: Karpoff and Wittry (2018, Table 2) for the detailed timing when these anti-takeover laws became effective in different US states.

1982 and 1991, 20 states gradually adopted Control Share Acquisition laws. These laws obliged an acquirer to obtain approval from the majority of disinterested shareholders in the target firm (i.e., holders of shares not yet owned by the acquirer or directors and officers of the target firm) before they could exercise their stock voting rights. Meanwhile, the Business Combination laws were gradually implemented in 33 states between 1983 and 1997. These laws imposed significant hindrances to some important transactions (i.e., mergers and asset sales) between the acquirer and the target firm for a certain length of time unless the target board voted otherwise. Twenty-seven states gradually adopted the Fair Price laws from 1983 to 1991 that required the acquirer to pay a "fair price" for all shares in any second-step takeover. Between 1984 and 2006, 35 states adopted the Directors' Duties laws that granted corporate directors the right to consider a broad group of stakeholders' interests when running the firm without breaching their fiduciary duties to their shareholders. Finally, between 1986 and 2009, 35 states started implementing Poison Pill laws that allowed target firms to pursue several defensive strategies that aimed to deter an acquisition. Overall, these laws helped to insulate corporate managers from hostile takeover threats (Bertrand and Mullainathan 2003), and thus they could exert an effect on dividend payouts (Francis et al. 2011). To control for their potential confounding effects, we follow Chu and Zhao (2021) and sequentially incorporate into Eq. (1) five dummies to control for the Control Share Acquisition laws, the Business Combination laws, the Fair Price laws, and the Poison Pill laws and reestimate accordingly. These dummy variables are named *CS Law, BC Law, FP Law*, *DD Law*, and *PP Law*, and they are equal to one when a given bank's state of incorporation has adopted each of these laws in a particular year, and zero otherwise. The results are presented in columns 4–8 of Table 7. Overall, the estimated coefficients for *Treated*×*Post* always load positively, and they are strongly significant. Therefore, our findings continue to hold when we control for the anti-takeover laws implemented during our sample period.

5.2 Additional robustness tests

In this subsection, a number of additional tests are conducted to ensure the robustness of our main results. The results of these tests are presented in Table 8.

In the first set of tests, we reestimate the baseline model (1) using different econometric settings. First, since the UD laws were adopted at the state level, in column 1, we substitute bank and state-year trend fixed effects with the state fixed effects to control for unobservable time-invariant heterogeneities among different states that might affect their dividend payouts. Second, in column 2, the standard error is clustered at the state-year level instead of at the bank level as in the baseline model to account for any correlations between banks incorporated in the same state and in the same year. Third, to alleviate the concern that our estimation could be driven by outliers, we winsorize all the continuous variables at the 1% level for both tails. The results are presented in column 3. In column 4, we use the Tobit model with fixed effects to deal with the concern that biases could arise from the use of an ordinary least squares (OLS) estimator to estimate a censored variable (Honoré 1992). The first four columns of Table 8 show that the estimated coefficients for *Treated*×*Post* always load positively and are strongly significant that reinforces the validity of our baseline results.

Next, we examine whether our results are sensitive to alternative measures of bank dividends. The literature has also used the dividend-to-assets ratio (Jiraporn et al. 2011; Abreu and Gulamhussen 2013; Lepetit et al. 2017) and the dollar value of dividends (Johari et al.

Table 8 Robustness tests. This table presents the results of the robustness tests for the DiD regression to estimate the effect of shareholder litigation rights on bank dividend payouts. Across all the columns, the dependent variable is *Dividend* that is a bank's total dividends as a percentage of total equity. *Treated* is a dummy variable equal to one if a bank's state of incorporation adopted UD laws, and zero otherwise. *Post* is dummy variable equal to one if the observation is in or after the year of the adoption of UD laws, and zero otherwise. Column 1 incorporates the state fixed effects. Column 2 clusters the standard errors at the state-year level. In column 3, all continuous variables are winsorized at the top and bottom 1% of the distribution. Column 4 employs the Tobit model. Columns 5 and 6 provide alternative measures of dividend payout, including the ratio of total dividends to total assets and the natural logarithm of total dividends, respectively. In column 7, affected banks are restricted to those incorporated in Pennsylvania. Column 8 excludes Delaware incorporated banks. Column 9 adds some macroeconomic control variables. Column 10 excludes the crisis period of 2000–2002 and column 11 excludes the SOX period from 2002 and 2003. In column 12, we use the entropy matching technique. The control variables (included but not reported for brevity) are defined in Table 2. Standard errors (in parentheses) are clustered at the state level

	State FEs	Alternative clustering	Winsorized data	Tobit model	Alternative measure of dividend payout: *Dividends to Assets (%)*	Alternative measure of dividend payout: *ln(Dividend)*	Restrict affected banks to Pennsylvania	Exclude banks incorporated in Delaware	Macro-economic control variables	Exclude crisis period 2000–2002	Exclude SOX period	Entropy Matching
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Treated x Post	0.4057*	0.3493*	0.2812**	0.6593**	0.0353*	0.1892***	0.5202***	0.2364*	0.250**	0.325**	0.3493**	0.2871**
	(0.2190)	(0.1891)	(0.1363)	(0.2746)	(0.0180)	(0.0671)	(0.1004)	(0.1291)	(0.123)	(0.156)	(0.1574)	(0.1305)
Treated	0.2134	−0.1016	−0.0160	0.0595	0.0272	0.2993**	0.5513***	0.0084	−0.059	−0.935***	−0.1016	−0.3304*
	(0.2381)	(0.2019)	(0.3516)	(0.3604)	(0.0319)	(0.1237)	(0.0525)	(0.3916)	(0.132)	(0.149)	(0.3926)	(0.1859)
Post	0.0572	−0.0367	−0.0144	−0.0864	0.0049	−0.0168	−0.0355	0.0351	−0.028	−0.193***	−0.0367	−0.0111
	(0.0632)	(0.0338)	(0.0368)	(0.0596)	(0.0039)	(0.0100)	(0.0583)	(0.0430)	(0.061)	(0.055)	(0.0583)	(0.0662)
GDP Growth									0.011**			
									(0.005)			
Population Growth									−0.208***			
									(0.038)			
Employment Growth									0.078***			
									(0.013)			
Constant	−0.6581	−1.3342**	−2.4677**	−2.0407**	0.3655***	2.8979***	−1.3605	−2.8409**	−1.309***	−9.471***	−1.3342	1.8580***
	(0.7667)	(0.5704)	(0.9327)	(0.7935)	(0.0320)	(0.1523)	(1.2197)	(1.2996)	(0.483)	(0.886)	(1.1780)	(0.4431)

Table 8 (continued)

	State FEs	Alternative clustering	Winsorized data	Tobit model	Alternative measure of dividend payout: *Dividends to Assets (%)*	Alternative measure of dividend payout: *ln(Dividend)*	Restrict affected banks to Pennsylvania	Exclude banks incorporated in Delaware	Macro-economic control variables	Exclude crisis period 2000–2002	Exclude SOX period	Entropy Matching
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Other controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank FEs	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
State-year FEs	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
State FEs	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Observations	12,176	12,176	12,176	12,176	12,176	12,176	11,893	8,843	12,169	4,347	12,176	10,981
(Pseudo) R-squared	0.2841	0.7028	0.8206	0.0783	0.7423	0.8846	0.7028	0.7826	0.704	0.764	0.7028	0.6716

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively

2020) as measures of dividend payouts. Hence, we conduct two other robustness tests to check whether our baseline results are sensitive to these measures. Specifically, in column 5, we replace total equity with total assets as the denominator when calculating the dividend ratio. Further, in column 6, we use the natural logarithm of the dollar value of the dividends paid plus one as an alternative measure. Overall, the weakened shareholder litigation rights still significantly boost bank dividend payouts, as illustrated by the positive and significant coefficients for *Treated*×*Post* in columns 5 and 6.

Another potential concern is that the state-level adoptions of UD laws may not be strictly exogenous as they could be attributable to banks' lobbying to gain benefits from these adoptions. To address this issue, we focus on the adoption of a UD law in Pennsylvania. This adoption is more likely to be immune to banks' lobbying as the UD law was passed by the Supreme Court of Pennsylvania in 1997 to be consistent with judicial precedent rather than in response to political economic concerns (Appel 2019). Therefore, we restrict our affected banks to those incorporated in Pennsylvania and rerun Eq. (1) accordingly. The positive and statistically significant coefficient for *Treated*×*Post* in column 7 shows that banks' lobbying is unlikely to affect our main findings.

A large number of banks incorporate in Delaware in order to benefit from its corporation-friendly laws (Daines 2001). Thus, our results could be driven by the "Delaware effect". That is, the positive effects of UD laws as observed in the previous sections could be the result of changes in dividend payouts from banks incorporated in Delaware, compared to the changes affecting other banks. To rule out this concern, we follow other studies (e.g., Bourveau et al. 2018; Houston et al. 2018; Nguyen et al. 2020; Chu and Zhao 2021) and reestimate Eq. (1) by using a sample that eliminates all banks whose state of incorporation was Delaware. The results are presented in column 8, and they provide confirmation that our main findings are not driven by the dominance of Delaware incorporated banks in the sample.

To obtain a more extensive analysis of the factors affecting bank dividend payouts and to mitigate the potential problem of omitted variable bias, we incorporate into Eq. (1) several time-variant variables that capture the state-level macroeconomic environment. These variables are the GDP growth rate (*GDP Growth*), population growth rate (*Population Growth*), and employment growth rate (*Employment Growth*) for each state. We retrieve macro-variable data from the Bureau of Economic Analysis (BEA). Overall, the results reported in column 9 illustrate that the effect of UD laws on bank dividend payouts is not sensitive to the inclusion of some state-level factors.

Another concern is that our results could be affected by the financial crisis occurring during our testing period. For example, Lin et al. (2021) contend that the internet bubble and dotcom crisis around 2001 could have imposed high litigation risks on all public corporations. As a consequence, this financial turmoil may contain noise that affects our results. To mitigate such a concern, in column 10, we exclude all cohorts that have event windows overlapping with the period from 2000 to 2002. This column shows that the estimated coefficient for *Treated*×*Post* is still positive and statistically significant, and therefore reaffirms the robustness of our findings.

On July 29, 2002, the Sarbanes–Oxley (SOX) Act was enacted with the aim to restore investor confidence in the US following the Enron and WorldCom scandals. Accordingly, all banks working under the authority of the Securities and Exchange Commission were obliged to comply with SOX. These banks had to disclose any material internal control

weaknesses in their financial reporting.[6] Arguably, this strict reform, by mandating greater accountability of managers to their shareholders, could have improved corporate governance and reduced agency costs that ultimately affected corporate dividend policies (Jiraporn and Chintrakarn 2009). To mitigate the concern that our result may be confounded by the implementation of the SOX Act, we follow Le et al. (2021) and exclude 2002 and 2003 from our sample period. The results reported in column 11 remain qualitatively unchanged from our baseline result.

Finally, to ensure that our findings are not driven by the different characteristics of our treated and control samples, we perform entropy matching to create a weighted control sample that are statistically comparable with our treated sample. Specifically, we match the two samples based on the value of all control variables in the year before UD laws adoption. This matching process results in a unit weight for each control observation, which is used to create a weighted control sample that is well-balanced with our treated sample in the year before UD laws adoption. The regression results using the entropy matched samples are presented in column 12 of Table 8. The results also align with our main conclusions.

6 Testing the mechanisms—Agency conflicts channel

In this section, we examine the channels through which weakened shareholder litigation rights lead to an increase in bank dividends. Based on the existing literature, we propose and test the conjectures that banks with greater agency conflicts experienced greater increases in dividend payouts following the adoption of the UD laws.

Shareholder litigation rights can be a powerful governance mechanism to prevent and align managerial wrongdoings (La Porta et al. 2000). Therefore, weakened shareholder litigation rights could deteriorate corporate governance and heighten agency conflicts between corporate managers and owners (Appel 2019). When agency conflict accelerates, banks managers are more likely to increase payouts, in order to reduce tension with their shareholders and counterbalance the elevated need for monitoring (Abreu and Gulamhussen 2013). This is because paying dividends implies a reduction in the cash available for managerial expropriation and it restrains corporate wealth from insider control (Jensen 1986; La Porta et al. 2000).

To do so, we first examine whether the adoptions of UD laws accelerated agency conflicts for the banks in our sample. Following the literature, we use the ratio of operating expenses to total assets (i.e., *Inefficiency*) as a proxy for agency conflict as this ratio illustrates how efficiently managers control operating costs given the sum of their banks' resources (Ghauri 2008).[7] To the extent that operating expenses include managerial excess spending on perks and other direct agency costs, higher agency conflicts between managers and shareholders can be reflected in higher managerial discretionary operating expenses (Fleming et al. 2005). We rerun our baseline DiD regression with *Inefficiency* being the dependent variable. We report the regression results with and without the addition of time-varying control variables to the model in Panel A of Table 9. Aligned with our expectation,

[6] See: US Congress, 2002. The Sarbanes–Oxley Act of 2002. Public Law No. 107–204. Government Printing Office, Washington, D.C

[7] For robustness checks, we also proxy for agency conflicts with the flotation costs of issuing common stocks (*Flotation Costs*). These are measured as a bank's standard deviation from the average monthly stock returns. The regression results remain qualitatively unchanged and is available on request.

Table 9 Universal demand laws and agency conflicts. Panel A presents the results of the DiD models for estimating the effect of shareholder litigation rights on agency conflicts. The dependent variable is *Inefficiency* that is a bank's total current operating expenses as a percentage of total assets. *Treated* is a dummy variable equal to one if a bank's state of incorporation adopted UD laws, and zero otherwise. *Post* is dummy variable equal to one if the observation is in or after the year of the adoption of UD laws, and zero otherwise. Panel B shows the mechanisms through which UD laws affects bank dividends. The dependent variable is *Dividend* that is a bank's total dividends as a percentage of total equity. Columns 1 and 2 show the results for the subsample of banks with high and low agency conflicts, respectively. Banks with their average *Inefficiency* falling in the top quartile (top 25% percentile) of our sample would be classified as the high agency conflict subsample. Whereas the remaining banks would be classified as low high agency conflict subsample. The control variables (included but not reported for brevity) are defined in Table 2. Standard errors (in parentheses) are clustered at the state level

Panel A: The effect of UD laws on agency conflicts of banks		
Dependent variable	*Inefficiency*	
	(1)	(2)
Treated x Post	0.506**	0.593**
	(0.229)	(0.256)
Treated	−1.416***	−0.636***
	(0.183)	(0.194)
Post	−0.281***	−0.170***
	(0.041)	(0.027)
Constant	6.659***	16.331***
	(0.030)	(0.429)
Control variables	NO	YES
Bank Fes	YES	YES
State-year trend Fes	YES	YES
Observations	12,176	12,176
R-squared	0.611	0.774
Panel B: Agency conflicts as a channel through which UD laws affect bank dividends		
	High Agency Conflict	Low Agency Conflict
	(1)	(2)
Dependent variable	*Dividend*	*Dividend*
Treated x Post	0.345**	−0.047
	(0.169)	(0.176)
Treated	−0.803***	−0.538**
	(0.168)	(0.229)
Post	−0.366***	0.102***
	(0.068)	(0.032)
Constant	−5.452***	1.202*
	(1.516)	(0.634)
Control variables	YES	YES
Bank FEs	YES	YES
State-year FEs	YES	YES
Observations	2,465	8,502
R-squared	0.728	0.733

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively

the results show that the coefficient for *Treated*×*Post* is positive and significant that indicates the adoption of UD laws has a positive effect on *Inefficiency*. This effect means that banks incorporated in states that adopt UD laws would subsequently see an increase in agency conflicts.

Next, we argue that if the adoptions of UD laws affected bank dividend payouts by accelerating agency conflicts, then we should observe that the positive UD laws–dividends nexus is more pronounced for banks with more intense agency conflicts. That is, banks with greater agency conflicts pay significantly more dividends when shareholder litigation rights weakened in order to reduce agency conflicts. To test this conjecture, we perform subsample analyses to examine how UD laws affect the *Dividend* of banks with high and low agency conflicts (measured by *Inefficiency*). First, we calculate the average *Inefficiency* of each bank over the three-year period prior to the year of adoption. Second, banks with their average *Inefficiency* falling in the top quartile (top 25% percentile) of our sample are classified as the high agency conflict subsample. While the remaining banks are classified as the low high agency conflict subsample.[8]

We then rerun our baseline regression on these two subsamples. The results are reported in Panel B of Table 9. We find that the coefficient for *Treated*×*Post* is positive and significant only for the subsample of banks with high agency conflicts (i.e., high *Inefficiency*) (column 1). This result indicates that the positive effect of UD laws on dividend payouts is more pronounced for banks with higher agency conflicts. This finding supports our argument that weakened shareholder litigation rights can accelerate higher agency conflicts, and subsequently induce banks that already have high agency conflicts to increase dividend payouts to counterbalance the incremental need for monitoring from their shareholders.

7 UD laws and share repurchases

Share repurchases have become an important component of cash payouts for banks in the past 30 years (Floyd et al. 2015). In this section, we investigate whether share repurchases are also used by banks as a substitute for shareholder litigation rights in a similar fashion to dividends following the adoption of UD laws. Theoretically, share repurchases can be indistinct from dividends since both involve the removal of cash from managerial possession as a disciplinary device (Jensen 1986). Therefore, any cash taken out in the form of repurchases will have the same implication for firm values as dividends. In support of this idea, Grullon and Michaely (2002) show positive market reactions to the announcements of share repurchases.

Nevertheless, there is a key difference between share repurchases and dividends, and this has been widely discussed in the literature – their flexibility. Compared to dividends, share repurchases are used by managers to distribute transient earnings rather than permanent or expected earnings (Jagannathan et al. 2000). In a recent study on banks, Bonaimé et al. (2014) show that banks use share repurchases to manage flexibility in payouts where a high portion of share repurchasing indicates high flexibility. This flexibility explains why share repurchases, compared to dividends, represent a weaker commitment by managers to distribute cash. Indeed, the completion rate of announced share repurchases is just 70%–80% (Stephens and Weisbach 1998), and there is limited evidence on the reputational penalty faced by firms that fail to complete their share repurchases (Jagannathan et al.

[8] We require that a bank has to appear in all three years before the adoption of UD laws in each cohort to be classified as bank with high/low inefficiency. Thus, the total number of observations of the two subsamples is smaller than the size of our original sample.

Table 10 The effect of universal demand laws on share repurchases. This table presents the results of a DiD regression for estimating the effect of shareholder litigation rights on share repurchases. The dependent variable is *Share Repurchases* that is a bank's total dividends as a percentage of total equity. The dependent variable is *Dividend* that is a bank's total dividends as a percentage of total equity. *Treated* is a dummy variable equal to one if a bank's state of incorporation adopted UD laws, and zero otherwise. *Post* is dummy variable equal to one if the observation is in or after the year of the adoption of UD laws, and zero otherwise. The control variables are defined in Table 2. Standard errors (in parentheses) are clustered at the state level

Dependent variable	*Share Repurchases*	*Share Repurchases*
Treated x Post	4.185	4.037
	(2.869)	(3.314)
Treated	−4.514***	−6.110*
	(1.489)	(3.105)
Post	−0.948	−0.676
	(0.618)	(0.719)
Size		0.379
		(5.462)
Cash		−0.900***
		(0.265)
Capital		−3.034***
		(0.483)
ROA		2.700
		(1.628)
Inefficiency		1.376
		(1.289)
Deposit Growth		−0.039***
		(0.012)
Constant	29.642***	48.093
	(0.440)	(46.642)
Bank FEs	YES	YES
State-year FEs	YES	YES
Observations	8,371	8,371
R-squared	0.715	0.724

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively

2000). In line with this argument, it is unclear whether banks use share repurchases to substitute weakened shareholder litigation rights as a signal of good practice in their treatment of shareholders to attract future equity investors.

To examine the effect of shareholder litigation rights on bank share repurchases, we replicate our baseline regression in Eq. (1) but use the ratio of total share repurchases to equity as the dependent variable. The results of this test, as reported in Table 10, show that the coefficient for *Treated*×*Post* is insignificant. This indicates that there is no evidence that banks use share repurchases to substitute for shareholder litigation rights.

8 Conclusion

In this paper, we examine how shareholder litigation rights affect bank dividends. We use the staggered adoption of UD laws in 23 US states during the period from 1989 to 2005. These adoptions served as a quasi-natural experiment to examine the effect that shareholder litigation rights have on bank dividend payouts. Our results show that weakened shareholder litigation rights lead to an increase in bank dividends. This finding remains robust across various sensitivity analyses and falsification tests, and a number of events that happened in the years surrounding the adoptions. We further find that the effect of UD laws is only evident for banks with serious agency problems. We, however, find no

evidence that litigation rights can affect banks' share repurchases. Overall, our results align with the substitution agency model that posits that dividend payments can be used as a substitute mechanism to reduce the increased agency conflict between shareholders and managers. Thus, when shareholder litigation rights are weakened, shareholders demand higher dividends to counterbalance this reduction.

We contribute to the small but growing literature on bank dividends by providing evidence that agency issues play a critical role in explaining bank dividends. We emphasize that a change in legislation on shareholder rights can effectively influence banks' agency conflicts that can trigger changes in banks' dividend policies. We also contribute to the literature on shareholder litigation rights by extending it to the banking industry. While this literature has focused more on the effect of shareholder litigation rights on the behavior of nonfinancial firms, we are among the first to analyze how shareholder litigation rights have an effect on an important decision of banks: paying dividends. While banks suffer huge legal costs every year, future research should focus on exploring how litigation in general and shareholder litigation in particular affect banks' various business decisions as well as performance. The use of UD laws as a quasi-natural experiment should also be carefully considered in this stream of the literature on banks.

Finally, our study also responds to the urgent call to draw heightened attention to bank dividends, especially during the current COVID-19 pandemic when many regulators directed banks to suspend dividends. In this regard, the findings of our research have critical policy implications as we show that apart from strict restrictions, regulators can devise alternative mechanisms, for example influencing shareholder litigation rights, to effectively regulate banks' dividends.

Data Availability The datasets analysed in this current study are not publicly available but are available from the corresponding author on reasonable request.

Declarations

Declarations of competing interests The authors have no relevant financial or nonfinancial interests to disclose.

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