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Uncertainty, access to debt, and firm precautionary behavior ☆

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ABSTRACT

Better access to debt markets mitigates the effects of uncertainty on corporate policies. We establish this result using the staggered introduction of anti-recharacterization laws in US states. These laws enhanced firms' ability to borrow by strengthening creditors' rights to repossess collateral pledged in special purpose vehicles. After the passage of the laws, firms that face more uncertainty hoard less cash and increase payouts, leverage, and investment in intangible assets. Our findings suggest that better access to debt markets shields firms from fluctuations in uncertainty and decreases firms' precautionary behavior, contributing to the deployment of cash and other internal resources to investment in intangible capital.

1. Introduction

Over the past three decades, US nonfinancial firms have accumulated record-high cash holdings (Graham and Leary, 2018). This secular trend has sparked widespread interest among academics and policy makers, as the rise in corporate savings has often been associated with lower aggregate investment and weak macroeconomic performance (Summers, 2015; Gruber and Kamin, 2016).

The extant literature has identified in the precautionary motive the most important driver of corporate savings:

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Firms with limited access to capital markets find beneficial holding more cash as a cushion if they operate in an uncertain environment (e.g., Opler et al., 1999; Bates et al., 2009; McLean, 2011; Harford et al., 2014). While influential, this literature falls short of distinguishing the role of firms' ability to access capital markets from that of uncertainty in explaining firms' incentives to save. The reason is that separating the role of uncertainty from that of a firm's access to capital markets is challenging. On the one hand, higher uncertainty can reduce firms' ability to borrow, leading to more precautionary saving. On the other hand, firms can respond to higher uncertainty by delaying investment and hoarding cash, irrespective of their ability to raise external finance.

The purpose of this paper is to study empirically how uncertainty affects firms' precautionary behavior when firms' ability to access external finance improves for reasons that are independent of their investment opportunities and the uncertainty they face. We find that as firms' ability to raise external finance improves, firms that face higher uncertainty increase leverage and payouts and hoard less cash. Our analysis helps inform the discussion on the theoretical determinants of corporate financial policies and on the usefulness of some government interventions to influence firms' propensity to save.

In recent theories of dynamic corporate financial policies, cash is not negative debt (Gamba and Triantis, 2008; Riddick and Whited, 2009). A standard prediction from this class of models is that firms hold precautionary cash balances when external finance is costly and the environment is uncertain, because cash is an instrument to absorb shocks to future financing needs. A corollary of this prediction is that when the ability to pledge collateral improves, cash becomes less valuable, as firms can easily raise external finance to offset cash shortfalls or to finance investment opportunities, or both (Nikolov et al., 2019). When uncertainty increases, firms could become more reluctant to change their cash holdings in response to shocks because these shocks convey little information in an uncertain environment (Riddick and Whited, 2009). Also unclear is whether a relaxation of borrowing constraints makes cash and debt substitute. Firms can hedge against uncertainty related to the cost of external finance by raising funds when the cost is low and saving the proceeds in the form of liquid financial assets (Eisfeldt and Muir, 2016). Whether a relaxation of financial constraints in the presence of uncertainty leads firms to substitute internal finance for external finance remains an open empirical question.

The interplay of uncertainty and financial frictions also plays an important role in macroeconomic models featuring idiosyncratic risk shocks and incomplete financial markets.[1] In these models, financial frictions are the main mechanism through which uncertainty affects macroeconomic outcomes, as an increase in uncertainty tightens firms' borrowing capacity leading to lower investment. When this mechanism is at work, fluctuations in uncertainty are amplified by financial frictions, and government interventions aimed at improving access to external finance reduce firms' vulnerability to uncertainty shocks.

In this paper, we show that better access to debt markets mitigates the effects of uncertainty on corporate financial and real policies. We establish this result using the staggered introduction of anti-recharacterization laws in US states in the late 1990s and early 2000s. These laws strengthened lenders' ability to repossess collateral in bankruptcy. As a consequence, the value of firms' collateral from the perspective of debt-holders increased, improving firms' ability to borrow. Our main result is that firms that face high uncertainty and are incorporated in states adopting anti-recharacterization laws reduce cash holdings, increase payouts to shareholders and leverage, and invest more in intangible assets than firms headquartered in states without anti-recharacterization laws.

We perform two sets of tests. In the first one, we rely on cross-sectional differences in industry-level cash flow volatility and the staggered introduction of anti-recharacterization laws to study how uncertainty affects corporate policies in a difference-in-differences setting. According to Chapter 11 of the US Bankruptcy Code, the collateral underlying secured lending is subject to automatic stay. This means that secured lenders can repossess the collateral only with a significant delay or not at all. Automatic stay does not apply to assets owned by a firm's special purpose vehicles (SPVs), unless judges recharacterize assets transferred to an SPV as a loan instead of a true sale. To reduce the likelihood that secured lending through SPVs is recharacterized, and thus collateral is subject to automatic stay, a number of US states introduced anti-recharacterization laws. These laws preserve the bankruptcy remote nature of SPVs and thus contribute to improving firms' access to secured lending by giving firms the option to increase the value of pledged collateral to secured lenders through an SPV.

We find that, after passage of the laws, the average firm in an industry at the top quartile of the distribution of cash flow volatility reduces cash holdings by 8% and increases leverage by 7%. Firms affected by the laws also increase payouts. Changes in financial policies are accompanied by an increase in intangible assets for firms in industries more exposed to uncertainty and whose access to debt markets improves after the passage of the anti-recharacterization laws.[2] Moreover, and arguably as result of these changes in corporate policies, the profitability of treated firms in industries more exposed to uncertainty increases. We also find that, after the adoption of the laws, firms that face a more uncertain environment are more likely to use SPVs, which is associated with a decrease in the cost of the debt for the parent company. Firms that increase the use of SPVs and whose cost of debt decreases are precisely those whose financial policies become less sensitive to uncertainty.

[1] See, for instance, Christiano, Motto, and Rostagno (2014), Gilchrist, Sim, and Zakrajšek (2014), Arellano, Bai, and Kehoe (2019), and Alfaro, Bloom, and Lin (2019).

[2] Treated firms that face high uncertainty also increase the proportion of receivables and inventories on their balance sheets, but they do not invest more in fixed assets, suggesting that firms have weaker incentives to hold assets that are easier to pledge after the passage of the laws.

In our second set of tests, we compare the response of firms incorporated in states with and without anti-recharacterization laws to other, plausibly exogenous, changes in uncertainty. Our first proxy for changes in uncertainty is based on geopolitical risk. Geopolitical risk is a narrower source of uncertainty than industry cash flow volatility but has the potential to affect the aggregate economic and political outlook and, as a result, firms' desire to invest and save. Moreover, changes in geopolitical risk have the advantage to be exogenous to firms' characteristics and firm-level policies. The second proxy exploits uncertainty implied by close US gubernatorial elections. Gubernatorial elections provide a natural source of variation in state-level policies, including industry regulation, taxation, and so on, which are likely to affect the business and economic environment of firms headquartered in those states. The main source of exogenous variation in this test comes from the fact that the timing of gubernatorial elections is determined by the law and not by local economic conditions. We find that when geopolitical risk increases, firms incorporated in states with anti-recharacterization laws do not increase cash holdings and do not decrease payouts to shareholders and leverage as much as firms incorporated in other states. The financial policies of firms incorporated in states with anti-recharacterization laws are also less affected by higher state-level political uncertainty.

We also study whether the decrease in firm's precautionary behavior in states with anti-recharacterization laws could be related to firms' ability to hedge against uncertainty shocks. Rampini and Viswanathan (2010) and Rampini et al. (2014) argue that more constrained firms engage less in risk management because of their limited resources and debt capacity. By relaxing financial constraints, anti-recharacterization laws can allow firms to hedge more. This, in turn, could weaken firms' precautionary motive. We measure firms' derivative hedging using parsed Securities and Exchange Commission (SEC) Form 10-K filings and find evidence that firms hedge less after the adoption of anti-recharacterization laws, which is consistent with our main result that better access to debt markets weakens firms' precautionary motive.

In robustness tests, we show that our main results do not reflect the presence of pre-trends (that is, treated firms changing cash holdings, payouts, and leverage before the adoption of anti-recharacterization laws) or the fact that firms that respond are only those that, based on observable ex ante balance sheet characteristics, can be classified as financially constrained.

Taken together, our findings indicate that better access to debt markets decreases firms' precautionary behavior and shields firms from fluctuations in uncertainty, contributing to the deployment of cash and other internal resources to investment in intangible capital. Our results support the predictions of some dynamic models of firms' capital structure that firms maintain some degree of financial flexibility by substituting between cash and leverage. They also reinforce the view that credit frictions magnify the contribution of uncertainty shocks on firms' real and financial decisions.

Our paper is related to several strands of literature. First, our paper contributes to the extant literature on corporate cash holdings.[3] This literature studies the independent role of uncertainty and financial constraints to explain the determinants of firms' cash holdings (Opler et al., 1999; Almeida et al., 2004; Bates et al., 2009; Denis and Sibilkov, 2010; Duchin; 2010; Lins et al., 2010; McLean, 2011; Acharya et al., 2012; Cunha and Pollet, 2020). It also relies on firm characteristics to measure both firms' ability to access capital markets and firms' uncertainty. Our analysis adds to this literature by providing a cleaner empirical setting in which both credit market frictions and uncertainty are unrelated to firms' policies and characteristics. In addition, we contribute to this literature by showing that laws that improve the collateral values of firms' assets are associated with a decrease in firms' cash holdings. To the extent that law changes affect firms' demand for insurance, our paper presents causal evidence supporting the precautionary motive of cash holdings.

Our results also support the hypothesis of a number of recent theoretical papers that the increasing use of intangible capital explains the rise in firms' cash holdings. (Falato et al., 2019; Begenau and Palazzo, 2021). These papers emphasize the low pledgeability of intangible capital as the mechanism driving the rise in firms' precautionary cash holdings. Our results lend support to the argument that cash holdings and asset pledgeability are related and suggest that when firms' access to debt financing improves, cash holdings can fall even if investment in intangible assets increases.

Second, this paper contributes to a growing literature on the effects of uncertainty on investment (Leahy and Whited, 1996; Bloom, 2009, 2007). Recent work by (Alfaro et al., 2019) shows that adding financial frictions to the classical model of stochastic volatility uncertainty shocks doubles the negative impact of uncertainty shocks on investment.[4] We show that a policy that facilitates access to debt markets leads firms that face a more uncertain environment to increase leverage. Moreover, this policy ends up influencing other firms' policies, such as payouts and cash, and firms' asset composition.

To the best of our knowledge, our paper is the first to highlight that an improvement in creditor rights mitigates the effects of uncertainty on corporate decisions. In this respect, we also contribute to a third large literature exploring how creditor rights affect credit markets and firm behavior. Most of this literature highlights that strong creditor rights increase the supply of credit and facilitate firms' access to credit (Djankov et al., 2007). This literature has also shown that the strengthening of creditor rights can discourage the use of secured debt due to costly

[3] Prominent explanations of the rise in corporate cash holdings include the role of a firm's intangible assets (Falato, Kadyrzhanova, Sim, and Steri, 2019), the opportunity cost of holding cash (Boileau and Moyen, 2016), the nature of new public firms (Graham and Leary, 2018; Begenau and Palazzo, 2021), the repatriation costs of cash held by foreign subsidiaries (Faulkender, Hankins, and Petersen, 2019), and agency costs (Nikolov and Whited, 2014).

[4] Ghosal and Loungani (2000) offer an early attempt to explore this question empirically. They use industry-level data and compare industries with small and large firms to provide evidence that investment is more sensitive to uncertainty shocks in industries with small firms, which are usually thought to face tighter financial constraints.

asset liquidation in case of default (Vig, 2013). Our paper contributes to this literature by suggesting a novel ex ante benefit of creditor rights: Stronger protection of creditor rights enhances firms' debt capacity and helps mitigate the effects of uncertainty on firms' behavior. In contrast to Vig (2013), we find no evidence that stronger creditor rights discourage the use of secured debt. The reason is that anti-recharacterization laws strengthen creditor rights when firms borrow through SPVs, but firms maintain the option not to borrow through bankruptcy-remote vehicles, in which case the rights of secured creditors are not strengthened.

By focusing on the role that creditor rights play in mitigating firms' exposure to uncertainty shocks, our paper differs from other studies that also exploit the adoption of anti-recharacterization laws as a natural experiment. For example, Mann (2018) shows that court decisions not to recharacterize assets enhance patenting firms' access to credit and innovation. Li et al. (2016) use the staggered introduction of anti-recharacterization laws to explain the relative importance of financial frictions and the tax benefits of debt for the capital structure of firms.[5]

The rest of the paper proceeds as follows. Section 2 discusses the anti-recharacterization laws, and Section 3 describes the data. The empirical methodology is discussed in Section 4, and Section 5 presents our main results. Section 6 introduces exogenous measures of uncertainty, and Section 7 describes the real effects of the reforms and provides further evidence in favor of the causal mechanism. Section 8 evaluates the merit of alternative explanations, and Section 9 concludes.

2. State-level anti-recharacterization laws and collateral pledgeability

According to the US Bankruptcy Code, once a firm files for Chapter 11, secured creditors are unable to seize any collateral because all of the firm's assets, including pledged collateral, are subject to automatic stay. Automatic stay delays secured lenders' ability to seize the pledged collateral and ultimately decreases the value of collateral.

Automatic stay does not apply to assets owned by a firm's special purpose vehicles. For this reason, the firm can sell collateral to a subsidiary company, the SPV, and obtain financing through the SPV instead of borrowing directly from the lender. Borrowing through an SPV is likely to lower a firm's cost of capital, as the SPV is bankruptcy-remote and therefore expected bankruptcy costs are lower (Gorton and Souleles, 2007).

The extent to which SPVs can shield creditors from bankruptcy costs depends on whether judges recharacterize an asset transferred to the SPV as a loan, instead of a true sale. If this recharacterization takes place, a lender becomes a secured creditor of the firm, instead of the SPV. Therefore, even secured lending through SPVs could be subject to automatic stay. While the automatic stay and the recharacterization of assets transferred to SPVs aim to favor business continuation, this provision hampers firms' access to credit by decreasing the value of pledged collateral to secured lenders.

To enhance creditor protection, a number of states passed anti-recharacterization laws, which limit judges' ability to recharacterize the collateral pledged through SPVs as an asset of the company that files for Chapter 11. While conflicts between federal and state laws do arise, anti-recharacterization laws reduce the likelihood that automatic stay on assets applies to borrowing through SPVs, contributing to an increase in the value of pledged collateral. For these reasons, anti-recharacterization laws improve access to debt financing for all firms, even those that do not currently use SPVs but could do so in the future.

Note that the anti-recharacterization laws do not eliminate the automatic stay on assets in case of bankruptcy. They give firms only the option to opt out of automatic stay by transferring some assets and issuing some debt through SPVs.

The following states introduced anti-recharacterization laws in a staggered manner: Louisiana and Texas in 1997, Alabama in 2001, Delaware in 2002, South Dakota in 2003, Virginia in 2004, and Nevada in 2005.[6] The introduction of these laws was mostly driven by the lobbying efforts of the banking and especially the securitization industries (Kettering, 2008). The laws can therefore be considered exogenous to nonfinancial firms.[7] While in 2003 a court ignored the anti-recharacterization statute of Texas, introducing some uncertainty as to whether state-level anti-recharacterization laws prevail over federal standards (see *Reaves Brokerage Company, Inc. v. Sunbelt Fruit & Vegetable Company, Inc.*), anti-recharacterization laws are typically enforced, increasing the likelihood that creditors would be able to repossess assets in bankruptcy.[8]

We use these considerations to study how the passage of anti-recharacterization laws affects corporate behavior and performance.

3. Data sources and main variables

This section describes the sample and the main variables used in the analysis.

3.1. Sample

To construct our sample, we begin with all publicly traded US firms in the Center for Research in Security Prices and Compustat and exclude financial firms [Standard Industrial Classification (SIC) codes from 6000 through 6999), regulated utilities (SIC codes from 4900 through 4999), and government entities (SIC codes from 9000 through 9999). We also require our sample of firms to

[5] Chu (2020) shows that anti-recharacterization laws affect corporate leasing policies and Ersahin (2020) shows that anti-recharacterization laws increase firms' productivity.

[6] North Carolina and Ohio also adopted anti-recharacterization laws, but they apply to sales made only by insured financial institutions.

[7] To discourage forum shopping, the transfer of assets is typically governed by the state law of the parent company (Kettering, 2008).

[8] The bankruptcy reform of 2005 increased protection for derivative counterparties of firms in Chapter 11. Because the reform has nationwide implications, any of its effects would be captured by our control sample. It cannot therefore affect our findings. We also show that our results are robust if we consider the sample up to 2002.

have available information on the state of incorporation. We include only firms that are incorporated in the 50 US states plus the District of Columbia. Given that anti-recharacterization laws were adopted by different states between 1997 and 2005, we restrict the sample period to 1992–2010 to include five years prior to the first adoption and five years after the last adoption.

3.2. Measuring uncertainty

Our objective is to study whether an improvement in creditor protection affects to a larger extent firms operating in a more uncertain environment.[9]

Our first proxy for uncertainty builds on Bloom (2009), Bates et al. (2009), and Jurado et al. (2015) and is based on the dispersion of accounting measures of firm-level performance. We follow Bates et al. (2009) and measure uncertainty with the median cash flow volatility in a firm's industry. For each firm-year, we compute the standard deviation of cash flow to assets for the previous ten years.[10] We then take the median of the standard deviation of the firms' cash flow volatilities in each year across two-digit SIC codes. We consider two-digit industries to mitigate concerns that firm-level uncertainty could depend on a firm's ability to access debt markets. Our proxy for uncertainty (*CashFlowVol*) captures the idea that firms in industries with uncertain cash flow are more likely to suffer cash shortfalls. These firms should be more likely to hoard cash and reduce payouts and leverage.

Our second proxy for uncertainty is based on industries' exposure to geopolitical risk, which has the noteworthy feature of being orthogonal to corporate policies and aggregate economic conditions. Geopolitical risk refers to the potential occurrence of military and diplomatic conflicts as well as terroristic acts. While these scenarios are only one of the many sources of uncertainty for firm-level cash flow volatility, they are plausibly exogenous to corporate policies. We rely on the index of geopolitical risk developed by Caldara and Iacoviello (2019), which is based on an automated text-search of national and international newspapers and is constructed by counting the number of articles that cover topics related to military-related tensions, coups, wars, and terrorist threats.

To estimate an industry's exposure to geopolitical risk, we measure the beta of the industry's monthly stock returns to the change in the index of geopolitical risk, using a 60-month rolling regression and controlling for the three Fama-French factors. Industries are defined at the Fama-French 48 industry level. We proxy for the geopolitical uncertainty faced by a firm in a given industry with the component of an industry equity risk premium due to geopolitical uncertainty, computed as the industry beta times the change in the index of geopolitical risk. Because the industry-level exposure varies little over time, changes in our measure of industry-level geopolitical uncertainty are primarily driven by spikes in the index of geopolitical risk. Because we work with a yearly panel, we average this variable over 12 months.

Our third measure is based on state-level political uncertainty due to close gubernatorial elections. Uncertainty related to local political elections is expected to affect firms headquartered in states with an upcoming election because changes in political leadership are likely to affect the local business environment and firms' economic prospects. One important advantage of using this measure of uncertainty is that the timing of gubernatorial elections is determined by electoral laws and not by local economic conditions. Following Jens (2017), we measure political uncertainty based on the outcome of upcoming gubernatorial elections taking place in the firm's headquarters state, which is typically the state where most of a firm's economic activity takes place. As in Jens (2017), and because political uncertainty is typically limited to the months immediately preceding elections, we define political uncertainty to be high in the quarter immediately preceding a gubernatorial election if the difference between the proportion of votes for the winning party and the runner-up party ends up being in the bottom tercile of its distribution. This measure reflects the closeness of election outcomes, with higher values indicating close elections or political outcomes that are difficult to predict ex ante.

3.3. Main outcome variables

Our first proxy for firms' precautionary savings is firms' cash holdings (*Cash*), defined as cash and cash equivalent securities over lagged total assets. Our second proxy is payouts to shareholders. If anti-recharacterization laws mitigate firms' precautionary behavior, we expect, ceteris paribus, an increase in firms' willingness to increase payouts to shareholders. We measure payouts (*Payout*) as the sum of cash dividends and repurchases, scaled by total assets.

We also study the effects of anti-recharacterization laws on firms' leverage, calculated as the ratio of total long-term and short-term debt over total assets (*Leverage*). Firms' leverage can decrease, increase, or remain unchanged if firms can borrow more off–balance sheet or anticipate easier access to off–balance sheet borrowing in the future.

Because the collateral value of intangible assets is more sensitive to the strengthening of creditor rights (Degryse et al., 2019), anti-recharacterization laws can boost firms' incentives to invest in innovation. We focus on two broad categories of firms' intangible capital. First, following Eisfeldt and Papanikolau (2013) and Falato et al. (2019), we compute the stock of research and development (R&D) expenses relative to total assets [*RD (stock)*], by cumulating annual R&D expenses with a depreciation rate of 15%. Second, we compute a measure of total intangible assets [*Intangibles (stock)*] by adding up *RD (stock), SG&A (stock)*, and the stock of computerized information. *SG&A (stock)* is obtained by cumulating firms' selling, general, and administrative (SG&A) expenses using the perpetual inventory method with a depreciation rate of 20% and

[9] As it is common in the literature (see, e.g., Bloom, 2014), our proxies do not distinguish between risk and uncertainty. Risk usually refers to the risk of a known probability distribution, and (Knightian) uncertainty refers to economic agents' inability to forecast the likelihood of future events.

[10] To compute this measure, we require that a firm has at least three years of data.

Table 1
Summary statistics.
This table reports the summary statistics of the main variables. The sample includes all Compustat firms that are incorporated in the 50 US states and Washington, DC, excluding those in the financial [Standard Industrial Classification (SIC) 6500–6800] and utility (SIC 4900–4999) industries and government sectors (SIC 9000–9999). The sample period spans 1992–2010. All continuous variables except *Leverage* are winsorized at the 1st and 99th percentiles. *Leverage* is restricted to vary between zero and one. Variable definitions are in the Appendix.

Variable	Number of observations	Mean	Standard deviation	Median	25th percentile	75th percentile
Leverage	75,885	0.2238	0.2939	0.1669	0.0166	0.3451
Cash	66,544	0.2244	0.3059	0.1033	0.0272	0.3069
Payout	76,170	−0.0713	0.2217	−0.0008	−0.0268	0.0094
ROA	68,237	−0.0311	0.1974	0.0301	−0.0730	0.0852
RD (stock)	78,028	0.2551	0.5356	0.0173	0	0.2743
Intangibles (stock)	77,571	1.5170	1.5755	1.0801	0.4978	1.9442
Tangible Assets	77,915	0.2603	0.2231	0.1907	0.0844	0.3737
Log(Assets)	78,028	5.1150	2.0232	4.9777	3.6458	6.4853
Receivables	77,661	0.1678	0.1288	0.1457	0.0675	0.2364
Inventory	77,306	0.1354	0.1496	0.0903	0.0079	0.2119
Loan Spreads	18,897	173.84	119.57	150	75	250
Bond Yield Spreads	3300	207.94	176.68	145	80	300
CashFlowVol	77,717	0.0710	0.0405	0.0622	0.0384	0.0904
Geopolitical Uncertainty	76,170	−0.0014	0.0516	−0.0005	−0.0166	0.0148
Dummy(SPV)	48,054	0.0044	0.0661	0	0	0
High SPV	34,544	0.5000	0.5000	0	0	1
Hedging	35,936	0.2987	0.4577	0	0	1
Cash Flow	75,945	−0.0359	0.9142	0.0672	−0.0236	0.1189
NWC	74,134	0.0711	0.3581	0.0666	−0.0392	0.2053
Market Cap	75,933	5.1199	2.0853	5.0161	3.5986	6.5258
M/B	75,925	2.1788	1.8896	1.5459	1.1225	2.4256
Acquisition	76,170	0.0239	0.0706	0	0	0.0079
R&D (Dummy)	76,170	0.4923	0.4999	0	0	1

dividing by total assets. We construct the stock of computerized information and software by applying the perpetual inventory method with a depreciation rate of 31% as in the Bureau of Economic Analysis (BEA) data.[11]

Finally, we evaluate firm performance using the firm's return on assets (*ROA*). In the empirical analysis, we control for a number of firm characteristics, which we summarize in Table 1. We winsorize all continuous variables at the 1st and 99th percentiles and restrict leverage between zero and one. Detailed variable definitions are in the Appendix.

We use data on firms' usage of SPV obtained from Lemmon et al. (2014). These data are collected by reading the 10-Ks filings of all nonfinancial companies that rely on securitization for meeting their financing needs. In addition, we parse information in firms' 10-K filings to the SEC, available through the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system, to determine firms' use of hedging instruments. We measure the use of hedging instruments (derivative, swap, futures, forward contract, options, etc.), searching in firms' 10 K filings for information on the use of financial instruments for hedging against risk stemming from changes in commodity and energy prices, interest rates, exchange rates, and security prices.

Finally, we use Dealscan and Mergent FISD to obtain the costs of a firm's new loans and bond issuance.

4. Empirical strategy

We start by studying the response of firms' financial policies to the passage of anti-recharacterization laws by estimating a difference-in-differences regression:

$$y_{f,i,s,t} = \alpha_1 \times D_{s,t} + f_f + \gamma_{i,t} + \boldsymbol{Bx_{f,t}} + \varepsilon_{f,i,s,t}, \quad (1)$$

where $y_{f,i,s,t}$ is a corporate policy of firm f in industry i incorporated in state s during year t. Our variable of interest is $D_{s,t}$, which is defined as a dummy variable that takes a value one if firm f is incorporated in state s with an anti-recharacterization law introduced at t or earlier and zero otherwise. $D_{s,t}$ equals one for firms incorporated in Texas or Louisiana after 1997, in Alabama after 2001, in Delaware after 2002, in South Dakota after 2003, in Virginia after 2004, and in Nevada after 2005. The vectors f_f and $\gamma_{i,t}$ are firm and industry-year fixed effects, respectively. The firm fixed effects subsume the state of incorporation. We define industries at the one-digit SIC code level. The vector $\boldsymbol{x_{f,t}}$ includes firm-level controls, which cover important determinants of corporate leverage, cash holdings, and payouts, such as cash flow, net working capital, market capitalization, market-to-book ratio, the acquisition values over total sales, and a dummy capturing whether a firm does any R&D.[12]

Considering the timing of the law adoption, we restrict the sample period to 1992–2010. Given the staggered in-

[11] Because these expenses are not reported at the firm level, we use the annual Fixed Reproducible Tangible Wealth (FRTW) data from BEA at the industry level. We construct a multiple as the ratio of the stock of computerized information and software to the industry's tangible capital stock and apply this multiple to each firm's tangible capital stock (property, plant, and equipment) to derive a firm-level stock of computerized information and software. We scale the firm-level stock of computerized information and software by total assets, as we do for the other measures of intangible capital.

[12] Our estimates are qualitatively invariant if we exclude these controls from the regressions.

Table 2
Creditor rights and financial policies.
This table describes changes in firms' financial policies around the adoption of anti-recharacterization laws. *Law* is a dummy variable that equals one for firms incorporated in Texas or Louisiana after 1997, Alabama after 2001, Delaware after 2002, South Dakota after 2003, Virginia after 2004, and Nevada after 2005. All variables are defined in the Appendix. All regressions include firm fixed effects and industry-year fixed effects. *t*-statistics are presented in parentheses. Standard errors are corrected for heteroskedasticity and clustered at the state level. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively. SIC1 = one-digit Standard Industrial Classification code.

Variable	*Leverage* (1)	*Cash* (2)	*Payout* (3)
Law	0.0142**	−0.0143**	0.0233***
	(2.45)	(−2.12)	(4.23)
Cash Flow	−0.0009	0.0270***	0.0057***
	(−0.28)	(5.30)	(3.03)
NWC	−0.4122***	−0.0414***	−0.0057
	(−34.26)	(−3.32)	(−1.60)
Market Cap	−0.0368***	0.0637***	−0.0131***
	(−24.30)	(22.90)	(−10.58)
M/B	0.0059***	0.0155***	−0.0290***
	(5.52)	(10.64)	(−36.38)
Acquisition	0.2090***	−0.1560***	−0.0814***
	(10.38)	(−8.76)	(−12.04)
R&D (Dummy)	−0.0052	0.0062	−0.0226***
	(−0.57)	(0.62)	(−3.25)
Firm fixed effects	Yes	Yes	Yes
SIC1-year fixed effects	Yes	Yes	Yes
Number of observations	74,670	65,232	74,866
R-squared	0.6991	0.6204	0.4978

troduction of the laws, the control sample contains not only firms incorporated in states that did not introduce the laws, but also firms in states that would eventually pass the laws but had not yet.

Our main tests estimate the effects of the laws on firms in industries with different uncertainty levels, using the following model:

$$y_{f,i,s,t} = \alpha_1 \times D_{s,t} + \alpha_2 \times uncertainty_{i,t} \times D_{s,t} + \alpha_3 \times uncertainty_{i,t} + f_f + \gamma_{i,\ t} + \boldsymbol{Bx_{f,t}} + \varepsilon_{f,i,s,t}, \quad (2)$$

in which $uncertainty_{i,t}$ is either the median cash flow volatility in industry i prior to year t, industry-level geopolitical uncertainty, or state-level political uncertainty. The interaction term allows us to capture how firms' response to uncertainty varies after the passage of the laws. As law changes occur at the state level, we cluster standard errors by state.

5. Anti-recharacterization laws and financial policies

This section reports the main findings.

5.1. Preliminary evidence

Table 2 reports difference-in-differences estimates of the response of firms' financial policies to the passage of anti-recharacterization laws. Column 1 shows that the passage of anti-recharacterization laws is associated with an increase in firms' leverage by roughly 5%, even though treated firms can now borrow more off–balance sheet by pledging collateral through SPVs. What is more, Columns 2 and 3 show that, after passage of the laws, the average firms operating in anti-recharacterization law states reduce cash holdings by 5% (0.01 / 0.22) and increase total payouts to shareholders by 2.3 percentage points relative to firms that operate in other jurisdictions. These findings are consistent with the view that, by strengthening creditor rights, the passage of anti-recharacterization laws improves firms' ability to borrow, which in turn weakens their incentives to hold extra cash reserves or to conserve internal resources by limiting payouts to shareholders. Taken together, the reduction in firms' cash holdings and the increase in payouts and leverage unequivocally suggest that after the adoption of anti-recharacterization laws, firms' precautionary behavior weakens, likely because firms expect to have better access to capital markets after the introduction of the laws.

Such an interpretation is warranted if the corporate policies of treated and control firms have common trends before the passage of anti-recharacterization laws. To evaluate whether this identifying assumption holds, we reestimate the equations in Table 2, substituting the dummy *Law* with dichotomic variables indicating the year relative to the adoption of anti-recharacterization laws in a given state. Fig. 1 reports the estimates. We observe no differences in corporate financial policies in each of the three years preceding the adoption of the laws. Only in the year of the law adoption and afterward we observe a drop in cash and an increase in leverage and payouts to shareholders.

5.2. Effect of anti-recharacterization laws and uncertainty

The main objective of our analysis is to test whether better access to debt markets mitigates the effects of uncertainty on corporate policies. To this end, we study how the response of corporate decisions to uncertainty differs between treated and control firms. If the anti-recharacterization laws improve firms' ability to tap the debt market, thus decreasing the risk of facing future financial constraints, firms that face high uncertainty should reduce cash holdings and increase payouts and leverage after the passage of the laws. If uncertainty is merely a real shock, no differential response to the passage of the laws should be evident for firms in industries with different levels of uncertainty.

Table 3 presents the results using our benchmark measure of uncertainty, which is based on the median cash flow volatility in a firm's industry. Following Bates et al. (2009), this standard measure of uncertainty captures the idea that firms in industries with uncertain cash flow are more likely to suffer cash shortfalls. As shown in Table 3, significant changes in financial policies took place after the passage of anti-recharacterization laws for firms that face relatively high uncertainty. The cross-sectional effects of the laws appear to dominate the average effects, suggesting that firms in environments with low uncertainty are largely unaffected.[13]

[13] In these tests, interpreting the direct effect of uncertainty is difficult because our regressions include the interaction of year and one-digit SIC

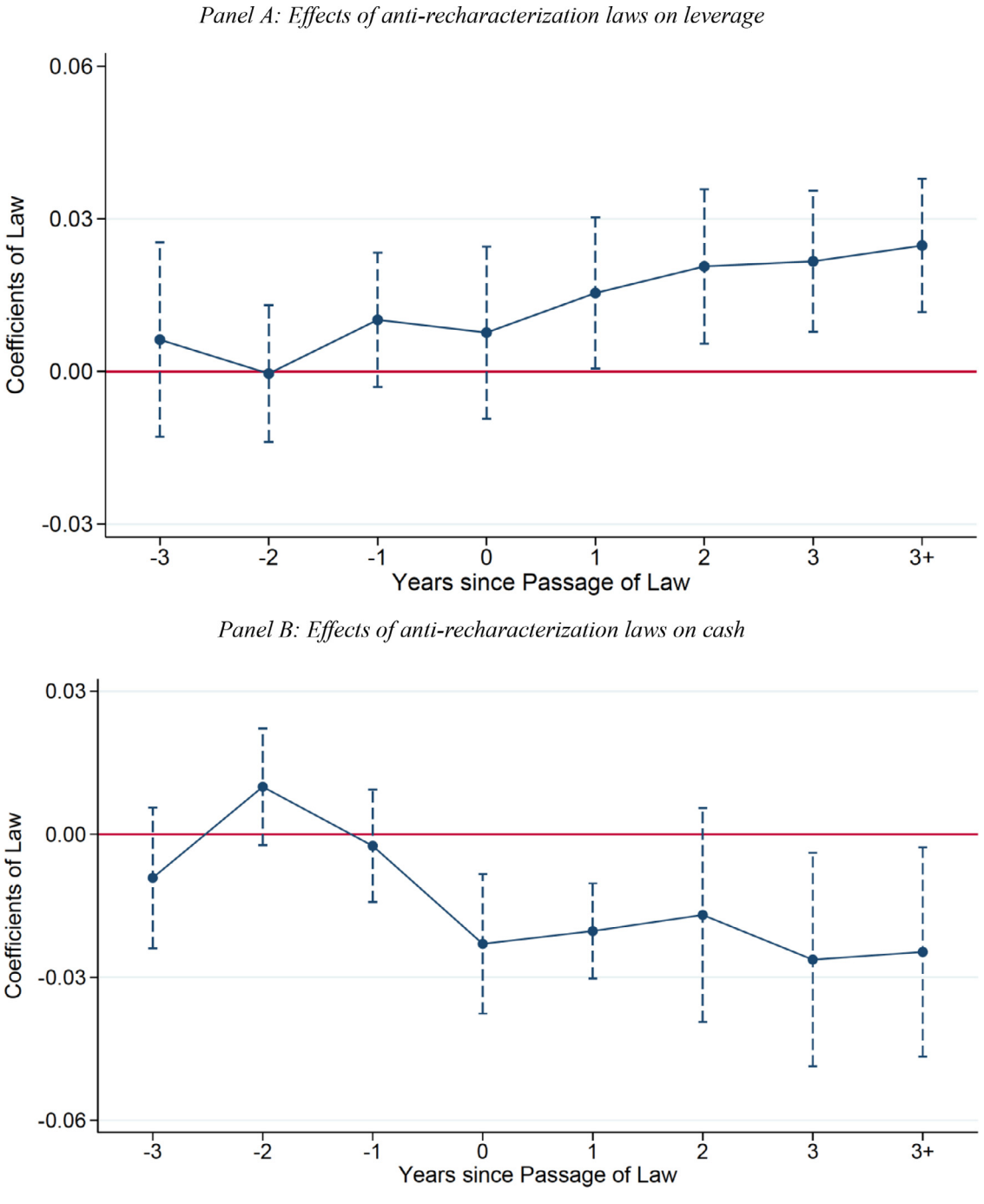

Fig. 1. Testing the common trend hypothesis. The figure presents the effect of anti-recharacterization laws on firms' *Leverage* (Panel A), *Cash* (Panel B), and *Payout* (Panel C) around the years of the anti-recharacterization laws' adoption. The dots represent the coefficient estimates on time dummies starting three years before the law adoption and ending three years after. We estimate the equations in Table 2 except that we replace *Law* with dummy variables indicating the year relative to the adoption of anti-recharacterization laws in a given state. 3+ refers to a dummy that takes a value equal to one if the firm is incorporated in a state that passed an anti-recharacterization law four or more years earlier. The intervals around the dots represent 90% confidence intervals. The horizontal axis represents the event time around the law adoption. All regressions include firm fixed effects and industry-year fixed effects. Standard errors are corrected for heteroskedasticity and clustered at the state level.

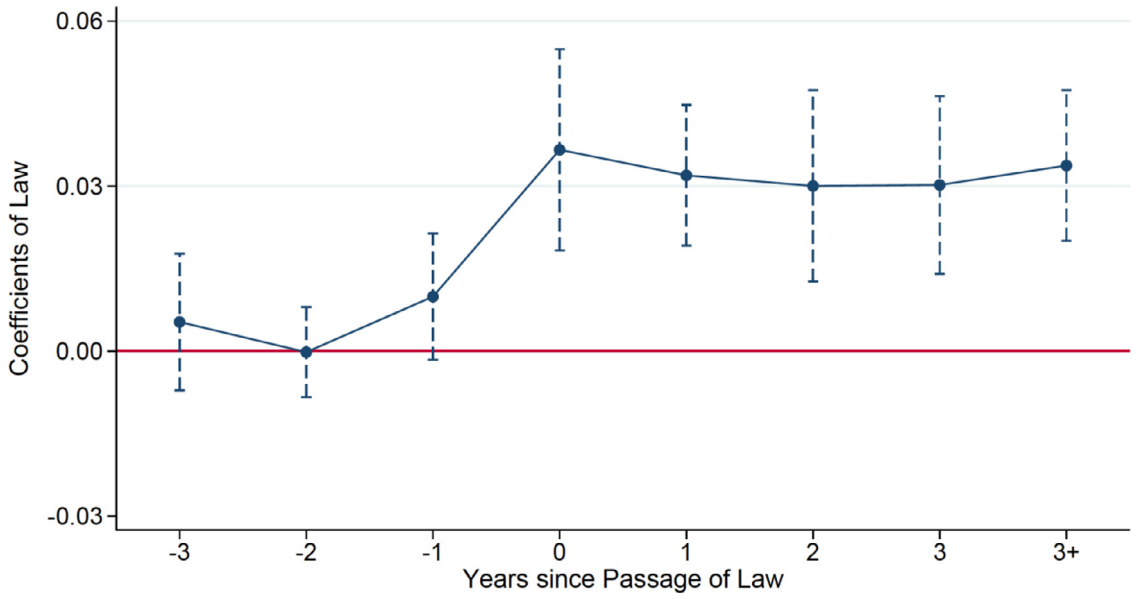

Fig. 1. Continued

Table 3
Creditor Rights, uncertainty, and financial policies.
This table describes the effects of uncertainty on firms' financial policies around the adoption of anti-recharacterization laws. *Law* is a dummy variable that equals one for firms incorporated in Texas or Louisiana after 1997, Alabama after 2001, Delaware after 2002, South Dakota after 2003, Virginia after 2004, and Nevada after 2005. All remaining variables are defined in the Appendix. All regressions include firm fixed effects and industry-year fixed effects. *t*-statistics are presented in parentheses. Standard errors are corrected for heteroskedasticity and clustered at the state level. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively. SIC1 = one-digit Standard Industrial Classification (SIC) code; SIC3 = three-digit SIC code.

Variable	*Leverage* (1)	*Cash* (2)	*Payout* (3)	*Leverage* (4)	*Cash* (5)	*Payout* (6)
*Law*CashFlowVol*	0.3914***	−0.3571***	0.3384***	0.3295***	−0.2935***	0.2996***
	(9.13)	(−6.97)	(9.02)	(3.33)	(−3.58)	(3.84)
Law	−0.0177**	0.0150*	−0.0051	−0.0150**	0.0110*	−0.0062
	(−2.46)	(1.95)	(−0.91)	(−2.03)	(1.70)	(−1.04)
CashFlowVol	−0.0207	0.0044	0.3084***			
	(−0.18)	(0.08)	(2.91)			
Cash Flow	0.0009	0.0274***	0.0055***	−0.0027	0.0298***	0.0063***
	(0.27)	(5.38)	(2.85)	(−0.93)	(7.30)	(3.35)
NWC	−0.4220***	−0.0436***	−0.0044	−0.4192***	−0.0478***	−0.0031
	(−35.28)	(−3.50)	(−1.16)	(−32.07)	(−4.48)	(−0.89)
Market Cap	−0.0370***	0.0640***	−0.0134***	−0.0368***	0.0687***	−0.0148***
	(−24.42)	(22.80)	(−10.37)	(−21.68)	(23.55)	(−13.92)
M/B	0.0064***	0.0153***	−0.0287***	0.0064***	0.0130***	−0.0272***
	(5.34)	(10.78)	(−38.46)	(5.77)	(9.87)	(−44.26)
Acquisition	0.2081***	−0.1553***	−0.0823***	0.2122***	−0.1622***	−0.0833***
	(10.13)	(−9.13)	(−12.25)	(11.08)	(−10.56)	(−12.09)
R&D (Dummy)	−0.0057	0.0061	−0.0227***	−0.0057	0.0077	−0.0251***
	(−0.61)	(0.59)	(−3.22)	(−0.67)	(0.88)	(−3.06)
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
SIC1-year fixed effects	Yes	Yes	Yes	No	No	No
SIC3-year fixed effects	No	No	No	Yes	Yes	Yes
Number of observations	74,381	64,978	74,577	73,961	64,537	74,157
R-squared	0.7025	0.6210	0.4990	0.7225	0.6406	0.5253

In Column 1 of Table 3, we estimate that the adoption of anti-recharacterization laws leads firms to increase leverage to a larger extent if these firms are in industries with higher uncertainty. Firms in the top quartile of the distribution of cash flow volatility increase leverage by 7% [(0.39 × 0.09 - 0.02) / 0.22].

The improvement in creditor rights affects not only leverage but also spillovers to firms' saving behavior. In Columns 2 and 3, respectively, we estimate that cash holdings decline and payouts increase after the passage of the

code fixed effects, and our proxy of uncertainty varies over time at the two-digit SIC code industries level.

laws, especially for firms that operate in industries with higher cash flow volatility. Firms decrease cash holdings by about 8% [(−0.36 × 0.09 + 0.015) / 0.22] if they operate in industries with uncertainty in the top quartile of the distribution of cash flow volatility. The direct effect of the passage of the laws is positive, indicating that the cross-sectional differences we highlight are important: Without uncertainty, stronger creditor rights do not reduce firms' precautionary behavior.

In Columns 4 to 6 of Table 3, we estimate the same empirical models as in Columns 1 to 3, but we include interactions of three-digit SIC codes and year fixed effects to evaluate whether unobservable time-varying industry shocks could be responsible for our benchmark results. The inclusion of these fixed effects appears to have no material effect on the estimates of our coefficients of interest. In all cases, the estimates of the interaction terms of industry cash flow volatility and the dummy variable associated with the passage of the law are roughly unchanged.

The results in this table suggest that the effects of uncertainty on firms' financial policies is muted after the passage of the anti-recharacterization laws. In other words, the precautionary motive of firms that face a more uncertain environment is weakened when firms' access to debt market improves.

5.3. Robustness

A crucial assumption in our analysis is that the passage of an anti-recharacterization law in a given state enhanced the pledgeability of firms' assets in that jurisdiction. One concern related to this interpretation is that the 2003 *Reaves Brokerage Company Inc. v. Sunbelt Fruit & Vegetable Company, Inc.* case weakened the effects of anti-recharacterization laws on corporate behavior. In this judicial case, a court ignored the anti-recharacterization statute of Texas and used a federal standard to recharacterize as a loan the transfer of assets to an SPV by a firm incorporated in Texas.

This court decision introduced some uncertainty as to whether state-level anti-recharacterization laws prevail over federal standards in case of bankruptcy. Our tests rely on the assumption that even if the recharacterization of the assets pledged as collateral could occur with some probability, anti-recharacterization laws increase the probability that creditors would be able to repossess the asset in case of bankruptcy.

To check the possibility that anti-recharacterization laws were reinterpreted after the 2003 case, Table 4 presents our main results using data through 2002. As shown, the estimates on this smaller sample period are similar to our benchmark results in Table 3, validating our empirical strategy and the interpretation of our main findings.

We also consider the possibility that other shocks, including other state laws enacted during the 1992–2010 period, could affect our results. In contrast to the anti-recharacterization laws, which are based on the state of incorporation, most state laws typically affect firm operations based on the state of the headquarters. For this reason, Table 5 controls for asymmetric shocks affecting firms

Table 4
Effects of anti-recharacterization laws before 2003.
This table evaluates the effects of anti-recharacterization laws prior to 2003. *Law* is a dummy variable that equals one for firms incorporated in Texas or Louisiana after 1997 and for firms in Alabama after 2001. All regressions include firm fixed effects and industry-year fixed effects as well as controls as listed in Table 2. The sample ends in 2002. All remaining variables are defined in the Appendix. *t*-statistics are presented in parentheses. Standard errors are corrected for heteroskedasticity and clustered by state. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively. SIC1 = one-digit Standard Industrial Classification code.

Variable	*Leverage* (1)	*Cash* (2)	*Payout* (3)
Law × *CashFlowVol*	0.1671***	−0.5372***	0.4972***
	(3.45)	(−14.25)	(11.11)
Law	−0.0108*	0.0242***	−0.0086
	(−1.86)	(3.84)	(−1.11)
CashFlowVol	0.1575	−0.4692***	0.8731***
	(0.81)	(−6.49)	(4.77)
Controls	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
SIC1-year fixed effects	Yes	Yes	Yes
Number of observations	49,187	40,802	49,292
R-squared	0.6934	0.6435	0.5193

Table 5
Controlling for interactions of headquarters (HQ) state and year fixed effects.
This table controls for headquarters state–year fixed effects, which absorb nonparametrically the effects of other laws that could affect firms based on the headquarters' state. *Law* is a dummy variable that equals one for firms incorporated in Texas or Louisiana after 1997, Alabama after 2001, Delaware after 2002, South Dakota after 2003, Virginia after 2004, and Nevada after 2005. All remaining variables are defined in the Appendix. All regressions include firm fixed effects and industry-year fixed effects as well as controls as listed in Table 2. *t*-statistics are presented in parentheses. Standard errors are corrected for heteroskedasticity and clustered by state. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively. SIC1 = one-digit Standard Industrial Classification code.

Variable	*Leverage* (1)	*Cash* (2)	*Payout* (3)
Law × *CashFlowVol*	0.3686***	−0.3241***	0.3067***
	(7.14)	(−6.48)	(7.22)
Law	−0.0159**	0.0151**	−0.0051
	(−2.32)	(2.14)	(−1.28)
CashFlowVol	0.0252	−0.0347	0.2762**
	(0.23)	(−0.58)	(2.63)
Controls	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
HQ state–year fixed effects	Yes	Yes	Yes
SIC1-year fixed effects	Yes	Yes	Yes
Number of observations	74,350	64,951	74,546
R-squared	0.7063	0.6276	0.5072

headquartered in different states by including interactions of headquarters state and year fixed effects. As shown, our results are qualitatively and quantitatively unchanged.[14]

In another robustness test, we assess in Table 6 whether our results are driven by the distribution of

[14] We also interact cash flow volatility with state level laws that affect the sample firms during our sample period, such as state-level banking deregulation (Rice and Strahan, 2010) and state-level laws enforcing non-compete agreements (Garmaise, 2011). We also control for the interaction between cash flow volatility and state-level corporate and personal income taxes. The inclusion of these controls leaves our results unaffected.

Table 6
Effects of anti-recharacterization laws on Delaware and non-Delaware firms.
This table examines the effects anti-recharacterization laws on the relation between uncertainty and firms' financial policies for firms incorporated in Delaware and for firms incorporated outside of Delaware. The dependent variables are indicated at the top of each column. Panel A reports the results for Delaware firms. The sample contains all firms incorporated in Delaware and those incorporated in states that never passed the law. Panel B reports the results for non-Delaware firms. For this test, we exclude Delaware firms after 2002, i.e., after the passage of the anti-recharacterization law in Delaware. The test is conducted on a matched sample of treated firms and corresponding control firms in states that did not pass the laws. We match each treated firm to at most five control firms, which are required to be in the same industry and have similar levels of cash flow volatility prior to the adoption of the laws. In both panels, *Law* is a dummy variable that equals one for firms incorporated in Texas or Louisiana after 1997, Alabama after 2001, Delaware after 2002, South Dakota after 2003, Virginia after 2004, and Nevada after 2005. All remaining variables are defined in the Appendix. All regressions include firm fixed effects and industry-year fixed effects as well as controls as listed in Table 2. *t*-statistics are presented in parentheses. Standard errors are corrected for heteroskedasticity and clustered by state. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively. SIC1 = one-digit Standard Industrial Classification code.

Variable	*Leverage* (1)	*Cash* (2)	*Payout* (3)
Panel A: Effects on Delaware firms			
Law × *CashFlowVol*	0.4052***	−0.3816***	0.3308***
	(8.27)	(−11.05)	(8.19)
Law	−0.0167**	0.0163*	−0.0019
	(−2.03)	(1.94)	(−0.31)
CashFlowVol	−0.0186	−0.0030	0.3415***
	(−0.16)	(−0.05)	(3.29)
Controls	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
SIC1-year fixed effects	Yes	Yes	Yes
Number of observations	69,950	61,147	70,146
R-squared	0.6964	0.6232	0.5003
Panel B: Effects on non-Delaware firms			
*Law***CashFlowVol*	0.2787**	−0.3671*	0.2050*
	(2.15)	(−1.79)	(1.80)
Law	−0.0078	0.0011	−0.0091
	(−0.59)	(0.07)	(−1.17)
CashFlowVol	−0.4832**	−0.0479	0.1792
	(−2.22)	(−0.29)	(0.83)
Controls	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
SIC1-year fixed effects	Yes	Yes	Yes
Number of observations	40,365	39,081	40,441
R-squared	0.6773	0.6933	0.5925

firms' states of incorporation. Most treated companies in our sample are incorporated in Delaware, mostly because in this state the court system is specialized in corporate bankruptcies. While this could induce selection in the firms that incorporate in Delaware, any heterogeneity between Delaware and non-Delaware firms is differenced away by the inclusion of firm fixed effects. Panel A of Table 6 presents the results of a test in which Delaware firms are the only treated firms. This test does not exploit the staggered nature of the laws and thus helps mitigate the concern that a staggered difference-in-differences design can suffer from the problem that treated units end up serving as controls, possibly biasing our estimates (Borusyak and Jaravel, 2017). Reassuringly, none of our main results is affected by the use of this alternative test.

To provide further evidence that our results are not driven by a firm's state of incorporation, Panel B of Table 6 presents the results of an alternative test in which only firms incorporated outside Delaware are included in the treatment group.[15] While the smaller treatment sample size weakens the statistical significance of our estimates, the results remain fully consistent with our earlier findings.

6. Alternative measures of uncertainty

This section assesses the robustness of our main results to alternative sources of uncertainty. We evaluate how the financial policies of firms incorporated in different jurisdictions change in response to heightened geopolitical risk or state-level political risk. While these two forms of uncertainty capture a distinct source of risk than industry cash flow volatility, they have the noteworthy property of being reliably exogenous to corporate policies and economic conditions more generally. In addition, they have the potential to affect the aggregate or state-level economic and political outlook and thus firms' desire to invest and save.

6.1. Geopolitical uncertainty

Panel A of Table 7 presents the results using geopolitical risk as the source of uncertainty. Consistent with the estimates in Table 3, Panel A of Table 7 shows that firms facing an increase in geopolitical risk and incorporated in states with anti-recharacterization laws decrease leverage and payouts and increase cash holdings less than firms in states without anti-recharacterization laws. The magnitude of the economic effects of the laws are also comparable to those presented in Table 3. When geopolitical risk is in the top quartile of its historical distribution, firms incorporated in states that have adopted anti-recharacterization laws have 9% [(0.04 × 0.015 + 0.02) / 0.22] more leverage and hold 9% [(−0.04 × 0.015 - 0.02) / 0.22] less cash than firms incorporated in states without anti-recharacterization laws.

6.2. Political uncertainty

Panel B of Table 7 presents results based on changes in firms' uncertainty related to close US gubernatorial elections. We expect firms incorporated in states with anti-recharacterization laws to be less affected by political uncertainty associated with close elections. Gubernatorial elections provide a natural source of variation in state-level policies, including industry regulation, taxation, and so on, which are likely to affect the business and economic environment of firms headquartered in those states. Because this source of political uncertainty is limited over

[15] Given the smaller sample of treated firms after dropping Delaware, in this test, we match treated companies to at most five companies in the same industry in states that did not pass the laws and that have similar cash flow volatility using propensity scores.

Table 7
Creditor rights, firm policies, and other shocks to uncertainty.
This table examines the effects of shocks to uncertainty on firms' financial policies around the adoption of anti-recharacterization laws. The dependent variables are indicated at the top of each column. Panel A measures uncertainty using the industry average level of geopolitical uncertainty. *Geopolitical Uncertainty* is the average change in the indicator of geopolitical risk of (Caldara and Iacoviello, 2019) times the exposure of a firm's industry to this indicator over the past 12 months. An industry's exposure to geopolitical uncertainty is estimated as the beta of the industry's monthly stock returns on the changes in the geopolitical risk index using a rolling window of the past 60 months and controlling for the three Fama-French factors. In Panel B, we use US gubernatorial elections as a source of political uncertainty. The sample consists of firm–election year quarterly observations from 1992 to 2010. Following Jens (2017), for a given firm, we include only years in which the firm's headquarters state hosts a gubernatorial election, and we compare the firm's financial policies during the third quarter of a close election year with its own policies in other quarters. Close elections are defined as election years in which the percentage vote difference between the winner and the runner-up parties ends up being at the bottom tercile of the sample. *Law* is a dummy variable that equals one for firms incorporated in Texas or Louisiana after 1997, Alabama after 2001, Delaware after 2002, South Dakota after 2003, Virginia after 2004, and Nevada after 2005. All remaining variables are defined in the Appendix. All regressions include firm fixed effects and industry-time fixed effects as well as controls as listed in Table 2. *t*-statistics are presented in parentheses. Standard errors are corrected for heteroskedasticity and clustered by state. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively. SIC1 = one-digit Standard Industrial Classification code.

Variable	*Leverage* (1)	*Cash* (2)	*Payout* (3)
Panel A: Geopolitical uncertainty			
Law × *Geopolitical Uncertainty*	0.0379**	−0.0415**	0.0515***
	(2.09)	(−2.24)	(4.60)
Law	0.0164***	−0.0158**	0.0246***
	(2.82)	(−2.33)	(4.51)
Geopolitical Uncertainty	−0.0030	0.0487***	−0.0126
	(−0.17)	(3.50)	(−1.28)
Controls	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
SIC1-year fixed effects	Yes	Yes	Yes
Number of observations	72,839	63,587	73,036
R-squared	0.6997	0.6214	0.4978
Panel B.: Political uncertainty (gubernatorial elections)			
Close Election × *Q3* × *Law*	−0.0002	−0.0131***	0.0061***
	(−0.07)	(−2.92)	(3.32)
Close Election	0.0084**	0.0032	0.0006
	(2.19)	(0.83)	(0.52)
Close Election × *Q3*	0.0001	0.0006	−0.0007
	(0.04)	(0.27)	(−0.56)
Law	0.0068	0.0064	0.0002
	(0.99)	(0.85)	(0.16)
Close Election × *Law*	−0.0113**	0.0008	−0.0022
	(−2.44)	(0.16)	(−1.07)
Q3 × *Law*	−0.0031	−0.0029	0.0000
	(−1.49)	(−0.75)	(0.01)
Controls	Yes	Yes	Yes
SIC1-year-quarter fixed effects	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
Number of observations	46,450	46,726	46,863
R-squared	0.7516	0.6960	0.3343

time, firms perhaps do not respond swiftly with decisions that involve large fixed costs, such as issuing new debt.

Following Jens (2017), in these tests we use quarterly data and limit the sample to election years. Close elections are characterized by high political uncertainty because the political orientation and policies of the administration are harder to predict. We assume that these high levels of uncertainty characterize quarters preceding gubernatorial elections, in which the difference between the proportion of votes for the winning party and the runner-up party is in the bottom tercile of its distribution. We then evaluate the differential response of firms in quarters preceding close gubernatorial elections with the triple interaction term *Close Election*Q3*Law*. Thus, our regression model compares the financial policies of firms in states with close elections relative to those of firms in states with non-close elections and, more important for our purposes, compares the effects of close elections on the financial policies of firms incorporated in states with and without anti-recharacterization laws.[16]

Panel B of Table 7 shows that firms incorporated in states with anti-recharacterization laws maintain 1.3 percentage points lower cash holdings and 0.6 percentage points higher payouts than firms incorporated in states without anti-recharacterization laws during quarters preceding close gubernatorial elections. As expected, given that the source of uncertainty considered in this section

[16] The lower order interactions terms in our regression control for the fact that firms in states with close elections can be systematically different or that financial policies can change for all firms in the quarter before the elections. The regression model also controls for differences between firms headquartered in states with anti-recharacterizations laws in the quarter before the elections or when close elections occur.

Table 8
Creditor rights, uncertainty, firm performance, and operating policies.
This table examines the effects of uncertainty on firm performance and operating policies around the adoption of anti-recharacterization laws. Dependent variables are indicated at the top of each column. *Law* is a dummy variable that equals one for firms incorporated in Texas or Louisiana after 1997, Alabama after 2001, Delaware after 2002, South Dakota after 2003, Virginia after 2004, and Nevada after 2005. All remaining variables are defined in the Appendix. All regressions include firm fixed effects and industry-year fixed effects as well as controls as listed in Table 2. *t*-statistics are presented in parentheses. Standard errors are corrected for heteroskedasticity and clustered by state. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively. SIC1 = one-digit Standard Industrial Classification code.

Variable	ROA (1)	*RD (stock)* (2)	*Intangible (stock)* (3)	*Tangible Assets* (4)	*Receivables* (5)	*Inventories* (6)	*Log(Assets)* (7)
*Law*CashFlowVol*	0.2730***	1.1218***	2.2214***	0.0094	0.0555***	0.0345*	0.0751
	(3.53)	(6.22)	(5.24)	(0.19)	(2.92)	(1.76)	(0.66)
Law	−0.0129**	−0.0257	−0.0265	0.0051	−0.0025	−0.0006	0.0157
	(−2.24)	(−1.49)	(−0.48)	(0.91)	(−1.00)	(−0.18)	(0.92)
CashFlowVol	0.0319	2.1714***	5.6610***	0.0736	−0.0452	−0.0467	−0.3121
	(0.29)	(4.09)	(5.39)	(1.63)	(−0.81)	(−1.34)	(−1.61)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SIC1-year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	65,229	74,860	74,520	74,849	76,161	75,817	74,577
R-squared	0.6838	0.7898	0.7674	0.8941	0.8111	0.8957	0.9737

is not persistent over time, we do not find statistically significant differences for leverage.

Taken together, the evidence collected for the differential responses of firms to changes in geopolitical and state-level political risk, which are important sources of risk exogenous to firms' characteristics and policies, support our earlier findings that firms respond to uncertainty shocks by reducing precautionary saving after the passage of the anti-recharacterization laws.

7. Real effects of anti-recharacterization laws and economic mechanisms

This section explores the real effects of the laws and provides evidence consistent with the causal interpretation of the empirical evidence.

7.1. Effects on firm investment and performance

In this section, we ask whether changes in financial policies following the adoption of anti-characterization laws have any real effects. This analysis allows us to infer whether strengthening creditor rights and thus easing access to debt markets reduces the negative effects of uncertainty on the real economy.

Table 8 presents estimates of the effect of the laws on firm profitability and asset composition using our benchmark measure of uncertainty based on industry-level cash flow volatility. Column 1 shows that firms' performance in industries with higher uncertainty improves after the passage of anti-recharacterization laws. The profitability of a treated firm in an industry with high (i.e., top quartile) cash flow uncertainty increases by 1.4 percentage points (0.27 × 0.09 - 0.01) after the adoption of anti-recharacterization laws, a large increment considering that the median return on assets of firms in the sample is 0.03.

The rest of Table 8 sheds light on what could explain this improvement in profitability. In Columns 2 and 3, we estimate that firms facing higher uncertainty appear to increase investment in R&D and intangible assets. Again, the effects are stronger for firms in high-uncertainty industries. For instance, in Column 2 and Column 3, respectively, a firm dealing with high uncertainty (top quartile) increases its R&D stock by 29% [(1.12 × 0.09 - 0.026) / 0.26] and intangible assets by 11% relative to the average firm.

As shown in Column 4, however, tangible assets do not change. Instead, firms increase the proportions of receivables and inventories on their balance sheets (Columns 5 and 6). Several mechanisms can help explain why fixed investment does not respond to the passage of anti-recharacterization laws. First, while these laws increased the collateral value of all assets, the liquidation value of fixed assets tends to be less sensitive to changes in creditor rights than the liquidation value of other assets, such as inventories and accounts receivable (Degryse et al., 2019). Second, before the passage of the laws, firms facing high uncertainty could have invested in fixed assets, not intangible capital (SG&A, R&D, etc.), to secure their access to debt markets. As the laws increased the collateral value of all assets, firms responded by tilting the composition of their assets toward more intangible investment. Finally, capital investment is often indivisible and involves significant adjustment costs (Cooper and Haltiwanger, 2006). Thus, at the margin, after the passage of the laws, firms could have found optimal adjusting expenses in intangibles, inventories, and receivables instead of tangible assets.

The evidence in Table 8, together with Table 3, suggests that stronger creditor rights not only affect firms' financial policies but also have real effects on firms operating in highly uncertain industries. Furthermore, these laws stimulate investment in intangible assets, which, in turn, is associated with a significant improvement in firms' profitability, as intangible investment is typically more productive than tangible investment (Eisfeldt and Papanikolaou, 2013).

Finally, we consider the possibility that the changes in asset composition that we show in Table 8 do not arise from a change in investment policies, but from the fact that treated firms sell some assets to SPVs and use the proceeds to buy back shares. The resulting drop in firm to-

tal assets could explain some of our findings. In Column 7, we find no evidence that the total assets of firms that face higher uncertainty drop following the passage of anti-recharacterization laws, ruling out this alternative explanation.

7.2. Anti-recharacterization laws and SPV use

Our interpretation of the results presented so far is that firms' access to debt markets improves after the passage of anti-recharacterization laws because pledging assets as collateral through SPVs becomes easier. Accordingly, firms incorporated in states with anti-recharacterization laws should be more likely to use special purpose vehicles. At the same time, firms that do not use SPVs should still benefit from the passage of the laws, as anti-recharacterization laws increase the likelihood that firms pledge collateral through SPVs in the future.

Table 9 provides evidence consistent with this interpretation. Column 1 in Panel A reports estimates of the likelihood that a firm starts reporting at least one SPV in its 10 K filings to the SEC. Unconditionally, we find no statistically significant effect of the laws. In Column 2, firms in industries that are in the top quartile for cash flow volatility are 0.2 percentage points (0.025 × 0.09) more likely to start using an SPV after the passage of the laws, a 52% increase in the probability relative to the sample average. These results are consistent with the view that SPVs can help firms mitigate uncertainty shocks through additional borrowing.

In Panel B of Table 9, we ask whether the response of firms' financial policies to uncertainty shocks after the adoption of anti-recharacterization laws is related to the likelihood of using SPVs. Following Lemmon et al. (2014), we predict that firms use SPVs based on observable characteristics, such as market capitalization, market-to-book ratio, cash flow, working capital, acquisition, and R&D expenses. Because firm policies can be impacted by the passage of anti-recharacterization laws, we use only observations in the treated sample before the passage of the laws and in the control sample to predict the probability that a firm uses SPVs. We then test whether firms that are more likely to use SPVs are also more responsive to the passage of anti-recharacterization laws. To do so, we define a dummy variable, *High SPV*, that is equal to one if a firm's predicted likelihood of using SPVs exceeds the sample median.

As shown in Panel B, the coefficient on the triple interaction term *High SPV*Law*CashFlowVol* suggests that the passage of the laws has larger effects on leverage, cash holdings, and payouts of firms that face higher uncertainty and are more likely to use SPVs than for firms that are less likely to use SPVs, consistent with the conjecture that the anti-recharacterization laws improve access to the debt market and ultimately reduce firms' precautionary behavior.

Table 9
Changes in special purpose vehicle (SPV) usage
This table describes firms' usage of SPVs around the adoption of anti-recharacterization laws. Panel A examines the changes in firms' usage of SPVs around the adoption of anti-recharacterization laws. The dependent variable is an indicator for whether a firm reports SPVs in its 10-K filings to the Securities and Exchange Commission, in a given year, *Dummy(SPV)*, but did not report an SPV in the previous year. Panel B examines whether firms' use of SPVs affects the way anti-recharacterization laws influence their financial policies. *High SPV* is a dummy variable that is equal to one if a firm's predicted likelihood of using SPVs is above the sample median and zero otherwise. The probability that firms use SPVs is predicted using the following firms' characteristics: market capitalization, market-to-book ratio, cash flow, working capital, acquisition expenses, and research and development expenses. For treated firms, we consider observations only before the passage of the laws to predict the probability that a firm uses an SPV. *Law* is a dummy variable that equals one for firms incorporated in Texas or Louisiana after 1997, Alabama after 2001, Delaware after 2002, South Dakota after 2003, Virginia after 2004, and Nevada after 2005. All variables are defined in the Appendix. All regressions include firm fixed effects and industry-year fixed effects as well as controls as listed in Table 2 whose coefficients have been omitted. *t*-statistics are presented in parentheses. Standard errors are corrected for heteroskedasticity and clustered by state. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively. SIC1 = one-digit Standard Industrial Classification code.

Panel A: SPV usage and anti-recharacterization laws

Variable	(1)	(2)
Law	−0.0011	−0.0031
	(−0.63)	(−1.37)
*Law*CashFlowVol*		0.0250**
		(2.19)
CashFlowVol		−0.0041
		(−0.17)
Controls	Yes	Yes
Firm fixed effects	Yes	Yes
SIC1-year fixed effects	Yes	Yes
Number of observations	45,900	45,725
R-squared	0.1042	0.1042

Panel B: Effects of SPVs on financial policies

Variable	*Leverage* (1)	*Cash* (2)	*Payout* (3)
*High SPV*Law*CashFlowVol*	0.1403**	−0.9616***	0.2291***
	(2.35)	(−5.09)	(2.82)
*Law*CashFlowVol*	0.3305***	0.1715**	0.0915**
	(4.07)	(2.02)	(2.27)
Law	−0.0189**	−0.0183***	−0.0097***
	(−2.52)	(−2.70)	(−3.08)
CashFlowVol	−0.4323***	0.0057	−0.1188**
	(−2.93)	(0.04)	(−2.03)
High SPV	−0.0256***	−0.0235**	0.0004
	(−3.78)	(−2.11)	(0.10)
*High SPV*Law*	−0.0040	0.0538***	−0.0102***
	(−0.71)	(4.29)	(−2.70)
*High SPV*CashFlowVol*	0.2237**	0.6893***	−0.1387
	(2.26)	(2.87)	(−1.41)
Controls	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
SIC1-year fixed effects	Yes	Yes	Yes
Number of observations	33,660	33,672	33,770
R-squared	0.7465	0.6704	0.5297

7.3. Anti-recharacterization laws and the cost of debt

An important finding of the law and finance literature is that stronger creditor rights typically reduce borrowing costs, thus relaxing financial constraints. So far, we have shown that anti-recharacterization laws benefit firms that face more uncertain environments by favoring access to debt markets. In this section, we evaluate how the laws affect the parent company's cost of borrowing, using data on

interest rates of new syndicated loans and new bond issuance.

The ability to issue debt backed by assets that are less likely to be recharacterized should contribute to the decrease in the cost of issuing debt through SPVs for treated borrowers (Gorton and Souleles, 2007). However, the overall cost of capital for the firm perhaps would not decrease if the cost of debt issued by the parent company increases. In principle, the parent company could face a higher cost of borrowing after the passage of the laws because creditors could require a higher compensation for the risk of being expropriated if they anticipate more debt issuance through SPVs and a lower probability that assets are recharacterized. Panels A and B of Table 10 present the results for the cost of loans and bonds, issued by the parent company.

The estimates in Column 2 of Panel A show that firms in industries with cash flow volatility in the top quartile of the cross-sectional distribution have 4.75 (-52.77×0.09) basis points (bps) lower loan spread after the passage of the laws. This effect is equivalent to a 3% decline relative to the sample average loan spread (174 bps). Similarly, the estimates in Column 2 of Panel B indicate that firms with cash flow volatility in the top quartile experience a decrease in bond spread of 15.4 (-171.3×0.09) basis points following the passage of the laws, which amounts to a decline of bond spread at issuance of 7% relative to the average spread in the sample (208 bps).

The decrease in the parent firms' cost of debt reported in Table 10 must be interpreted as stemming from the fact that after the adoption of the laws firms can move assets off–balance sheet and thus issue debt with different credit risk in segmented markets, which typically leads to a lower cost of capital even for the parent company (see, e.g., Gorton and Souleles, 2007). These findings, together with the evidence in Table 3, suggest that firms facing a more uncertain environment issue more debt at a lower cost after the passage of the anti-recharacterization laws.

Table 10
Creditor rights and costs of debt.
This table examines changes in firms' costs of debt around the adoption of anti-recharacterization laws. Panel A shows the results for syndicated loans spreads [in basis points over the London Inter-Bank Offered Rate (LIBOR)], and Panel B reports results for bond issuance spreads (in basis points over Treasury bond yields of comparable maturity). We consider only US dollar–denominated bonds issued by US industrial firms and that are nonconvertible, non-puttable, and without credit enhancements. All regressions include state of incorporation fixed effects and industry-year fixed effects. In Column 2 of each panel, we add firm-level controls as listed in Table 2. *t*-statistics are presented in parentheses. Standard errors are corrected for heteroskedasticity and clustered by state. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively. SIC1 = one-digit Standard Industrial Classification code.

Panel A: Syndicated loan spreads

	Syndicated loan spread	
Variable	(1)	(2)
*Law*CashFlowVol*	−93.52***	−52.77*
	(−3.37)	(−1.81)
Law	5.40	4.06
	(1.36)	(1.14)
CashFlowVol	9.90	19.49
	(0.30)	(0.65)
Loan Size	−19.53***	−9.40***
	(−27.57)	(−8.57)
Loan Maturity	2.04***	1.28***
	(5.69)	(2.80)
Controls	No	Yes
State fixed effects	Yes	Yes
SIC1-year fixed effects	Yes	Yes
Rating fixed effects	Yes	Yes
Loan type fixed effects		
Number of observations	18,122	18,122
R-squared	0.46	0.51

Panel B: Bond issuance spreads

	Bond Issuance Spread	
Variable	(1)	(2)
*Law*CashFlowVol*	−191.74**	−171.33**
	(−2.31)	(−2.16)
Law	19.12**	17.30**
	(2.30)	(2.15)
CashFlowVol	90.70	117.47
	(1.18)	(1.47)
Bond Issue Size	−8.45***	3.58
	(−3.50)	(1.31)
Bond Maturity	−0.82***	−0.39**
	(−4.95)	(−2.64)
Coupon Rate	34.05***	28.21***
	(7.23)	(7.01)
Callable	108.44***	87.27***
	(6.56)	(5.93)
Controls	No	Yes
State fixed effects	Yes	Yes
SIC1-year fixed effects	Yes	Yes
Rating fixed effects	Yes	Yes
Number of observations	3280	3280
R-squared	0.66	0.67

8. Alternative explanations

This section evaluates a number of potential alternative explanations for our findings.

8.1. Anti-recharacterization laws and hedging

Rampini and Viswanathan (2010) and Rampini et al. (2014) argue that financially constrained firms are less likely to hedge risk through risk management, as these firms tend to conserve their debt capacity to take advantage of future investment opportunities. Because anti-recharacterization laws tend to relax firms' financial constraints, firms could hedge more, thus reducing their exposure to uncertainty shocks, after the passage of the laws.

In Table 11, we test whether the hedging motive explains the thrust of the evidence on firms' financial policies presented so far. We regress an indicator for whether firms report the use of derivatives in their annual filings to the SEC on the interaction between the passage of anti-recharacterization laws and two of our measures of uncertainty: industry cash flow volatility and geopolitical risk.[17] Column 1 shows that firms incorporated in states that adopt anti-recharacterization laws appear more likely to engage in hedging activities, supporting the argument of Rampini and Viswanathan (2010). Meanwhile, the estimated coefficients for the interaction term *Law* × *Uncertainty* suggest that firms facing a more uncertain envi-

[17] We do not consider uncertainty due to gubernatorial elections, as firms are unlikely to hedge this form of risk with derivatives.

Table 11
Changes in hedging.
This table examines firms' hedging behavior around the adoption of anti-recharacterization laws. The dependent variable is an indicator variable for hedging. *Hedging* indicates whether a firm reports derivatives usage in a given year or the previous year. In Column 1, *Uncertainty* is measured by industry cash flow volatility. In Column 2, *Uncertainty* is measured by an industry's exposure to geopolitical uncertainty. All remaining variables are defined in the Appendix. All regressions include firm fixed effects and industry-year fixed effects as well as controls as listed in Table 2. *t*-statistics are presented in parentheses. Standard errors are corrected for heteroskedasticity and clustered by state. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively. SIC1 = one-digit Standard Industrial Classification code.

Variable	Uncertainty measured by *CashFlowVol*, dependent variable: *Hedging* (1)	Uncertainty measured by *Geopolitical Uncertainty*, dependent variable: *Hedging* (2)
*Law*Uncertainty*	−0.2189*	−0.0781*
	(−1.77)	(−1.73)
Law	0.0353**	0.0138
	(2.28)	(0.98)
Uncertainty	−0.8045***	−0.0230
	(−2.90)	(−0.66)
Controls	Yes	Yes
Firm fixed effects	Yes	Yes
SIC1-year fixed effects	Yes	Yes
Number of observations	34,401	33,974
R-squared	0.6121	0.6126

ronment do not increase hedging to a greater extent than other firms after the passage of anti-recharacterization laws. If anything, evidence exists to the contrary, possibly because these firms were already hedging before the passage of the laws. In Column 2, firms also do not appear to hedge against geopolitical uncertainty, suggesting that firms cannot insure this form of risk. Also, firms appear to hedge to a lower extent after the adoption of the laws.

This evidence suggests that our main findings are unlikely to be driven by firms' enhanced ability to hedge risk after the adoption of anti-recharacterization laws. The reduced impact of uncertainty shocks on corporate policies appears instead to be driven by firms' improved ability to access debt markets.

8.2. Uncertainty or financial constraints?

Table 12 evaluates the possibility that our proxies for industry-level uncertainty simply capture firms' ability to raise external finance. For this purpose, we rely on the Hadlock and Pierce (2010) index (*HP Index*), which uses a combination of total assets and firm age to measure firms' financial constraints. We evaluate how firms' financial policies change after the passage of the anti-recharacterization laws once we control for the possibility that firms are unable to raise external finance, which is captured by the inclusion of an interaction term between *Law* and *HP Index*. As shown in Table 12, after the inclusion of this additional control, the coefficient on the main interaction of *Law* and *CashFlowVol* is qualitatively unchanged compared with the baseline results in Table 3. While identifying financially constrained firms is notoriously difficult (Farre-Mensa and Ljungqvist, 2016), the evidence in Table 12 suggests that our results are not driven by the differential responses of firms that, based on observable ex ante characteristics, are relatively more constrained in their ability to raise external finance.

Table 12
Creditor rights, uncertainty, and firms' financial constraints.
This table examines whether changes in firms' responses to uncertainty around the adoption of anti-recharacterization laws depend on firms' financial constraints. *HP Index* stands for Hadlock-Pierce index, with higher values indicating stronger financial constraints (Hadlock and Pierce, 2010). *Law* is a dummy variable that equals one for firms incorporated in Texas or Louisiana after 1997, Alabama after 2001, Delaware after 2002, South Dakota after 2003, Virginia after 2004, and Nevada after 2005. All remaining variables are defined in the Appendix. All regressions include firm fixed effects and industry-year fixed effects as well as controls as listed in Table 2. *t*-statistics are presented in parentheses. Standard errors are corrected for heteroskedasticity and clustered by state. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively. SIC1 = one-digit Standard Industrial Classification code.

Variable	*Leverage* (1)	*Cash* (2)	*Payout* (3)
*Law*CashFlowVol*	0.4290***	−0.2740***	0.1498***
	(8.57)	(−6.28)	(2.68)
Law	−0.0510***	−0.0656***	0.1710***
	(−7.41)	(−4.48)	(8.57)
CashFlowVol	−0.0531	−0.0254	0.3475***
	(−0.43)	(−0.51)	(2.70)
*Law*HP Index*	−0.0096***	−0.0219***	0.0471***
	(−7.43)	(−5.77)	(11.61)
HP Index	−0.2181***	−0.1078***	−0.0931***
	(−40.61)	(−3.72)	(−17.39)
Controls	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
SIC1-year fixed effects	Yes	Yes	Yes
Number of observations	74,381	64,978	74,577
R-squared	0.7130	0.6234	0.5052

9. Conclusions

We highlight a novel effect of strong creditor rights for firms that face high uncertainty. By exploiting the staggered introduction of anti-recharacterization laws in US states, we find that as firms are given the option to improve creditors' ability to repossess collateral in bankruptcy, their access to debt financing improves and firms engage in less precautionary behavior. With the op-

tion to strengthen creditor rights, firms have weaker incentives to hoard cash or reduce payouts to shareholders and leverage, and they have stronger incentives to invest in intangible capital. Furthermore, these effects are more pronounced for firms that are exposed to a more uncertain environment.

Our evidence has important policy implications. It suggests that strengthening creditor rights makes firms more resilient to uncertainty shocks and fosters investment in intangible capital and innovation. While precautionary behavior enables firms to forestall distress and default, it prevents cash and other internal resources to be deployed for productive investment. Accordingly, policy interventions that improve firms' access to capital markets have the potential to shield firms' policies and investment from the adverse effects of fluctuations in uncertainty.

Appendix. Variable definitions

Acquisition: Acquisition value (AQC) over total sales (SALE).

Bond Issue Size: Log of the face value of a corporate bond issue.

Bond Maturity: Number of years to maturity of a corporate bond.

Bond Yield Spread: Difference between a firm's bond issuance yield over the Treasury yield at the same maturity range.

Cash: Cash and cash equivalent securities (CHE) over lagged total assets (AT).

Cash Flow: Operating cash flow (IB + DP) over total assets (AT).

CashFlowVol: Median level of cash flow volatility in a two-digit SIC industry. A firm's cash flow volatility is calculated as the standard deviation of cash flow over the past ten years. At least three years of observations are required. Cash flow is measured as in Bates et al. (2009): earnings after interest, dividends, and taxes divided by total assets [(EBIT – XINT – TXT – DVC) / AT].

Close Election: Dummy variable that equals one if a gubernatorial election's vote gap ranks at the bottom tercile of the sample and zero otherwise. Vote gap is the difference in vote share between the winning party and the runner-up party. The vote share is calculated as the number of votes for each party divided by the total votes in an election.

Coupon Rate: Coupon rate of a corporate bond.

Dummy (SPV): Dummy variable that equals one if a firm reports nonoperating subsidiaries in Exhibit 21 of SEC Form 10-K.

Geopolitical Uncertainty: Industry exposure to the index of geopolitical uncertainty of (Caldara and Iacoviello, 2019) multiplied by the change in the geopolitical uncertainty index. Industry-level exposure is estimated using a 60-month rolling regression of industry returns on the change in the geopolitical uncertainty index, controlling for the three Fama–French factors. Industries are defined at the Fama–French 48 industry level.

Hedging: Dummy variable that is equal to one if a firm reports in the SEC Form 10-K the use of hedging instruments (derivative, swap, futures, forward contract, options, etc.) against risk related to commodity and energy prices, interest rates, exchange rates, and security prices.

High SPV: Dummy variable that is equal to one if the predicted likelihood of a firm having an SPV is above the sample median and zero otherwise.

HP Index: Hadlock–Pierce index of financial constraints. It is equal to $-0.737 \times log(AT) + 0.043 \times log(AT)^2 - 0.04 \times Age$, whereby total asset values are deflated to 2000 prices using the Consumer Price Index.

Intangibles (stock): Sum of R&D stock, SG&A stock, and the stock of computerized information. The stock of computerized information is calculated as the cumulative level of fixed reproducible tangible wealth divided by total assets in an industry (source: BEA) using a depreciation rate of 31%. The SG&A stock is the accumulated SG&A expenditure (XSGA) over total assets, calculated using a perpetual inventory method with a depreciation rate of 20%. SG&A expenditures are deflated to the 2000 level [see definitions in Falato et al. (2019)].

Inventories: Ratio of inventories (INVT) to total assets (AT).

Leverage: Long-term debt (DLTT) and current portion of long-term debt (DLC) over total assets (AT).

Loan Maturity: Maturity for a syndicated loan facility, in years.

Loan Spreads: All-in-drawn loan spreads of a syndicated loan facility, in basis points over the London Inter-Bank Offered Rate (LIBOR).

Loan Size: Log of the dollar amount of a syndicated loan facility.

Log(Assets): Log of total assets.

Market Cap: Log of market capitalization of equity, which is calculated as the log level of the product between shares outstanding (CSHO) and year-end share price (PRCC).

M/B: Market-to-book ratio of assets, (AT - CEQ + CSHO × PRCC) / AT.

NWC: Net working capital, net of cash (NWC - CHE), over total assets (AT).

Payout: Cash dividends (DVC) + purchases of common and preferred stocks (PRSTKC) – sale of common and preferred stocks (SSTK), over total assets (AT).

Q3: Dummy variable that equals one for the third quarter of the year and zero otherwise.

R&D (Dummy): Dummy variable that equals one if R&D expenditures (XRD) are positive and zero otherwise.

Receivables: Ratio of accounts receivable (RECT) to total assets (AT).

RD (stock): Accumulated R&D expenditures (XRD) over total assets. The accumulated R&D expenditures are calculated using a perpetual inventory method with a depreciation rate of 15%. R&D expenditures are deflated to the 2000 level [see definitions in Falato et al. (2019)].

ROA: Net income (NI) over total assets (AT).

Tangible Assets: Firms' property, plant, and equipment (PPENT) over total assets (AT).

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