Firm-level political risk and corporate leverage decisions

Abstract

This study examines the effects of firm-level political risk on firm leverage decisions and speed of adjustment. We uncover that firm-level political risk has a negative impact on a firm's total and long-term leverage. We also find that firms facing high political risk tend to prefer debts with short-term maturity. However, firm-level political risk is positively related to debt specialisation, suggesting that firms are more inclined to adopt fewer debt types when they face high political risk. Further analysis reveals that firms with high political risk are associated with a faster speed of adjustment to target than those with low political risk. Our results are robust to endogeneity concerns and the effects of financial crisis.

Keywords: Firm-level political risk; leverage; debt maturity; debt specialisation; speed of adjustment; US

JEL classification: D8, G3, G32.

1. Introduction

Research has long recognised the impact of political risk on various corporate investment activities, which has been a critical concern for practising managers and policy makers over the past four decades (Bailey and Chung, 1995; Bloom, Bond and Van Reenen, 2007 Pastor and Veronesi, 2013). The concern stems from the fact that political risk does not disappear with portfolio diversification, often difficult to predict and tends to disrupt firms' regularly planned investment activities by affecting their financing behaviour (King, Loncan and Khan, 2021; Hassan et al., 2019; Waisman, Ye and Zhu, 2015). Moreover, within the realm of political risk/uncertainty literature, various studies have documented the difficulty in identifying the kinds of political issues that firms may be most concerned about and quantifying their effects on businesses due to a lack of firm-level data (Colak, Gungoraydinoglu and Oztenkin, 2018; Pan, Wang and Yang, 2019; Hassan et al., 2019). Studies examining the impact of political risk/uncertainty on firms' financing decisions have, unsurprisingly, used a variety of country-level political risk measures (Francis, Hasan and Zhu, 2014; Kesternich and Schnitzer, 2010; Waisman, Ye and Zhu, 2015; Çolak, Durnev and Qian, 2017; Colak, Gungoraydinoglu and Oztenkin, 2018; Im, Kang and Shon, 2020; Ben-Nasr et al., 2020).

Building on prior literature, which has not given attention to political risks faced by individual firms and mainly views political risk as a systematic rather than an idiosyncratic risk (see King, Loncan and Khan, 2021), we employ a new measure of political risk developed by Hassan et al. (2019) to explore a firm's leverage structure and speed of adjustment to target. In their study, Hassan et al. (2019) used textual analysis on transcripts of the quarterly earnings conference call of US listed firms to develop a novel measure of firm-level political risk faced by individual US firms. According to Hassan et al. (2019), the effect of political decision-making does not only

affect the economy through aggregate political risk but also leads to idiosyncratic political risk. However, how firm-level political risk influences the corporate leverage structure and adjustment remains unexplored and we attempt to fill this gap. The purpose of this study is to examine how firm-level political risk influences leverage decisions and speed of adjustment to target capital of US firms over a period of 2002-2019.

From the perspective of the capital structure literature, prior research has progressed along various important directions, ranging from the agency theoretical perspective (Jensen and Meckling, 1976; Morellec et al., 2012) to the trade-off, which contends that a firm's optimal leverage choice is driven by balancing the costs against the benefits of increased debt (Frank and Goyal, 2009). Lartey, Danso and Boateng (2021), Lartey, Kesse and Danso (2020) and Morellec et al. (2012) document that various mechanisms are associated with the use of both long- and short-term debt, emphasising that the choice of capital structure should not only be driven by costs of capital, taxes, and bankruptcy costs, but also a country's environment factors. For example, political uncertainty heightens information asymmetry, thereby making it difficult to forecast a firm's future cash flows (Julio and Yook, 2012; Gungoraydinoglu, Çolak, and Öztekin, 2017). From this standpoint, it may be argued that firm-level political risk can influence the choice of long- and short-term leverage. Therefore, examining the firm-level political risk-capital structure relationship is of particular importance to managers and policy makers for several reasons. First, political risk affects a firm's cash flow volatility, risk of default and economic outcomes (Lartey et al., 2021; Cremers & Yan, 2010) and understanding how political risk could hinder or facilitate a firm's adjustment speed to target capital structure and investment decisions can help to mitigate its effects on the firm's economic outcomes. Second, the impact of political risk stemming from changes in government policies on firms is hard to diversify, yet it affects the real investment and gross domestic product

(GDP) of a country (Aizenman & Marion, 2004; Born & Pfeifer, 2014). Therefore, shedding light on the relationship between political uncertainty and firm investment decisions will encourage policy makers to adopt a transparent approach to the legislative process for changing policies that create uncertainties, thereby helping firms and investors to predict and mitigate the impact of political risk.

We choose the US for our empirical analysis for several reasons. According to La Porta et al (1997), although the US has a stable legal environment, political uncertainty appears rampant because of partisan variations in taxes, regulations and social benefits that affect business cycles (Alesina & Roubini, 1992; Waisman, Ye & Zhu, 2015). Corporate executives in the US spend significant resources on lobbying political actors to shape regulations affecting businesses (Hassan et al., 2019). In particular, the level of executive political engagement is more pronounced in the US because political risk in the country has far-reaching consequences for both the US and non-US global markets. For example, Brogaard et al. (2020) report a disproportionately negative impact of US election cycles on non-US markets (-1%) compared to US markets (-2.4%). The underlying shock stems from the uncertainty in political power due to possible swings in control of Congress. Studies such as Hassan et al. (2019), and Brogaard et al. (2020) emphasise that impacts of political risk tend to be firm-specific rather than market-level shocks. These considerations make the US an ideal setting to explore the effects of effects of political risk on leverage decisions.

Using balanced panel data from 4,262 US firms spanning 2002-2019, we show that firm-level political risk has a negative and significant impact on a firm's total and long-term leverage, suggesting that firms with a high-level political risk are more likely to reduce their reliance on total and long-term leverage. We also find that firms facing high political risk tend to prefer debts

with short-term maturity, perhaps to minimise adverse selection costs (Mitchell, 1991) and readjust leverage (Geelen, 2016; Admati et al., 2018). In addition, we find firm-level political risk to be positively related to debt specialisation, suggesting that firms are more inclined to adopt fewer debt types when they face high political risk. Further analysis reveals that firms with high political risk are associated with a faster speed of adjustment to target than those with low political risk. We conduct additional tests to ascertain the robustness of our results. First, we estimate our main model by using book leverage as an alternative proxy for the dependent variable. Also, we estimate a two-part zero-inflated fractional regression model (Ramalho et al., 2011) to ascertain whether and to what extent firms use debt. Next, we run two alternative instrumental variables estimations – IV-2SLS and IV-GMM – to address endogeneity concerns associated with our firm-level political risk measure. Our results remain robust to all these alternative estimations and tests.

Our study makes two important contributions to the existing literature. First, our study extends the extant literature on the relationship between political risk and capital structure decisions by using firm-level political risk, which quantifies the extent of political risk faced by a given firm, rather than country-level political risk employed in prior studies (see Colak, Gungoraydinoglu and Oztenkin, 2018; Im, Kang and Shon, 2020; Ben-Nasr et al., 2020; Gad et al., 2021) with one notable exception by Pan, Wang and Yang (2019)[1]. Thus, the study enriches political risk and corporate investment decision discourse by using a political risk measure which is directly related to the focal firms, thereby increasing the reliability of the results for policy making. This is significant in that political risk has been unprecedentedly high around the globe in the last 20 years with significant implications for corporate profitability and survival. This study draws policy

[1] It is important to point out that the study of Pan et al. (2019) examined debt maturity and leverage whereas this study extends their study by examining debt specialisation and leverage adjustment to target capital structure based on a sample over a period of 2002-2019.

makers' attention to the detrimental effects of political risk on corporate financial decisions and the need for governments/policy makers to pursue a transparent legislative process when changing economic policies, to minimise political risk at national level. Moreover, this study represents one of the first attempts to examine the extent to which firm-level political risk shapes one of the key investment decisions of firms (i.e., capital structure choice). Second, the findings of our study yield fresh insights on how firm-level political risk affect a firm's debt maturity choice, leverage and leverage adjustment to target capital structure. Our results that firm-level political risk is positively related to short-term debt maturity reinforce the view that short-maturity debt allows firms to minimise adverse selection costs (Mitchell, 1991) and provides the flexibility to readjust leverage to overcome the leverage ratchet effect (Geelen, 2016; Admati et al., 2018). Regarding how firm-level political risk drives debt specialisation, we show that firms are more inclined to adopt fewer debt types when facing high political risk. Thus, the results that specialisation leads to the use of fewer debt types may be because political risk may curtail a firm's access to some segments of the debt markets (Colla et al., 2013) and hence the firm will only have access to fewer debt types. Our results also highlight that firm-level political risk dramatically speeds up firms' adjustment towards optimal capital with implications for the cost of adjustment and overall cost of capital to firms.

The rest of this paper is structured along these lines: section 2 reviews related literature. Section 3 considers data and empirical methods. Section 4 presents and discusses results, and, finally, section 5 concludes.

2. Related literature

2.1. Political risk, debt ratio and debt maturity choice

Modern firms operate in a complex and uncertain business environment. The uncertainty about future tax liabilities, government spending, monetary policy, regulations, and the enforcement of rules plays an important role in explaining a firm's operational environment and its overall economic value (King et al., 2021; Hassan et al., 2019; Born and Peifer, 2011). Conventional economic models (e.g., precautionary saving motive and Hartman-Abel effects) explain how risk and uncertainty affect corporate policies (Leland, 1968; Hartman, 1972; Abel, 1983). For instance, Leland (1968), in his precautionary saving theory, posits the unwillingness of corporate officers to increase spending in an uncertain economic period. In contrast, Hartman-Abel effects theorise an increasing relationship among capital demands and investment activity in their uncertainty - general equilibrium model (Abel, 1983; Hartman, 1972).

Following this, a body of research explores how risk and uncertainty streaming from the political system affect an economy and corporate investment decisions. At the macroeconomic level, evidence shows that policy uncertainty affects employment growth, gross domestic product, trade and investment, production (Baker et al., 2016; Koijen et al., 2016), and international capital flows (Mueller, Tahbaz-Salehi and Vedolin, 2017). Similarly, studies (e.g., Pan, Wang and Yang, 2019; Waisman, Ye and Zhu, 2015; Im, Kang and Shon, 2020) document that political risk influences capital structure decisions and cost of debt at firm level. Using political elections as a proxy for political risk, Julio and Yook (2012) and Pastor and Veronesi (2012) document that political risk exacerbates information asymmetry between investors and firms, making it difficult for firms to forecast cash flows, and hence increasing liquidity risk. Grounded in the above argument, Cao et al. (2013) contend that creditors who are uncertain about the cash flows of firms due to political risk may provide less credit and, when they do so, at a higher rate of return, leading to a higher

borrowing cost. Consequently, the option for firms to postpone their investments becomes more valuable during periods of political uncertainty. Thus, political uncertainty raises the placement costs of securities for financial intermediaries and increases the issuance costs for new equity and debt capital, thereby leading to lower debt ratios (Colak et al., 2018). Other authors disagree and suggest that firms operating in politically risky environments use more debt financing (Kesternich and Schnitzer, 2010). Novaes and Werlang (2002) find that foreign affiliates in Brazil have higher debt ratios than their Brazilian counterparts and that Brazil's political risk drives the difference. In terms of the speed of adjustment, evidence shows that firms need more time to adjust their leverage debt ratios towards targets in the periods of political uncertainty (Cao et al., 2013; Pan, Wang and Yang, 2019). Using international data, Gungoraydinoglu, Çolak and Öztekin (2017) have rendered some support for this conclusion and shown that the speed of leverage adjustment is slower for firms facing high political uncertainty.

Regarding debt maturity, theoretical models indicate that liquidity risk is one of the key determinants of a firm's choice of debt maturity (Diamond, 1991; Dang, 2010). As pointed out earlier, political risk heightens information asymmetry and creates uncertain changes in a firm's cash flows, leading to refinancing problems for the firm (Diamond, 1991). For example, as firms using short-term debts must roll over debt more frequently, credit supply tends to be sensitive to external shocks caused by political risks. As a result, firms are more likely to reduce short-term debt when political risk is high (Alfaro, Bloom & Lin, 2018). From this standpoint, Diamond (1991) argues that a firm's short-term debt maturity strategy creates liquidity risk, especially for financially inflexible firms. Thus, political risk has differential effects on debt maturity choice. For long-term financing, Julio and Yook (2012) show that corporate investment declines during periods of political uncertainty and thus firms' demand for long-term financing also decreases. In

contrast, Chen et al. (2021) document that firms with higher risk exposure use longer maturity debt and that their debt maturity is often procyclical. Mian and Santos (2018) also show that firms with syndicated loans tend to actively manage their loan maturity before the financial crisis through early refinancing of outstanding loans.

Taken together, evidence suggests that the effects of political risk on leverage and debt maturity choice appear inconclusive and remain an empirical question. This may be attributed to the different political uncertainty measures employed in these studies. Unlike prior studies, we use the firm's specific political risk measure (Hassan et al., 2019) to examine how firms strategically use debt, particularly given the behavioural imbalances often associated with managerial debt decision-making (Fama, 1980).

2.2. Firm-level political risk and debt structure

Recent evidence suggests that a firm's debt composition type affects its value (Giannetti, 2019). In their model, Colla et al. (2013) assert that higher bankruptcy costs, limited access to debt markets, lowering the cost of bankruptcy, collection costs reduction, and monitoring benefits influence a firm's debt specialisation policy. They conclude that small and opaque firms tend to rely on fewer types of debt, while large and profitable firms borrow from multiple sources of debt. Similarly, Rauh and Sufi (2010) find that high-creditworthy firms tend to use few tiers of capital, whereas low-creditworthy firms tend to use several tiers of capital. Hence, managers strategically manage multiple bond issues with different time maturities to mitigate rollover risk and debt overhang (Choi et al., 2021).

Yet relatively little attention has been given to how political risk affects debt specialisation (e.g., Francis et al., 2014). It is argued that firms with political risk use more private borrowing (Francis

et al., 2014) and pay higher corporate bond rates (Waisman et al., 2015). Therefore, given that a firm with more bank loan composition lessens its risk profile, i.e., monitoring role and financial covenants imposition (Diamond, 1989; Almeida et al., 2011), it is highly probable that a firm with differing political risk may adopt a different degree of debt specialisation. It is important to point out that debt structure is an important dimension of capital structure (Rauh and Sufi, 2010; Colla et al., 2013). We therefore analyse how firm political risk impacts the proportion of bank debt and public debt in addition to debt specialisation to provide more insights into overall corporate leverage decisions.

3. Data and Methodology

3.1. Data and variables

3.1.1 Data

Our sample is drawn from firms in the Compustat North American database for the period 2002-2019. We also obtain debt structure data from Capital IQ. The choice of 2002-2019 as a sample period is driven by the availability of firm-level political risk data which starts from 2002. Moreover, the last two decades, starting from the year 2000, have witnessed increased incidence of political risk in the US, making the period under investigation suitable for our empirical analysis. Investors seek to understand the level of firms' exposure to political risks during investor conference calls. Our measure of firm-level political risk is based on the data provided by Hassan et al. (2020).[2] We exclude financial firms (Standard Industrial Classification (SIC) codes 6000-6999), utilities (SIC codes 4900-4999), and quasi-public firms (SIC codes greater than 8999) since these firms are regulated differently and have different capital structure from non-financial firms. Thus, we use data from only listed non-financial firms for our analysis. We then winsorise all

[2] The data is available from https://www.firmlevelrisk.com

variables at the upper and bottom 1% to reduce the effects of outliers. Finally, we remove firm-year observations with total leverage values outside the range of negative one and positive one. This filtering gives a total sample of 42,118 firm-year observations for 4,562 firms.

3.1.2 Measurement of variables

Leverage: We measure leverage as market leverage, which we compute as the ratio of total debt (long-term debt plus short-term debt) to total market value (long-term debt plus short-term debt plus market value of equity). We partition total market leverage into short-term and long-term leverage by computing the ratio of short-term debt and long-term debt to total market value. As a robustness test, we also use book leverage and compute this as the ratio of total debt to the total book value of the firm (see Welch, 2011; Gyimah et al. 2021). Using book leverage allows us to test whether the choice of leverage measure influences our results.

Debt maturity: Our primary measure of debt maturity is the proportion of debt due in more than three years (*ldebt3y*). This measure of debt maturity is consistent with the literature that uses debt maturing after three years as long-term debt share of total debt (see Chen et al. 2021). We follow Chen et al. (2021) and exploit the Compustat information on the amount of debt in six maturity categories: a debt due in less than one year (*dlc*), which is the sum of long-term debt due in one year (*dd*1) and other short-term debt; debt due in years two to five (*dd*2, *dd*3, *dd*4, and *dd*5). This debt maturity data indicates that debt due in more than three years is computed as a long-term debt due in more than one year (*dltt*) minus the sum of long-term debt due in years two and three (*dd*2 + *dd*3) divided by the total debt (*dlc*+*dltt*). For robustness, we adopt an analogous approach to estimate debt due within one year (*sdebt*), more than one year (*ldebt1y*), two years (*ldebt2y*), four years (*ldebt4y*), and five years (*ldebt5y*).

Debt structure: We follow Colla et al. (2013) and define a firm's debt structure using Capital IQ debt-type data.[3] Capital IQ decomposes total debt into seven mutually exclusive debt types: commercial paper (*CP*), drawn credit lines (*DC*), term loans (*TL*), senior bonds and notes (*SBN*), subordinated bonds and notes (*SUB*), capital leases (*CL*), and other debt (*Other*). A firm's degree of debt specialisation is computed as the Herfindahl-Hirschman Index (*HHI*) of the debt types. We first computed the sum of squared debt-type ratios as follows:

$$SS_{it} = \left(\frac{CP_{it}}{TD_{it}}\right)^2 + \left(\frac{DC_{it}}{TD_{it}}\right)^2 + \left(\frac{TL_{it}}{TD_{it}}\right)^2 + \left(\frac{SBN_{it}}{TD_{it}}\right)^2 + \left(\frac{SUB_{it}}{TD_{it}}\right)^2 + \left(\frac{CL_{it}}{TD_{it}}\right)^2 + \left(\frac{Other_{it}}{TD_{it}}\right)^2 \quad (1)$$

where SS_{it} is the sum of the squared debt-type ratios for firm *i* in year *t*; the debt types are commercial paper (*CP*), drawn credit lines (*DC*), term loans (*TL*), senior bonds and notes (*SBN*), subordinated bonds and notes (*SUB*), capital leases (*CL*), and other debt (*Other*); and *TD* refers to total debt. *HHI* is then defined as follows:

$$HHI_{it} = \frac{SS_{it} - 1/7}{1 - 1/7} \quad (2)$$

If a firm employs exclusively one single debt type, *HHI* equals one, while, if a firm simultaneously employs all seven debt types in equal proportion, *HHI* equals zero. Higher *HHI* values indicate firms' tendency to specialise in fewer debt types. As an alternative measure of debt specialisation to *HHI*, we define for firm *i* in year *t* the dummy variable *Excl90* as follows:

Excl90 equals 1 if a firm obtains at least 90% of its debt from one debt type, and 0 otherwise.

We also compute the proportion of bank and public debt of the total debt. Bank debt is the sum of term loans (*TL*) and drawn credit lines (*DC*) divided by total debt (*TD*). Public debt is the ratio of

[3] Giannetti (2019) uses a similar approach to determine the debt structure of European non-financial firms.

the sum of commercial paper (*CP*), senior bonds and notes (*SBN*), and subordinated bonds and notes (*SUB*) to total debt (*TD*).

Firm-level political risk: We employ a new measure of firm-level political risk (*PRisk*) developed by Hassan et al. (2019). In their study, Hassan et al. (2019) used textual analysis on transcripts of US listed firms' quarterly earnings conference calls to develop their novel measure of firm-level political risk faced by individual US firms. Following a pattern-based sequence-classification method developed in computational linguistics (Song and Wu, 2008; Manning et al., 2008), they distinguish political from non-political topics. The textual analysis of conversations between call participants and firm management centres on risks associated with political matters, using synonyms of words like 'risk' and 'uncertainty'. In other words, this measure of firm-level political risk uses text generated by decision-makers within firms rather than newspaper articles or financial indicators.

Thus, unlike studies that use newspaper articles to measure risks (Baker et al., 2016; Koijen et a., 2016), this measure uses conference calls as a natural context to relate the risks firms face directly and investors' views of them. Hassan et al. (2019) interpreted this as a proxy for the political risk and uncertainty firms face. According to them, political decision-making affects the economy through aggregate political risk and by leading to idiosyncratic political risk. More importantly, the empirical evidence suggests that firm-level political risks affect corporate outcomes, such as stock return volatility (Hassan et al., 2019), investment and employment growth (e.g., Bloom et al., 2007), and corporate social responsibility (Chatjuthamard et al., 2021).

3.1.3 Control variables:

Finally, consistent with prior empirical studies on capital structure (e.g., Chen et al., 2021; Gyimah et al., 2021), we control for several firm characteristics in our main regressions. These control variables are industry leverage, market-to-book ratio (MB ratio), firm size, dividends ratio, cash flow, asset tangibility, asset maturity, return on assets, and capital expenditure. Appendix A provides information about the definitions of these variables.

3.2 Summary statistics and bivariate correlations

We show the time variations in firm-level political risk over the sample period. Figure 1 shows significant variations in firm-level political risk, with increases in both mean and median firm-level political risk especially during election years. Table 1 reports the summary statistics of firm-specific variables used in the regression models. As shown in the table, the mean value of market leverage is 21.1%, out of which 3.4% and 17.7% represent short-term and long-term leverage ratios, respectively, and that of book leverage is 22.7%. This result indicates that firms utilise more long-term than short-term debt financing. Our results further show that 21.4% of total debt matures within one year compared to 78.6% of the debt maturing after one year. Of the debt maturity beyond one year, 60.2% is due after more than three years, with less than 50% due after more than five years. These results indicate that most of the debt matures within the first five years. In terms of debt structure, we find that firms prefer to specialise in fewer debt types, as evidenced by the high *HHI* value of 0.718; about 40.2% of the observations represent firms obtaining at least 90% of the total debt from a single debt type. That is, firms are generally more inclined to specialise when obtaining debt financing. We also report that about 41.8% of the total debt is from bank debt,

whereas 46.3% comes from public debt. The lower bank debt reduces the monitoring effects from bank debt (Diamond, 1991; Johnson, 1998; Datta et al., 1999).

[Figure 1 about here]

[Table 1 about here]

The mean values of political and non-political risks suggest that firms experience more non-political risk (6.144) than political risk (4.128). However, the effects of political risk on corporate outcomes are not inconsequential (e.g., Bernanke, 1983; Bloom et al., 2007; Baker et al., 2016; Hassan et al. 2019). The industry leverage ratio is about 15.5%, which compares with the firm average market leverage. The average market-to-book ratio is 1.981, and firm size (ln(Assets)) is 6.940. Dividend payments represent about 1.4% of total assets, cash flow represents 4.2% of total assets, and tangible assets constitute 52.9% of total assets. It takes about four years for assets to mature, and the return on assets is 1.4%. The mean capital expenditure is 5.0% of total assets. The correlations among the different leverage ratios, debt maturity, debt structure, the measure of political risks, and control variables are reported in Table 2. Further, the average variance inflation factor (VIF) procedure confirms that multicollinearity is not a problem in this study as the average VIF for the variables is less than a threshold of 10 (Wooldridge, 2016).

[Table 2 about here]

3.3. Model specification

We test for the impact of firm-level political risks on leverage ratio, debt maturity and debt specialisation using panel regressions with the following general specification:

$$Debt_{it} = \beta_0 + \beta_1 PRisk_{it} + \beta_2 X_{it-1} + \mu_t + \mu_j + \varepsilon_{it} \quad (3)$$

where $Debt_{it}$ is the leverage ratio (market leverage and book leverage), debt maturity (long-term debt share (*ldebt3y*)), and debt structure (debt specialisation) for firm *i* in year *t*; $PRisk_{it}$ is the proxy for firm-level political risk; $X_{it\text{-}1}$ represents firm-specific controls, comprising industry leverage, market-to-book ratio (MB ratio), firm size, dividends ratio, cash flow, asset tangibility, asset maturity, return on assets, and capital expenditure. Following the literature, we lag the independent and control variables by one year in the regressions. Finally, μ_t and μ_j are the controls for year and industry fixed effects (3-digit SIC), and ε_{it} is the firm-year specific error term.

3.4. Test of cross-dependence

Before estimating our specified model using the OLS estimator, we first perform a test to determine if indeed our variables (i.e., debt, debt maturity, debt specialisation and political risk) of interest are not affected by non-stationarity bias, given our large number of observations across time and cross-section dimensions. This is important for the following two reasons. First, cross dependence between the units violates the basic OLS assumption of an independent and identically distributed error term. Secondly, endogeneity problems can arise from high error terms, leading to inconsistent estimates (Pesaran, 2015). Given that endogeneity is a central issue for corporate empiricists (Hovakimian and Li, 2011; Iliev and Welch, 2010), and the long years of data coverage, it is essential to evaluate the likelihood of cross-sectional dependence among the units.

To achieve this, we adopt a technique developed by Pesaran (2015), which assumes that the correlation between units at each point in time converges to zero as the number of cross sections goes to infinity (weak cross-sectional dependence). It rests on the assumption that the error term (or variable) is weakly cross-sectional dependent, implying that the correlation between an observation of unit *i* in time *t* and unit *j* in time t is zero. In other words, it suggests that the null of

weak dependence is more appropriate than the null of independence for large observation (*N)* panels (Chudik and Pesaran, 2015). Specifically, we perform the cross-dependence (CD) test proposed by Pesaran (2015) (thus applying xtcd2 STATA 17 code to the key variables) to see if the variables or units are weakly cross-sectional dependent (with an alternative hypothesis of strong cross-sectional dependence where CD ranges from 0.7 to 1) (Bailey et al. 2012). Our test statistics show that the variables are weakly dependent (i.e., leverage shows CD = 0.000 with p-value = 1.000, debt maturity shows CD = 0.000 with p-value 1.000, debt specialisation shows CD = 0.000 with p-value = 1.000 and political risk shows CD = 0.000 with p-value = 1.000). In short, the CD results confirm that our variables of interest are stationary and that our chosen specification is robust enough to analyse the panel dataset.

4. Results and discussion

This section presents evidence on the impact of firm-level political risk on a firm's leverage levels, debt maturity, and debt specialisation or structure. In the further analysis and robustness tests, we examine how firm-level political risk impacts a firm's speed of adjustment to target leverage ratio and use alternative estimation models to address endogeneity concerns associated with the measure of firm-level political risk.

4.1. Firm-level political risks and leverage ratio

Table 3 reports estimates of Eq. (1), which tests the relationship between firm-level political risk and leverage ratio. Prior evidence suggests that country-level political risk influences a firm's capital structure (Kesternich & Schnitzer, 2010; King et al., 2021). For example, Kesternich and Schnitzer (2010) argue that political risk streaming from increased bankruptcy risk due to expropriation reduces leverage ratio. In contrast, firms can increase leverage ratio to neutralise the

negative effects of political risk from discriminatory or confiscatory taxation. However, unlike these studies that focus on country-level political risk, we examine the effects of firm-level political risk on optimal capital structure. Hassan et al. (2019) argue that firm-level political risk significantly correlates with firm outcomes.

[Table 3 about here]

The dependent variable in Table 3 is (total) market leverage (columns 1 and 2), which is divided into short-term leverage (columns 3 and 4) and long-term leverage (columns 5 and 6). Our independent variable is the measure of firm-level political risk; we also control for a firm's non-political risk in alternative regression models (columns (2), (4), and (6)). We include several control variables in the regression estimations, including industry leverage, market-to-book ratio, firm size (ln(Assets)), dividend payments, cash flow, asset tangibility, asset maturity, return on assets, and capital expenditure. All the regression estimations also include industry and year fixed effects.

We find a statistically significant negative coefficient for firm-level political risk with or without the control for non-political risk (Columns (1) & (2)). This result indicates that total market leverage decreases as a result of an increase in firm-level political risk. We find similar negative effects of firm-level political risk on long-term leverage ratios but no significant effects on short-term leverage.

The negative effect of firm-level political risk on corporate leverage is consistent with the findings by Pan, Wang and Yang (2019), who report a negative association between political uncertainty and debt maturity and leverage, especially for firms with greater reversible investment and lower

credit ratings. Thus, political risk might increase borrowing costs, leading firms to decrease debt financing. For example, Waisman et al. (2015) find that US presidential elections are associated with a 34 basis points increase in corporate debt financing costs. Therefore, firms facing significant political risks may be more inclined to reduce their leverage to avoid the high costs of debt financing. Moreover, Bernanke (1983) and Hassan et al. (2019) argue that firm-level political risk correlates with long-term firm-level outcomes such as employment and capital expenditure, whereas King et al. (2021) report that political risk intensifies the disciplinary impact of leverage and forces firms to curtail FDI projects. In that spirit, our results suggest that firm-level political risk negatively impacts a firm's long-term capital structure.

We also find that industry leverage positively affects a firm's leverage ratio, and the market-to-book ratio has a negative relationship with the leverage ratio. Large firms that have higher cash flows and tangible assets report higher leverage ratios. Profitability is associated with negative leverage. Overall, our findings in Table 3 highlight the argument that firm-level political risk significantly influences a firm's capital structure, with the effect being significant for total and long-term debt but insignificant for short-term leverage. These effects hold after controlling for non-political risk, control variables, and year and industry fixed effects.

4.2. Firm-level political risks and debt maturity

Next, we consider whether a firm's debt maturity depends on its level of political risk. We use three measures to proxy for debt maturity: debt due within one year (Debt due <1y), debt due more than one year (Debt due >1y), and debt due more than three years (Debt due >3y). There are two competing arguments for managerial debt maturity choice. On the one hand, short-maturity debt creates liquidity risk (repayment risks) to refinance when they fall due (Diamond, 1991; Berger et

al., 2005). On the other hand, short-term debt provides leverage readjustment flexibility to overcome the leverage ratchet effect (Geelen, 2016; Admati et al., 2018). Chen et al. (2021) observe that debt maturity is procyclical and that firms with higher systematic risk exposure choose longer debt maturity to attenuate financial distress during bad times. We expect firm-level political risk, an idiosyncratic risk, to influence a firm's debt maturity choice.

Table 4 reports the results of the influence of firm-level political risk on debt maturity for debt due within one year (columns (1) and (2)), debt due more than one year (columns (3) and (4)), and debt due more than three years (columns (5) and (6)). First, we find a significantly positive effect of firm-level political risk on debt due within one year. A possible explanation may be that firms that report high political risk are more likely to prefer short-term debt maturity. The results in columns (3)-(6) show that high political risk is associated with a significant negative long debt maturity. Thus, firms are more inclined to choose short-maturity debt when facing high political risk. Our results remain the same whether or not we control for firm-level non-political risk, which negatively (positively) affects short (long) debt maturity. These findings indicate a trade-off between a borrower's preference for short-term debt and long-term debt due to firm-level political risk. For brevity, we do not analyse the control variables.

[Table 4 about here]

We interpret our findings in the context of Diamond (1991), who argues that debt maturity choice depends on a firm's private information about its future credit rating. Political risk has a significant impact on a firm's credit ratings. For example, Bhandari and Golden (2021) assert that a CEO's political ideology tracks his/her firm's credit ratings. High political risk increases a firm's

idiosyncratic risk exposure. Short maturity debt allows the firm to minimise adverse selection costs (Mitchell, 1991). Hence, high firm-level political risk is associated with high short-maturity debt and low long-maturity debt. Overall, our findings suggest that corporate debt maturity choice depends on a firm's level of political risk.

4.3. Firm-level political risks and debt specialisation

In Table 5, we analyse whether political risk drives a firm to specialise in fewer debt types or diversify across multiple debt types. There are varied reasons for debt specialisation, including when a firm already has higher bankruptcy costs and lacks access to some segments of the debt markets (Colla et al., 2013). However, debt specialisation provides economic benefits by lowering bankruptcy costs, reducing collection costs, and enhancing monitoring incentives (Colla et al., 2013).

[Table 5 about here]

Columns (1) and (2) of the table show that firm-level political risk is positively related to debt specialisation. In other words, firms tend to adopt fewer debt types when they face high political risk. The result in Column (2), which relates to a situation where a firm uses at least 90% of its debt from one source, indicates a strong preference for a high degree of debt specialisation due to political risk. In Column (3), the coefficient of political risk is significantly negatively related to the proportion of bank debt. When a firm uses lower bank debt when facing high political risk, this minimises the monitoring effects from bank debt (Diamond, 1991; Johnson, 1998; Datta et al., 1999). We do not find any significant effect of political risk on the proportion of public debt, as

shown in Column (4). Overall, we shed light on the relationship between firm-level political risk and the debt structure and these findings are consistent with the position of Francis et al. (2014) and Colla et al. (2013).

4.4 Firm-level political risk and leverage adjustment

In this section, we explore whether firm-level political risk influences the speed of adjustment to capital structure. We follow prior studies and adopt two approaches to determine the speed of adjustment (Chang et al., 2014; Gyimah et al., 2021): a two-stage model and a reduced-form model.

Using the two-stage model, we first estimate the first-stage model to determine each firm's target leverage ratio (Lev^{*}_{it+1}), which is the fitted value of the regression using Eq. (2). This target leverage may vary over time.

$$Lev_{it+1} = \beta_1 PRisk_{it} + \beta_i Cont_{it} + \upsilon_{1,it+1}, \quad (4)$$

where Lev_{it+1} is one-year forward market leverage; $PRisk_{it}$ is the proxy for firm-level political risk; $Cont_{it}$ is the vector of firm variables; $\upsilon_{1,it+1}$ is the disturbance term with a zero mean and constant variance, and it is uncorrelated with the regressors; and β_1 is an unknown parameter. We also control for industry and year fixed effects.

In the second stage, we estimate a partial adjustment model (see Fama and French, 1997) to analyse how rapidly firms adjust from their current leverage to their target leverage decisions in the presence of political risk. In the presence of adjustment costs, firms would not adjust their leverage ratios fully and continuously. The standard partial adjustment model is as follows:

$$Lev_{it+1} - Lev_{it} = \delta(Lev^{*}_{it+1} - Lev_{it}) + \upsilon_{2,it+1}, \quad (5)$$

where $\upsilon_{2,it+1}$ is the disturbance term uncorrelated with the regressors; and δ represents the leverage adjustment speed, deviating away from the firm's next-period target leverage. δ lies between 0 and 1, with a value of $\delta = 1$ indicating that the firm fully adjusts for any deviation away from its target leverage immediately, and $\delta < 1$ implying persistent, undesired leverage ratios in the presence of adjustment costs. The gap between the desired and actual leverage levels should decrease over time, provided δ is greater than zero.

The reduced-form dynamic partial adjustment capital structure model is defined in Eq. (4) by substituting Eq. (2) into Eq. (3) (see Chang et al., 2014). The reduced-form dynamic partial adjustment model as follows:

$$Lev_{it+1} = \delta\beta_1 PRisk_{it} + \delta\beta_i Cont_{it} + (1-\delta)Lev_{it} + \varepsilon_{1,it+1}, \quad (6)$$

where equation, $\varepsilon_{1,it+1}$ is the error term uncorrelated with the regressors; and the coefficient on the lagged leverage ratio is (1-δ), where δ is the proportion of deviation from target leverage adjusted from period *t* to period *t*+1. Because the lagged dependent variable is usually correlated with the error term, we first regress Lev_{it} on the lagged market leverage and the control variables from Eq. (2). The variable Lev_{it} on the right-hand side of Eq. (4) can then be substituted for by its fitted value (Lev^{*}_{it+1}). We include industry fixed effects to mitigate biased estimates associated with the models of adjustment speed. Similarly, year fixed effects absorb any omitted time-varying influences on capital structure.

Table 6 reports the results of the two-stage model (Panel A) and reduced-form model (Panel B). We partition the sample into two according to the median value of the political risk measure and run separate regressions for low political risk subsample (columns (1)-(3)) and high political risk subsample (columns (4)-(6)). In addition, we split the sample further into low (columns (2) and (5) and high (columns (3) and (6)) leverage, after running the analysis for the total leverage in

columns (1) and (4). In Panel A, the independent variable (deviation from target) measures the speed of adjustment to target leverage. The results indicate that high political risk (column (4)) is associated with a faster speed of adjustment to target whereas firms with low political risk (Column 1) slow down leverage adjustment, suggesting that high political risk increases the speed at which firms adjust their leverage to the desired level. The findings are at variance with the results of Colak, Gungoraydinoglu and Oztenkin (2018), who found high uncertainty to slow down firms' adjustment towards their optimal capital structure.

[Table 6 about here]

We find similar results when estimating the speed of adjustment from the reduced-form model. Here, the variable of interest is 1-δ, where a lower value indicates a faster speed of adjustment and vice versa. Generally, firm-level political risk is positively related to the speed of adjustment to target leverage. Again, compared to low political risk, firms with high political risk report lower coefficients of 1-δ, indicating that the value of δ is higher. This implies that firms with high political risk have a faster speed of adjustment, especially when they are highly leveraged. Our findings suggest that firm-level political risk explains the differences in the leverage ratio and the speed of adjustment to the target leverage ratio.

5. Robustness checks

5.1 Alternative estimations and addressing endogeneity concerns

In Table 7, we estimate a two-part zero-inflated fractional regression model (Ramalho et al., 2011) to analyse the extent to which firms use debt (Strebulaev & Yang, 2013). Using a two-part zero-

inflated fractional regression model captures the possibility that some firms are all-equity firms with zero leverage. Our baseline censored or linear regression ignores this critical distinction.

[Table 7 about here]

The results in columns (1)-(3) are the estimates of the first-part logit regression, testing the decision to use debt financing. The negative coefficients of firm-level political risk provide some evidence that political risk is associated with the decision to use debt financing. Thus, political risk decreases the likelihood of using both short-term and long-term leverage.

The results for the second part GLS regression, which estimates how much debt a firm uses given the decision to use debt, are shown in columns (4)-(6). Similar to the baseline results in Table 3, firm-level political risk is negatively related to total leverage and long-term leverage, emphasising the evidence that firms with significant political risk exposure tend to use less long-term leverage. Thus, the results show that firms use less long-term leverage when facing political risk exposure, which might increase the flexibility to readjust leverage. We find no significant impact of firm-level political risk on short-term leverage.

Next, we run two alternative instrumental variables estimations – IV-2SLS and IV-GMM – to address endogeneity concerns associated with our firm-level political risk measure. Our instrument is the industry average political risk, which satisfies both the relevance and exclusion restriction conditions. Since firm-level political risks are idiosyncratic, the industry political risk will likely influence a firm's own political risk but not its capital structure. Table 8 provides the results for the IV-2SLS in columns (1)-(3) and IV-GMM in columns (4)-(6). We include the control variables as in the baseline regression models and both year and industry fixed effects.

[Table 8 about here]

The significant negative coefficients of firm-level political risk in columns (1) and (3) for IV-2SLS and columns (4) and (6) for the IV-GMM regressions confirm our baseline findings that political risk is associated with lower leverage ratios. We also find no significant relationship between political risk and short-term leverage. This evidence is consistent with the argument in the extant literature that long-term leverage exacerbates costs of leverage readjustment (Geelen, 2016; Admati et al., 2018). The results also imply that firms facing high political risk use long-term leverage to minimise the leverage readjustment costs. Thus, our baseline results are robust to controlling for endogeneity concerns associated with the measure of firm-level political risk.

We re-run our baseline model using book leverage as the dependent variable and report the results in Table 9. The coefficients of the proxies for firm-level political risk are significantly negative in the regressions for total leverage and long-term leverage. Similarly, we find no evidence that political risk influences a firm's use of short-term leverage. Overall, we confirm our earlier results that firm-level political risk is associated with decreases in leverage ratios.

[Table 9 about here]

5.2 Controlling for financial crisis and political elections

Studies such as Norden and van Kampen (2013) argue that the financial crisis impacted the relationship between asset collateral and corporate leverage. Similarly, political environment and

political elections affect the leverage decisions of firms. For example, Schwarz et al. (2021) report that higher economic policy uncertainty increases corporate leverage and Belghitar et al. (2019) find that political connections influence a firm's financial decisions, including its leverage decisions.

We account for the possibility that our baseline results might be driven by the financial crisis (using a dummy variable that equals 1 for the period 2007-2009 and 0 otherwise) and political elections (a dummy variable that equals 1 for years in which there was an election and 0 otherwise). First, we include these crisis and elections dummies as additional control variables in our regression analysis. We report the results in Table 10. The baseline result of firm-level political risks remains negatively significant. We further examine the interaction between firm-level political risk and financial crisis on the one hand, and elections on the other hand. The coefficients of the interaction terms are not significant. Crucially, however, the coefficient of firm-level political risk remains significantly negative. These results indicate that financial crisis and political elections do not drive the results.

[Table 10 about here]

6. Conclusion

In this study, we examine how firm-level political risk affects leverage and the speed of adjustment to target of 4,562 US firms over the period 2002-2019. We find firm-level political risk to exert a negative and significant impact on a firm's total and long-term leverage, suggesting that firms with a high-level political risk are more likely to reduce their reliance on total and long-term debt. We also find that firms facing high political risk tend to prefer debts with short-term maturity, perhaps

to minimise adverse selection costs (Mitchell, 1991) and readjust leverage (Geelen, 2016; Admati et al., 2018). Our results also show that firm-level political risk is positively related to debt specialisation, indicating that firms are more inclined to adopt fewer debt types when they face high political risk. Further analysis reveals that firms with high political risk are associated with a faster speed of adjustment to target whereas low political risk slows down firms' adjustment to target capital structure.

The findings of this study highlight the role of idiosyncratic political risk in influencing one of the key strategic decisions of firms (i.e., capital structure). One important implication of the results of our study is that firms with high political risk tend to reduce total and long-term debt and have a preference for debts with short-term maturity. Another implication is that high firm-level political risk tends to accelerate the speed of leverage adjustment to desired level of debt ratio, which may be important to minimise cost of debt. This study enriches political risk and corporate investment decision discourse by using a political risk measure which is directly related to the focal firms, thereby increasing the reliability of the results for policy making. Moreover, the findings of our study yield fresh insights on how firm-level political risk affect a firm's debt maturity choice, leverage, debt specialisation and leverage adjustment to target capital structure. Overall, the results from this study are consistent with the notion that firm-level political risk has detrimental implications on firms' financing decisions (King et al., 2021; Pan, Wang and Yang, 2019) and this is likely to impede their investment agendas. More broadly, our study provides practical implications both for the field of study and regulators by highlighting the importance of firm-level political risk in corporate decisions and behaviours.

Despite the important contributions of this study, it is pertinent to point out that the study focuses on just a single country (USA) and we suggest that further studies should investigate firm-level

political risk and corporate debt dynamics from the perspective of multiple countries to foster more understanding on how political risks affect firms around the globe.

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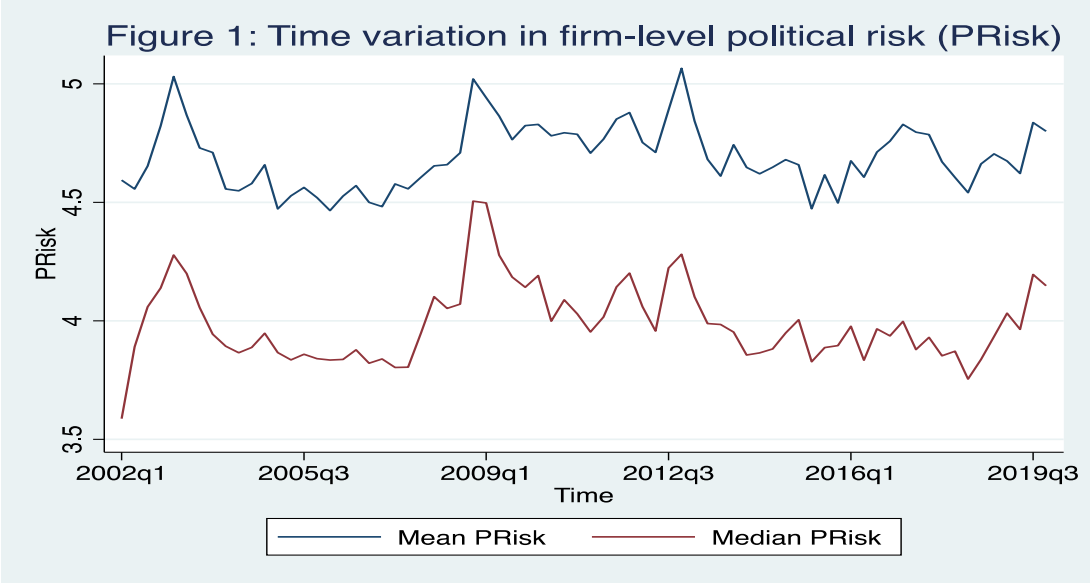
Figure 1: Time variation in firm-level political risk (PRisk)
PRisk
3.5
4
4.5
5
2002q1
2005q3
2009q1
2012q3
2016q1
2019q3
Time
Mean PRisk
Median PRisk

Table 1: Summary Statistics

The table provides summary statistics for firm characteristics. The sample is drawn from the Compustat North America Database over the period 2002-2019. The final sample is made up of 42,118 firm-year observations for 4,562 firms. All the variables are defined in Appendix A.

Variables	*N*	Mean	SD	Min	Median	Max
Leverage ratios						
Market leverage	42,118	0.211	0.223	0.000	0.148	1.000
Short-term debt	42,118	0.034	0.088	0.000	0.005	0.999
Long-term debt	42,118	0.177	0.201	0.000	0.115	1.000
Book leverage	42,118	0.227	0.207	0.000	0.199	0.998
Debt maturity						
Debt due <1y (*sdebt*)	35,518	0.214	0.291	0.000	0.081	1.000
Debt due >1y (*ldebt1y*)	35,518	0.786	0.291	0.000	0.919	1.000
Debt due >2y (*ldebt2y*)	35,277	0.689	0.336	0.000	0.823	1.000
Debt due >3y (*ldebt3y*)	34,279	0.602	0.356	0.000	0.706	1.000
Debt due >4y (*ldebt4y*)	33,130	0.511	0.364	0.000	0.565	1.000
Debt due >5y (*ldebt5y*)	31,903	0.417	0.359	0.000	0.402	1.000
Debt structure						
Debt specialisation	31,808	0.718	0.265	0.062	0.771	1.000
90% HHI	31,808	0.402	0.490	0.000	0.000	1.000
Bank debt	31,808	0.418	0.407	0.000	0.290	1.000
Public debt	31,808	0.463	0.413	0.000	0.473	1.000
Political risk						
Political risk	42,118	4.128	1.225	0.000	4.264	8.657
Non-political risk	42,118	6.144	1.225	0.000	6.291	10.225
Firm variables						
Industry leverage	42,118	0.155	0.120	0.008	0.129	0.761
MB ratio	42,118	1.981	1.361	0.518	1.562	10.898
Firm size	42,118	6.940	2.026	0.002	6.865	13.221
Dividends	42,118	0.014	0.039	0.000	0.000	0.978
Cash flow	42,118	0.042	0.167	-0.981	0.077	0.949
Tangibility	42,118	0.529	0.462	0.000	0.394	10.433
Asset maturity	42,118	4.428	5.280	0.367	2.645	39.986
Return on assets	42,118	0.014	0.183	-0.998	0.050	0.965
Capital expenditure	42,118	0.050	0.056	0.000	0.032	0.984

Table 2: Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	VIF
Market leverage	1.00												
Political risk	-0.01***	1.00											1.49
Non-political risk	0.02***	0.52***	1.00										1.43
Industry leverage	0.46***	-0.03***	0.01**	1.00									9.59
MB ratio	-0.42***	0.02***	-0.04***	-0.27***	1.00								1.44
Firm size	0.27***	0.06***	0.04***	0.30***	-0.15***	1.00							1.70
Dividends	-0.06***	-0.01**	-0.01***	0.07***	0.13***	0.09***	1.00						1.12
Cash flow	-0.07***	-0.04***	0.01	0.15***	0.02***	0.37***	0.14***	1.00					2.01
Tangibility	0.30***	-0.02***	0.01*	0.43***	-0.19***	0.16***	0.07***	0.14***	1.00				2.26
Asset maturity	0.16***	0.05***	0.00	0.21***	-0.02***	0.13***	0.03***	-0.02***	0.27***	1.00			1.65
Return on assets	-0.14***	-0.03***	0.01*	0.10***	0.09***	0.36***	0.16***	0.96***	0.01*	-0.02***	1.00		1.43
Capital expenditure	0.11***	-0.02***	0.00	0.25***	-0.03***	0.11***	0.02***	0.16***	0.55***	0.26***	0.08***	1.00	1.92

Table 3: Political risk and market leverage

The table reports the regression results for the effects of firm-level political risk on leverage ratios. The dependent variable is market leverage - total leverage (Column (1)), short-term leverage (Column (2)), and long-term leverage (Column (3)). Our measure of firm-level political risk is based on the data provided by Hassan et al. (2020). Firm control variables, year and industry fixed effects are included. The sample consists of listed non-financial and non-utility firms in the US drawn from Compustat over the period 2002-2019. All variables used are defined in Appendix A and are winsorized at the lower and upper one percentiles. Numbers in parenthesis are the p-values associated with the null hypothesis that the coefficients equal zero. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Total leverage		Short-term leverage		Long-term leverage	
	(1)	(2)	(3)	(4)	(5)	(6)
Political risk	-0.005***	-0.006***	-0.000	0.000	-0.004***	-0.006***
	(0.000)	(0.000)	(0.742)	(0.496)	(0.000)	(0.000)
Non-political risk		0.002**		-0.001*		0.003***
		(0.011)		(0.055)		(0.000)
Industry leverage	0.587***	0.586***	0.115***	0.115***	0.472***	0.471***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
MB ratio	-0.037***	-0.037***	-0.008***	-0.008***	-0.029***	-0.029***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm size	0.022***	0.022***	0.001***	0.001***	0.021***	0.021***
	(0.000)	(0.000)	(0.004)	(0.004)	(0.000)	(0.000)
Dividends	-0.196***	-0.196***	-0.019	-0.019	-0.177***	-0.177***
	(0.000)	(0.000)	(0.118)	(0.115)	(0.000)	(0.000)
Cash flow	0.368***	0.368***	-0.039**	-0.038**	0.406***	0.406***
	(0.000)	(0.000)	(0.049)	(0.049)	(0.000)	(0.000)
Tangibility	0.046***	0.046***	0.016***	0.016***	0.030***	0.029***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Asset maturity	0.001***	0.001***	-0.000***	-0.000***	0.002***	0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Return on assets	-0.575***	-0.575***	-0.038**	-0.038**	-0.537***	-0.537***
	(0.000)	(0.000)	(0.034)	(0.034)	(0.000)	(0.000)
Capital expenditure	-0.254***	-0.253***	-0.048***	-0.048***	-0.206***	-0.206***
	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)
Constant	0.019	0.009	0.010	0.014	0.009	-0.004
	(0.479)	(0.730)	(0.252)	(0.116)	(0.714)	(0.865)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	42,118	42,118	42,118	42,118	42,118	42,118
Adjusted R^2	0.444	0.444	0.130	0.130	0.415	0.415

Table 4: Political risk and debt maturity

The table reports the regression results for the effects of firm-level political risk on debt maturity. The dependent variable is debt maturity for debt due within one year (Debt due<1y), debt due more than one year (Debt due>1y), and debt due more than three years (Debt due>3y). Our measure of firm-level political risk is based on the data provided by Hassan et al. (2020). Firm control variables, year and industry fixed effects are included. The sample consists of listed non-financial and non-utility firms in the US drawn from Compustat over the period 2002-2019. All variables used are defined in Appendix A and are winsorized at the lower and upper one percentiles. Numbers in parenthesis are the p-values associated with the null hypothesis that the coefficients equal zero. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Debt due <1y		Debt due >1y		Debt due >3y	
	(1)	(2)	(3)	(4)	(5)	(6)
Political risk	0.003**	0.006***	-0.003**	-0.006***	-0.002	-0.004**
	(0.030)	(0.000)	(0.030)	(0.000)	(0.235)	(0.021)
Non-political risk		-0.005***		0.005***		0.005**
		(0.001)		(0.001)		(0.012)
Industry leverage	0.091***	0.093***	-0.091***	-0.093***	-0.179***	-0.181***
	(0.006)	(0.005)	(0.006)	(0.005)	(0.000)	(0.000)
MB ratio	0.004**	0.004**	-0.004**	-0.004**	0.002	0.002
	(0.011)	(0.012)	(0.011)	(0.012)	(0.259)	(0.253)
Firm size	-0.036***	-0.036***	0.036***	0.036***	0.050***	0.050***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Dividends	0.090**	0.089**	-0.090**	-0.089**	-0.049	-0.048
	(0.040)	(0.043)	(0.040)	(0.043)	(0.335)	(0.345)
Cash flow	-0.246***	-0.246***	0.246***	0.246***	0.303***	0.302***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tangibility	0.014***	0.014***	-0.014***	-0.014***	-0.048***	-0.048***
	(0.006)	(0.005)	(0.006)	(0.005)	(0.000)	(0.000)
Asset maturity	-0.002***	-0.002***	0.002***	0.002***	0.003***	0.003***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Return on assets	0.184***	0.184***	-0.184***	-0.184***	-0.286***	-0.286***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Capital expenditure	-0.154***	-0.156***	0.154***	0.156***	0.240***	0.241***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.424***	0.447***	0.576***	0.553***	0.246***	0.226***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	35,518	35,518	35,518	35,518	34,279	34,279
Adjusted R^2	0.158	0.159	0.158	0.159	0.154	0.154

Table 5: Political risk and debt specialisation

The table reports the regression results for the effects of firm-level political risk on debt specialisation. The dependent variable is debt specialisation - the Herfindahl-Hirschman Index (*HHI*) of the debt types (Column (1)), *Excl90* - 90% HHI of debt from one debt type (Column (2)), proportion of bank debt (Column (3)), and proportion of public debt (Column (4)). Our measure of firm-level political risk is based on the data provided by Hassan et al. (2020). Firm control variables, year and industry fixed effects are included. The sample consists of listed non-financial and non-utility firms in the US drawn from Compustat over the period 2002-2019. All variables used are defined in Appendix A and are winsorized at the lower and upper one percentiles. Numbers in parenthesis are the p-values associated with the null hypothesis that the coefficients equal zero. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Debt specialisation	Excl90	Bank debt	Public debt
	(1)	(2)	(3)	(4)
Political risk	0.004***	0.037***	-0.005**	0.001
	(0.002)	(0.003)	(0.028)	(0.544)
Non-political risk	-0.000	-0.008	0.002	-0.000
	(0.994)	(0.499)	(0.398)	(0.996)
Industry leverage	-0.075**	-0.705**	0.047	0.072
	(0.032)	(0.033)	(0.343)	(0.142)
MB ratio	0.017***	0.151***	-0.035***	0.012***
	(0.000)	(0.000)	(0.000)	(0.000)
Firm size	-0.030***	-0.297***	-0.077***	0.097***
	(0.000)	(0.000)	(0.000)	(0.000)
Dividends	0.256***	1.766***	-0.079	0.205***
	(0.000)	(0.000)	(0.249)	(0.002)
Cash flow	-0.206***	-1.761***	-0.071	0.021
	(0.000)	(0.000)	(0.230)	(0.701)
Tangibility	-0.030***	-0.370***	-0.037***	0.039***
	(0.000)	(0.000)	(0.000)	(0.000)
Asset maturity	0.003***	0.023***	-0.002***	0.002***
	(0.000)	(0.000)	(0.000)	(0.000)
Return on assets	0.269***	2.466***	0.308***	-0.236***
	(0.000)	(0.000)	(0.000)	(0.000)
Capital expenditure	-0.114***	-1.126***	0.378***	-0.291***
	(0.001)	(0.000)	(0.000)	(0.000)
Constant	0.824***	0.490	0.986***	-0.251***
	(0.000)	(0.192)	(0.000)	(0.000)
Year dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Observations	31,826	31,735	31,811	31,823
Adjusted R^2	0.157		0.183	0.265
Pseudo R^2		0.126		

Table 6: Political risk and speed of leverage adjustment

The table reports the two-stage and reduced-form regression results for the speed of adjustment between DCs and MNCs. Panel A reports the 2nd stage regression of the two-stage model where the dependent variable is the change in market leverage. Panel B reports the results of the reduced-form model using the next-period market (total) leverage as the dependent variable. Our measure of firm-level political risk is based on the data provided by Hassan et al. (2020). Firm control variables, year and industry fixed effects are included. The sample consists of listed non-financial and non-utility firms in the US drawn from Compustat over the period 2002-2019. All variables used are defined in Appendix A and are winsorized at the lower and upper one percentiles. Numbers in parenthesis are the p-values associated with the null hypothesis that the coefficients equal zero. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: *Two-stage model*

	Low Political risk			High Political risk		
	Total	Low leverage	High leverage	Total	Low leverage	High leverage
	(1)	(2)	(3)	(4)	(5)	(6)
Deviation from target (δ)	0.135***	0.037**	0.222***	0.164***	0.066***	0.246***
	(0.000)	(0.014)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-0.006	-0.004	0.039	-0.043***	-0.018	-0.031
	(0.817)	(0.839)	(0.483)	(0.002)	(0.118)	(0.473)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	17,217	10,397	6,820	17,050	10,071	6,979
Adjusted R^2	0.153	0.087	0.196	0.154	0.085	0.174

Panel B: *Reduced-form model*

	Low Political risk			High Political risk		
	Total	Low leverage	High leverage	Total	Low leverage	High leverage
	(1)	(2)	(3)	(4)	(5)	(6)
Market leverage (1-δ)	0.872***	0.980***	0.809***	0.843***	0.949***	0.785***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.045	0.040**	0.070	0.014	0.031**	0.014
	(0.102)	(0.047)	(0.213)	(0.409)	(0.043)	(0.774)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	17,217	10,397	6,820	17,050	10,071	6,979
Adjusted R^2	0.790	0.671	0.772	0.784	0.674	0.766

Table 7: Zero-inflated fractional regression

The table reports the two-part zero-inflated fractional regression results for the effects of firm-level political risk on leverage. Panel A reports the first-part logit regression for the decision to use debt and Panel B for the second-part GLS regression for how much debt a firm uses given the decision to use debt. The dependent variable is market leverage - total leverage (Column (1&4)), short-term leverage (Column (2&5)), and long-term leverage (Column (3&6)). Our measure of firm-level political risk is based on the data provided by Hassan et al. (2020). Firm control variables, year and industry fixed effects are included. The sample consists of listed non-financial and non-utility firms in the US drawn from Compustat over the period 2002-2019. All variables used are defined in Appendix A and are winsorized at the lower and upper one percentiles. Numbers in parenthesis are the p-values associated with the null hypothesis that the coefficients equal zero. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Logit model			GLS model		
	Total leverage	Short-term leverage	Long-term leverage	Total leverage	Short-term leverage	Long-term leverage
	(1)	(2)	(3)	(4)	(5)	(6)
Political risk	-0.029**	-0.032***	-0.042***	-0.006***	0.001	-0.006***
	(0.046)	(0.010)	(0.003)	(0.000)	(0.119)	(0.000)
Non-political risk	-0.007	-0.010	0.007	0.003***	-0.001**	0.003***
	(0.626)	(0.387)	(0.620)	(0.004)	(0.024)	(0.000)
Industry leverage	3.119***	0.988***	1.909***	0.540***	0.115***	0.434***
	(0.000)	(0.007)	(0.000)	(0.000)	(0.000)	(0.000)
MB ratio	-0.137***	-0.129***	-0.134***	-0.051***	-0.012***	-0.043***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm size	0.538***	0.357***	0.587***	0.016***	-0.002***	0.014***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Dividends	-1.452***	-1.488***	-1.479***	-0.211***	-0.002	-0.207***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.892)	(0.000)
Cash flow	3.208***	2.721***	3.236***	0.381***	-0.085***	0.467***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tangibility	1.028***	0.513***	0.664***	0.036***	0.018***	0.023***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Asset maturity	-0.031***	-0.030***	-0.025***	0.002***	-0.000***	0.003***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.007)	(0.000)
Return on assets	-4.592***	-3.567***	-4.452***	-0.630***	-0.029**	-0.646***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.025)	(0.000)
Capital expenditure	-0.706	-0.978***	0.692*	-0.288***	-0.061***	-0.274***
	(0.116)	(0.001)	(0.087)	(0.000)	(0.000)	(0.000)
Constant	0.288	2.242**	0.252	0.083***	0.036***	0.072***
	(0.781)	(0.028)	(0.807)	(0.000)	(0.003)	(0.000)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	38,969	40,957	40,258	35,518	31,104	33,831
p_value	0.000	0.000	0.000	0.000	0.000	0.000
Chi-squared	9109	8893	11139	27969	5829	23461

Table 8: Endogeneity estimations

The table reports results for the instrumental variables two-stage least squares (IV-2SLS) in Columns (1)-(3) and instrumental variables generalised method of moments (IV-GMM) in Columns (4)-(6). The dependent variable is market leverage - total leverage (Column (1&4)), short-term leverage (Column (2&5)), and long-term leverage (Column (3&6)). Our measure of firm-level political risk is based on the data provided by Hassan et al. (2020). Firm control variables, year and industry fixed effects are included. The sample consists of listed non-financial and non-utility firms in the US drawn from Compustat over the period 2002-2019. All variables used are defined in Appendix A and are winsorized at the lower and upper one percentiles. Numbers in parenthesis are the p-values associated with the null hypothesis that the coefficients equal zero. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	IV-2SLS estimation			IV-GMM estimation		
	Total leverage	Short-term leverage	Long-term leverage	Total leverage	Short-term leverage	Long-term leverage
	(1)	(2)	(3)	(4)	(5)	(6)
Political risk	-0.007**	0.001	-0.009***	-0.008**	0.000	-0.008***
	(0.022)	(0.455)	(0.004)	(0.014)	(0.932)	(0.006)
Non-political risk	0.003*	-0.001	0.004***	0.003*	-0.001	0.004**
	(0.092)	(0.144)	(0.009)	(0.067)	(0.360)	(0.011)
Industry leverage	0.586***	0.115***	0.470***	0.585***	0.114***	0.470***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
MB ratio	-0.037***	-0.008***	-0.029***	-0.037***	-0.008***	-0.029***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm size	0.022***	0.001***	0.022***	0.022***	0.001***	0.022***
	(0.000)	(0.007)	(0.000)	(0.000)	(0.004)	(0.000)
Dividends	-0.196***	-0.019	-0.177***	-0.196***	-0.019	-0.177***
	(0.000)	(0.115)	(0.000)	(0.000)	(0.112)	(0.000)
Cash flow	0.367***	-0.038*	0.405***	0.367***	-0.038*	0.405***
	(0.000)	(0.051)	(0.000)	(0.000)	(0.051)	(0.000)
Tangibility	0.046***	0.016***	0.029***	0.046***	0.016***	0.029***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Asset maturity	0.001***	-0.000***	0.002***	0.001***	-0.000***	0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Return on assets	-0.575***	-0.038**	-0.537***	-0.575***	-0.039**	-0.537***
	(0.000)	(0.032)	(0.000)	(0.000)	(0.031)	(0.000)
Capital expenditure	-0.254***	-0.048***	-0.206***	-0.254***	-0.048***	-0.206***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)
Constant	0.045*	0.023***	0.022	0.054*	0.036**	0.018
	(0.095)	(0.010)	(0.394)	(0.054)	(0.022)	(0.481)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
First stage regression						
Industry political risk	0.737***	0.737***	0.737***	0.743***	0.743***	0.743***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Observations	42,118	42,118	42,118	42,118	42,118	42,118
Adjusted R^2	0.444	0.130	0.415	0.444	0.127	0.415

Table 9: Political risk and book leverage

The table reports the regression results for the effects of firm-level political risk on leverage ratios. The dependent variable is book leverage - total leverage (Column (1)), short-term leverage (Column (2)), and long-term leverage (Column (3)). Our measure of firm-level political risk is based on the data provided by Hassan et al. (2020). Firm control variables, year and industry fixed effects are included. The sample consists of listed non-financial and non-utility firms in the US drawn from Compustat over the period 2002-2019. All variables used are defined in Appendix A and are winsorized at the lower and upper one percentiles. Numbers in parenthesis are the p-values associated with the null hypothesis that the coefficients equal zero. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Total leverage	Short-term leverage	Long-term leverage
	(1)	(2)	(3)
Political risk	-0.008***	-0.000	-0.007***
	(0.000)	(0.578)	(0.000)
Non-political risk	0.004***	-0.000	0.004***
	(0.000)	(0.466)	(0.000)
Industry leverage	0.220***	0.070***	0.150***
	(0.000)	(0.000)	(0.000)
MB ratio	-0.004***	-0.001***	-0.003***
	(0.000)	(0.000)	(0.000)
Firm size	0.026***	0.001***	0.025***
	(0.000)	(0.000)	(0.000)
Dividends	0.085***	0.014	0.072**
	(0.008)	(0.210)	(0.012)
Cash flow	0.357***	-0.013	0.370***
	(0.000)	(0.329)	(0.000)
Tangibility	0.030***	0.012***	0.018***
	(0.000)	(0.000)	(0.000)
Asset maturity	0.001***	-0.000***	0.001***
	(0.000)	(0.000)	(0.000)
Return on assets	-0.510***	-0.043***	-0.467***
	(0.000)	(0.001)	(0.000)
Capital expenditure	-0.101***	-0.032***	-0.069***
	(0.000)	(0.002)	(0.002)
Constant	-0.040**	0.008	-0.048***
	(0.042)	(0.302)	(0.008)
Year dummies	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes
Observations	42,118	42,118	42,118
Adjusted R^2	0.325	0.107	0.314

Table 10: Effects of financial crisis and political elections

The table reports the regression results for the effects of firm-level political risk on leverage ratios after controlling for financial crisis and political elections. The dependent variable is market leverage - total leverage (Column (1&2)), short-term leverage (Column (3&4)), and long-term leverage (Column (5&6)). Our measure of firm-level political risk is based on the data provided by Hassan et al. (2020). Firm control variables, year and industry fixed effects are included. The sample consists of listed non-financial and non-utility firms in the US drawn from Compustat over the period 2002-2019. All variables used are defined in Appendix A and are winsorized at the lower and upper one percentiles. Numbers in parenthesis are the p-values associated with the null hypothesis that the coefficients equal zero. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Total leverage		Short-term leverage		Long-term leverage	
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Political risk	-0.005***	-0.005***	0.001	0.001	-0.006***	-0.006***
	(0.000)	(0.000)	(0.212)	(0.121)	(0.000)	(0.000)
Crisis	0.026***		0.015**		0.012	
	(0.005)		(0.011)		(0.166)	
Political risk*Crisis	-0.004**		-0.002		-0.003	
	(0.048)		(0.249)		(0.157)	
Elections		0.028***		0.011**		-0.005
		(0.004)		(0.031)		(0.449)
Political risk*Elections		-0.001		-0.002		0.001
		(0.456)		(0.165)		(0.558)
Non-political risk	0.002**	0.002**	-0.001*	-0.001	0.003***	0.003***
	(0.013)	(0.011)	(0.076)	(0.148)	(0.000)	(0.000)
Industry leverage	0.618***	0.586***	0.115***	0.115***	0.502***	0.504***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
MB ratio	-0.037***	-0.037***	-0.008***	-0.008***	-0.029***	-0.029***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm size	0.022***	0.022***	0.001***	0.001**	0.022***	0.022***
	(0.000)	(0.000)	(0.008)	(0.028)	(0.000)	(0.000)
Dividends	-0.188***	-0.196***	-0.016	-0.017	-0.171***	-0.171***
	(0.000)	(0.000)	(0.162)	(0.155)	(0.000)	(0.000)
Cash flow	0.365***	0.368***	-0.041**	-0.043**	0.407***	0.406***
	(0.000)	(0.000)	(0.033)	(0.028)	(0.000)	(0.000)
Tangibility	0.045***	0.046***	0.016***	0.016***	0.029***	0.029***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Asset maturity	0.001***	0.001***	-0.000***	-0.000***	0.002***	0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Return on assets	-0.574***	-0.575***	-0.035**	-0.033*	-0.539***	-0.539***
	(0.000)	(0.000)	(0.049)	(0.059)	(0.000)	(0.000)
Capital expenditure	-0.245***	-0.253***	-0.043***	-0.040***	-0.203***	-0.202***
	(0.000)	(0.000)	(0.003)	(0.005)	(0.000)	(0.000)
Constant	0.025	0.008	0.022***	0.021***	0.003	0.006
	(0.336)	(0.765)	(0.006)	(0.007)	(0.890)	(0.805)
Year dummies	No	Yes	No	No	No	No
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	42,118	42,118	42,117	42,117	42,118	42,118
Adjusted R^2	0.443	0.444	0.129	0.128	0.415	0.415

Appendix A: Variable definitions

Variable	**Definition**
Leverage ratios	Market (total) leverage is the ratio of long-term debt plus short-term debt to long-term debt plus Short-term debt plus market value of equity (total market debt). Short-term leverage is the ratio of short-term debt to total market debt and Long-term leverage is the ratio of long-term debt to total market debt.
Debt maturity	Debt maturity is the proportion of debt that are due in more than *n* years. Debt due in more than 3 years is computed as long-term debt due in more than 1 year minus the sum of long-term debt due in years two and three divided by the total debt.
Debt structure	Debt specialisation is the Herfindahl-Hirschman Index (*HHI*) of the debt types. *Excl90* equals 1 if a firm obtains at least 90% of its debt from one debt type, and 0 otherwise. Bank debt is the proportion of debt from banks and public debt is the proportion of debt from the public.
Firm-level political risk	Textual analysis of conversation between call participants and firm management centres on risks associated with political matters developed by Hassan et al. (2019).
Firm-level non-political risk	Textual analysis of conversation between call participants and firm management centres on risks associated with non-political matters developed by Hassan et al. (2019).
Industry leverage	Median of market leverage for different industries by year where industry is defined using the Fama and French (1997) 48 industry classifications.
MB ratio	Market value of assets to book value of assets
Firm size	Logarithm of total assets.
Dividends	Cash dividends to net income.
Cash flow	Gross operating income minus depreciation, tax payments and interest expenses divided by total assets.
Tangibility	Ratio of net property, plant and equipment to total assets.
Asset maturity	Current assets divided by cost of goods sold plus property, plant and equipment divided by depreciation.
Return on assets	Ratio of operating income before depreciation to total assets.
Capital expenditure	Capital expenditure to total assets