Re-examining the Relationship between Creditor Rights and Corporate Leverage through a Cultural Lens

Harshal Rajan Mulay

Doctoral Student, IIM Calcutta

Dr. Arpita Ghosh

Associate Professor, IIM Calcutta

Dr. Rama Seth

Professor, IIM Calcutta / Copenhagen Business School

Abstract

Impact of creditor rights strengthening reforms on corporate credit demand is governed by two opposing effects. The Income effect states that, creditor rights strengthening increases the debt capacity of the borrowers, which may lead to higher credit demand. On the other hand, the substitution effect states that, creditor rights strengthening leads to higher threat of bankruptcy and thus may lead to lower credit demand. Single country studies from different countries have documented contradicting results on the impact of creditor rights on firm leverage. In this multi-country study, we postulate that, national culture determines firms' preference for debt, which in turn determines whether the income effect or the substitution effect will dominate in a given country, Thus we examine how culture moderates the impact of creditor rights strengthening reforms on firm leverage. We find that individualism and indulgence have a positive moderating effect while power distance, masculinity and long term orientation have a negative moderating effect on impact of creditor rights strengthening on corporate leverage. We utilize a large sample of 24,000 firms from 31 countries for a period of 20 years and implement generalized DIDID (triple difference) method to exploit exogenous quasi natural experiments of creditor rights reforms. Our results are robust to the inclusion of firm and year fixed effects, firm specific control variables and country specific economic, political and institutional control variables.

1. Introduction

The literature on "law and finance" provides ambiguous evidence for the impact of creditor rights on corporate leverage. Rodano et al (2016) document that firms increase their leverage after creditor rights strengthening reform in Italy, while Vig (2013) and Closett and Urban (2019) document that firms decrease their leverage after similar reforms in India and Germany, respectively. In this paper, we provide an explanation for these cross country variations through the lens of national culture.

Power Theory literature argues that strengthening of creditor rights reduces ex-ante agency costs of the lenders (Hart, 1995). Strong creditor rights deter borrowers from default through credible threat of liquidation. Further, even if borrower defaults, strong creditor rights enable lenders to easily seize and liquidate collateral to partially recover their dues. Thus strengthening of creditor rights results in higher supply of credit (e.g. La Porta et al, 1998; Djankov et al, 2007) which is accompanied by decrease in interest rates and collateral requirements (Quian and Strahan, 2007; Davydanko and Franks, 2008; Arajua et. al, 2012 and others).

However, effect of strengthening of creditor rights on credit demand is somewhat complicated and is determined by two opposing effects viz. income effect and substitution effect (Vig 2013). Income effect suggests that reduced interest rates and collateral requirements increase borrower's debt capacity, leading to higher credit demand. But on the other hand, substitution effect suggests that creditor right strengthening results in increased threat of liquidation from lenders and thus increased expected deadweight costs of bankruptcy (Hart and Moore, 1994). The borrowers, who value going concern, substitute away from debt to other instruments which pose low or little liquidation risk, resulting in decreased credit demand. (Rajan and Zingales, 1995; Acharya et al, 2011)

So ultimately, the effect of the strength of creditor rights on corporate leverage depends on whether the income effect or the substitution effect dominates in a given country. There might be multiple endogenous factors - institutional, social and political - that can influence which of these two effects will dominate. As Williamson (2000) points out, the root of many of these institutional differences across countries is exogenous variation in their national culture. We thus develop hypotheses on how this exogenous variation in culture influences exogenous variation in attitudes towards debt, and consequently, how firms perceive the relative costs and benefits of an increase in creditor rights. We thus argue that the national culture plays a moderating role in determining whether the income effect or the substitution effect dominate after creditor rights strengthening reforms in a given country.

Hofstede and Bond (1988) postulate that culture comprises of set of values, which distinguish one group of people from other. In his four stage model, Williamson (2000) proposes that informal institutions, norms and traditions resulting from national culture (stage 1) shape it's formal institutions, laws and regulations (stage 2), firm level governance structures (stage 3) and finally the contractual incentives alignment (stage 4). Thus national culture stands at the root of decision making process in a country.

Agents in an economy are governed by bounded rationality as humans can't possibly foresee all the future contingencies. Hence all contracts designed are essentially incomplete. Aggarwal and Goodell (2009) postulate that the formal institutions (level 2) and governance structures (level 3) aren't fully able to align the incentives of the contracting parties due to presence of these incomplete contracts. The informal codes and conducts determined by culture (level 1) thus permeate and fill the void left by these institutions and governance in shaping the behaviour of parties to a contract. Social psychology literature (e.g. Homer and Kahl, 1988; Adler, 1997) shows that values imbibed in culture affect our attitude and perception of the world, which in turn affect our behaviour. Behavioural finance literature has found evidence

on how behavioural biases affect the incentives of the contracting parties under bounded rationality. Hence culture also has a direct impact on decisions made by agents in an economy. (Huang et al, 2011; Deshmukh et al. 2013; Antonczyk et al, 2014 and others)

In this paper, we try to examine how the effect of change in formal institutions (level 2) on the incentive alignment (level 4) is moderated by culture (level 1). North (1990) argues that laws, regulations and institutions may change overnight, but the cultural aspects like customs, traditions, codes, values and attitude in a country take centuries or even millennia to change. Hence, we argue that changes in creditor rights may take place due to economic and political considerations, but their impact on actual managerial decisions will depend on the cultural ethos in the country. We argue that cultural dimensions will affect the behavioural biases of managers, which in turn will affect their inherent preference towards debt. For instance, prior literature (Chui et al 2002; Wang and Esqueda, 2014 and others) examines the impact of culture on firm leverage. These studies find that Hofstede's dimensions of individualism, indulgence, are positively related to while power distance, masculinity, uncertainty avoidance and long term orientation are negatively related to firms' preference for debt and level of leverage.

This inherent preference towards debt will determine the impact of creditor rights reforms on corporate leverage. In other words, this inherent preference towards debt will influence whether the income effect or the substitution effect will dominate in a country. We argue that, cultural dimensions associated with high preference for debt will have positive moderating effect on relationship between creditor rights and leverage, while cultural dimensions associated with low preference for debt will have a negative moderating effect on the same. We thus hypothesize that, after creditor rights strengthening, substitution effect will be higher in cultures which have low preference for debt, while income effect will be higher in cultures which have high preference for debt.

In this study, we utilize a large sample of around 172,000 firm years from 31 countries for the period 1993-2013 to test our hypothesis. Using changes in Creditor Protection Index developed by Armour (2009) as exogenous creditor rights reforms, and using generalized DIDID method, we find that, creditor rights strengthening leads to larger increase in firm leverage in individualistic, indulgent, low power distant, short term oriented and feminine countries compared to their respective counterparts. Our results are robust to the inclusion of firm and year fixed effects, firm level control variables and country level economic, political and institutional control variables. Our results hold even after excluding US firms, which constitute one third of our sample.

Our paper makes several contributions to the literature. To our knowledge, we are the first ones to provide an explanation to why creditor rights reforms have different impact on firms' capital structure in different countries. Although several cross country studies have examined the impact of creditor rights on overall amount of debt in an economy (La Porta et al 1998, Levine 1999, Djankov et al 2007 etc.), only single country studies have examined the impact of creditor rights on firms' capital structure (Vig, 2013; Rodano et al., 2016; Closet and Urban, 2019). The findings of these studies contradict each other. We provide a cross country evidence that national culture is one of the factors which can explain these contrasting results in different countries.

Second, we contribute to a scarce, but recently growing literature on "Culture and Finance". Recent literature in corporate finance and strategy documents the impact of culture on behaviour of managers and thus financing and investment decisions of the firms. For instance, previous studies have shown that the national culture affects corporate financing structure (Chui et al 2002, Arosa et al, 2015; Fauver et al, 2015, Ghoul and Jhang, 2015), cost of debt (Chui et al, 2016), debt maturity (Zhang et al 2012), cash holding (Chang and Noorbaksh,2009), dividend pay-out policy (Fidrmuc and Jacob, 2010), corporate risk taking

(Li et al, 2013), corporate growth opportunities (Boubakri and Saffar, 2016) and corporate takeovers (Ahern et al, 2010). All these studies study impact of culture on financial variables while *controlling for regulatory institutional structure*. Our paper is one of the few studies, if not the first one, to study how *culture influences the impact of changes in regulatory institutions* on firms' financing choices. Our paper thus provides a new link between "Culture and Finance" literature and the "Law and Finance" literature

For policy-makers, we provide an insight for structuring creditor rights reforms. As per World Bank's EODB database, 18 countries have undergone creditor rights strengthening reforms since 2013. In most of the countries, such reforms are undertaken to clean bank balance sheets and boost credit growth. Our paper suggests that countries should take into consideration their national culture before undergoing such reforms. If the culture of a country shows inherent low preference for debt, creditor rights strengthening would not lead to expansion of debt market, but on contrary, will disincentivize firms to take more debt. In such countries, other regulatory changes (like bank deregulation) should be considered to incentivise credit growth. Our study also poses a question to agencies like World Bank, who use strength of creditor rights as an important indicator for Ease of Doing Business and incentivise governments to undertake such reforms.

The remainder of the paper is structured as follows. Section 2 provides literature review and hypothesis development. Section 3 describes data and variables. Section 4 describes the empirical model. Section 5 provides the results. Section 6 describes robustness tests and Section 7 concludes the paper.

2. Literature Review and Hypothesis Development

La Porta et al (1998) document that strength of creditor rights differs systematically across countries and legal families. They find that Common law countries have the strongest creditor rights while the French civil law countries have the weakest. Countries with German and Scandinavian Civil Law lie somewhere in between. Law and Finance literature shows that creditor rights have two contrasting effects, income effect and substitution effect, on credit demand. We look at literature on both sides in following sub-sections.

2.1 Income Effect of Creditor Rights Strengthening on Credit Demand

Several theoretical works in "Power Theory" propose a positive relationship between creditor rights and propensity of banks to lend. Strong creditor rights give lenders the first charge over borrowers' cash flows. By making the threat of liquidation more credible, they deter borrowers from default (Hart, 1995). They prevents the borrower from "stealing" (diverting) funds from the project (firm) by enabling lenders to foreclose after default (Hart and Moore, 1998). Further, they give the lenders the ability to gain control over the firm in case of default. Lenders use this option when renegotiation of debt contract fails. Aghion and Bolton (1992) postulate that optimal debt contracts mitigate the risk arising from non-verifiability of borrower's cash flows by providing lenders a right to control the firm when the borrower defaults. And finally in the worst case scenario, strong creditor rights enable lenders to liquidate borrowers' assets to recover their dues. Due to all these reasons, ex-ante agency costs of the lenders are reduced and thus strong creditor rights increase the willingness of lenders to lend.

Several empirical works document that lenders respond to creditor rights strengthening by stipulating borrower friendly loan covenants, Strong creditor rights are associated with lower interest rates (Smith, 1986; Gianneti, 2003; Vig, 2013; Rodano et al, 2016), longer debt maturities (Quian and Strahan, 2007, Arajua et. al, 2012) and lower collateral requirements

(Davydanko and Franks, 2008). Stronger creditor rights also increase the willingness of lenders to give larger loans to the borrowers, hence the borrowers are able to fulfil their credit demand from fewer lenders. Conversely, borrowers in countries with weaker legal rights have to access debt from larger syndicates (Esty and Megginson, 2003; Quian and Strahan, 2007, Haselman, Piston and Vig, 2010). Further, lenders in strong creditor rights countries demand lesser credit protection and lesser verifiability of cash flows from the borrowers compared to the ones in countries with weak creditor rights (Subramanian and Tung, 2011).

These favourable loan terms resulting from strong creditor rights improve the debt capacity of the borrowers. A firm can avail more debt in a stronger creditor rights regime than in a weaker creditor rights regime by pledging the same amount of collateral. Further, a poor (low quality) firm may be able to avail debt with a reasonable interest rate in strong creditor rights regime, whereas it may be charged prohibitively high interest rates in a weak creditor rights regime. Thus as per the income effect, stronger creditor rights not only enable stronger firms to raise more debt, they also enable weaker firms an access to debt, which would have been impossible in a country with weaker creditor rights. (Gropp et al 1997). In other words, strong creditor rights increase the contractual space in an economy and thus lead to pareto improvement. This positive impact of creditor rights on credit demand is termed as the income effect.

Consistent with this view, LLSV find that firms in countries with stronger creditor rights have more access to external finance compared to the firms in countries with weaker creditor rights. Similarly, Djankov et al (2008) find that efficiency of creditor rights enforcement is associated with development of debt market. And finally, Levine (1998) and Levine (1999) document that strong creditor rights as well as strong contract enforcement are positively associated with debt market development, labor productivity and economic growth...

2.2 Substitution Effect of Creditor Rights Strengthening on Credit Demand

But, Substitution Effect theory tells an opposite story. Stronger creditor rights imply a larger threat of liquidation from the lenders. Aghion, Hart and Moore (1994) postulate that, in case of default, senior security holders (creditors) will prefer to liquidate the firm rather than renegotiating the terms or reorganizing the firm to continue it as going concern. This option provides them a more certain payoff. The phenomenon is called "Liquidation Bias". On the other hand, junior security holders (equity holders) prefer continuing the firm as a going concern, as they have right over the upside potential but do not face a downside risk. Further, strong creditor rights refrain firms from taking more debt, if they feel that default will result in change in management or ownership (Hart and Moore, 1994). So borrowers in countries with strong creditor rights may "substitute" their secured debt by other means of finance which do not entail a liquidation risk.

We can look at the substitution effect from another point of view. The Capital Structure Theory pioneered by Modigliani and Miller tells that firms optimize their leverage based on a trade-off between tax shields due to debt and expected costs of bankruptcy. The deadweight distress costs of bankruptcy result from inefficient liquidation of assets by lenders post default. Strengthening creditor rights will increase the probability of liquidation post default and in turn increase the expected costs of bankruptcy. Hence stronger creditor rights may result in lower leveraged borrowers and reduced demand for credit.

Vig (2013) finds a robust evidence for the substitution effect by studying a natural experiment in India. In 2002, the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interests (SARFAESI) Act passed in India increased the power of creditors to seize the assets of defaulting firms and expedited the process of bankruptcy. Vig finds that the amount of secured debt availed by firms reduced by 5.2% after this act. Further, he also

documents a reduction in total (secured + unsecured) debt as well, despite the reduction in interest rates. It shows that increased creditor rights impose additional costs on borrowers, which are not offset by reduced interest costs.

Rajan and Zingales (1995) study leverage across US, UK and Germany. They find that firms in Germany and UK are less levered compared to the firms in US, where the latter has weaker creditor rights compared to former two. Acharya et al (2011) further find that the difference between the leverage in countries with high and low creditor rights is a decreasing function of firm's liquidation value.

There are some other empirical studies, which indirectly support the substitution effect view. Till 1980s, empirical studies found bankruptcy costs to be too trivial to affect capital structure decisions (Castanias 1980). But these studies only considered the direct costs of bankruptcy like legal fees, accounting fees, filing costs etc. But Altman (1984) and a host of several other papers started measuring indirect costs of bankruptcy, such as the negotiation costs, lost sales and profits, lost reputation, reduced access to finance and lost investment opportunities. These costs amounted to a large fraction of pre-bankruptcy values of the firm and hence it is believed that firms do take into account the expected bankruptcy costs while making capital structure decisions. Their finding can provide some basis to believe that firms might refrain from availing more debt if expected costs of bankruptcy are too high in economies with strong creditor rights

To summarize, stronger creditor rights will always have a positive effect on credit supply, but their effect on credit demand depends on whether the income effect or the substitution effect dominates. Creditor rights will have positive (negative) impact on demand if the income (substitution) effect dominates. We hypothesize that national culture will determine which of the above two effects dominate in a given country. We argue that, in cultures where preference

for debt is low, the reduced cost of debt will not offset the increased threat of liquidation after creditor rights reforms. Hence in cultures where people prefer lower debt, substitution effect will dominate over income effect. In following section, we examine how culture affects preference for debt to build our hypothesis.

2.3 Culture

In following subsections, we examine how different dimensions of national culture affect managers' preference for debt.

2.3.1 Individualism (IDV)

Individualism is defined as the extent to which people identify themselves as integrated into or differentiated from a group (Hofstede, 1980 and Hofstede, 2001). In individualistic cultures, people view themselves as independent from others, while in collective cultures, people view themselves integrated in a group. Individualistic cultures value being distinct or being better than others, while collectivistic cultures value being accepted by others. People in individualistic cultures assume that they are above average, while people in collectivistic cultures have no such beliefs (Markus and Kitayama, 1991 and Heine et al., 1999). This feeling of being superior to others leads to over optimism and thus an overconfidence bias in people from individualistic cultures (Van den Steen, 2004).

Due to this overconfidence bias, borrowers in individualistic countries overestimate their debt capacity and underestimate the potential costs of bankruptcy as compared to borrowers in collectivistic countries. Hence firms in individualistic countries take up high risk (Li et al, 2013) and high leverage (Wang and Esqueda, 2014; Fauver and McDonalds 2016).

Hence, due to overconfidence bias in individualistic countries we propose that income effect will dominate over substitution effect after creditor rights strengthening.

H1: Individualism will have a positive moderating effect on impact of creditor right strengthening on leverage

2.3.2 Power Distance (PDI)

Hofstede (1980) defines power distance as the extent to which power inequality is accepted in a society. In high power distant (high PDI) societies, unequal distribution of power is seen as socially acceptable and the less powerful sections of society accept and expect the authority of the more powerful sections of society and tend to avoid confrontation with them.

Bjornskov (2008) argues that in the high PDI countries, the stratification of society, centralization of power and social inequity result in low level of social trust. Low social trust is associated with high transaction cost of raising external finance. (Aggarwal and Goodell, 2009; Dyer and Chu, 2003), Hence managers in high PDI countries prefer to take less debt, especially less long term debt. (Zheng et al, 2012; Wang and Esqueda, 2014).

Creditor rights strengthening will increase the threat of premature liquidation by the lenders. Hence firms in an environment of low social trust will try to refrain from taking additional debt, Hence we argue that, after creditor rights strengthening in high PDI countries,, substitution effect will dominate income effect.

H2: Power Distance will have a negative moderating effect on impact of creditor right strengthening on leverage

2.3.3 Long Term Orientation (LTO)

The dimension of long term orientation was added to Hofstede's cultural dimensions based on the Chinese Value Survey of 1971. In cultures high on LTO, people strive to adapt to the changing environment and have a pragmatic outlook. On the other hand, in cultures low on this dimension, people tend to stick to their traditions and have a normative world view. In a

business context, managers in high LTO cultures tend to focus on long term sustainability of firms. They refrain from indulging in activities which provide short term gains at a cost of long term loses. Managers in high LTO cultures tend to possess qualities like perseverance, thrift, self-reliance and sense of shame. On the other hand, managers in low LTO cultures are myopic, less disciplined and tend to seek instant gratification.

The quality of self-reliance in managers in high LTO cultures results in their lower reliance on debt. They perceive the fixed cost of debt as a deterrent to adapt to future uncertainties. Nollen (1996) finds that managers in high LTO cultures value long term employment and thus value sustainability of the firm. They hence are concerned about the threat of bankruptcy from use of debt. The sense of shame further exacerbates their fear of bankruptcy costs of debt. Hence it is expected that firms in high LTO cultures will have a lesser preference for debt. This argument is supported by the fact that firms from high LTO cultures take up lesser debt (Wang and Esqueda, 2014) and hoard more liquidity (Chang and Noorbaksh , 2009) compared to firms from low LTO cultures.

As firms in high LTO cultures will have lower preference for debt and higher weariness about impeding threat of bankruptcy, we hypothesize that substitution effect will dominate over income effect in countries with high LTO after creditor rights strengthening.

H3: Long term orientation will have a negative moderating effect on impact of creditor right strengthening on leverage

2.3.4 Masculinity (MAS)

As per Hofstede (1984), people in masculine cultures value achievement, assertiveness, heroism and material rewards for success. In these cultures, people value rewarding performance over equality. Managers from masculine countries seek freedom to exploit their competitive advantages to achieve higher performance and hence prefer lesser oversight from

external financiers. They thus hold higher cash to quickly seize profitable investment opportunities (Chang and Noorbaksh, 2009). They also prefer short term debt over long term debt to maintain financial flexibility (Zheng et al, 2012). Further, Wang and Esqueda (2014) find evidence that firms in masculine cultures take lesser leverage as they see default or bankruptcy resulting from excess debt as a personal failure.

Thus, when creditor rights are strengthened in masculine countries, we expect that managers will detest the increased power of and the higher scrutiny by the lenders. Also, the increase in the threat of bankruptcy, which will poorly reflect on them, will reduce their utility of the debt even further. We thus expect substitution effect to dominate over income effect in masculine countries.

H4: Masculinity will have a negative moderating effect on impact of creditor right strengthening on leverage.

2.3.5 Uncertainty Avoidance (UAI)

Hofstede (1980) defines uncertainty avoidance as the extent to which people are comfortable while facing ambiguity. People in countries with high uncertainty avoidance (UAI) tend to feel anxious while facing uncertain future and thus tend to seek comfort in written rules and codes while dealing with uncertainty. Managers in high UAI countries prefer internal source of financing over external sources to avoid future uncertainty. Literature documents that firms in high UAI countries hold more cash and less debt (Chang and Noorbaksh, 2009; Wang and Esqueda, 2012). Fixed costs associated with debt makes managers uncomfortable to take long term debt in high UAI countries (Zhang et al, 2012). Hence we argue that managers in high UAI countries have lower preference for debt. Thus, we hypothesize after creditor rights reforms, firms in high UAI countries will experience higher substitution effect that income effect.

H5: Uncertainty Avoidance will have a negative moderating effect on impact of creditor right strengthening on leverage.

2.3.6 Indulgence (IVR)

As per Hofstede (2010), indulgence stands for free gratification of human desires, while restraint stands for social normative restrictions on their gratification. People in indulgent cultures are more likely to frivolously spend money, while people in restrained cultures would exercise more self-control. Hence we argue that managers in restrained cultures will have lesser preference for debt, while mangers in indulgent cultures will have higher preference for debt. We thus expect that, after creditor rights strengthening, income effect would dominate over substitution effect in indulgent cultures and reverse would be true in restrained cultures.

H6: Indulgence will have a negative moderating effect on impact of creditor right strengthening on leverage.

Table 1 provides a summary of our hypothesis.

3. Data and Variables.

Our sample consists of more than 24000 firms (more than 170,000 firm years) from 31 countries for the period 1993-2013. The choice of our countries was determined by availability of data on creditor rights and cultural dimensions. Our sample consists of 22 of the 33 OECD countries, 5 BRICS nations and 4 other emerging markets (Argentina, Cyprus, Malaysia and Pakistan). The firm level variables are obtained from Compustat Global and Compustat North America. We obtain country level economic, political and institutional variables from World Bank, Heritage.org, FRED, and OECD databases. We obtain data on cultural dimensions from Hofstede 2010 and creditor rights index developed by Armour (2009) from Centre for Business Research of Cambridge University.

We utilize six dimensions of culture from Hofstede 2010, viz. Individualism vs. Collectivism (IDV), High Power Distance vs. Low Power Distance (PDI), Long Term Outlook vs. Short Term Outlook (LTO), Masculinity vs. Feminity (MAS), High Uncertainty Avoidance vs. Low Uncertainty Avoidance (UAI) and Indulgence vs. Restraint (IVR). Each index varies from 0 to 100, where 100 indicates high on former dimension and 0 implies a high on latter dimension for each pair. Panel A of Table 2 presents cultural dimensions for all countries in our sample. In our sample, US ranks highest (91) and Pakistan ranks lowest (14) on individualism. Ireland has lowest power distance (28) and Malaysia has the highest power distance (100). Japan ranks highest on long term orientation (88), while Argentina ranks the lowest (20). Japan is the most masculine country (95), while Sweden is the most feminine country (5) in our sample. Swedish people are most comfortable in facing uncertainty (28), while Russians are the least comfortable doing so (95). Latvia (13) is the most restrained country, while Mexico is the most indulgent one (97) in our sample. As seen from the table, we have a fair distribution of all cultural dimensions in our sample.

Panel B of Table 2 provides correlation between cultural parameters in our sample. Except for the three pairs, none of them are significant at 10% confidence level. Individualism has high negative correlation with power distance. It can be explained by the fact that people who are highly self-driven would detest obedience to authority. Further, as expected, indulgence is negatively correlated with long term outlook. Cultures with long term orientation delay instant gratification and exercise restraint for long term benefits. And lastly, uncertainty avoidance is mildly correlated with power distance. So in our horse-race regression, we intend to keep only three out of six cultural dimensions to avoid multicollinearity concerns.

Armour (2009) Creditor Protection Index a sum of 10 dimensions of creditor rights and varies from 0 to 10, 10 implying highest creditor rights. It captures 3 different aspects of creditor

rights, viz. Restriction on debtor activity (3 dimensions), Facilitation of Secured Credit (3 dimensions) and Creditor rights in corporate bankruptcy (4 dimensions).

Table 3 shows average values of creditor rights index and its components for all the countries in our sample. Cyprus has the lowest and the Czech Republic has the highest creditor rights in our sample.

4. Empirical Model

To assess the moderating effect of culture on impact of creditor rights on leverage, we implement a generalized DIDID method to exploit exogenous creditor rights reforms and run a cross country firm level panel regression with leverage (total debt/assets) as the dependent variable and creditor rights reforms and their interaction with culture as our main independent variables. As per our hypothesis, we are not interested in the effect of *level of creditor rights* on leverage, but rather in the impact of *creditor rights reforms* on leverage. In addition, creditor rights themselves are determined by national culture (Licht et al, 2005). Thus we do not include the raw creditor rights index in our regression. Instead, we include a new variable CRREFORM, which captures changes in creditor rights in a country. We define CRREFORM for a country as the raw creditor rights index minus the minimum creditor rights index observed in that country in the sample period. For instance, Argentina's creditor rights index was 6.66 prior to 2003. In 2003, the index increased to 6.76 due to passage of a regulation which increased restrictions on debtor activity. No further reforms occurred in Argentina post 2003 and hence the creditor rights index remained constant at 6.76. So our CRREFORM variable takes value 6.66 – min (6.66, 6.76) = 0 in years prior to 2003 and 6.76 – min (6.66, 6.76) = 0.1 after 2003. In countries like Chile and Ireland, where no reform occurred in sample period, the CRREFORM variable takes value 0 throughout the sample. Our approach is similar to staggered difference in difference (SDID) method. But, in SDID, the DID variable takes only

two values, 0 and 1. In our approach, it takes other values. SDID would treat all reforms equally, irrespective of the amount of change in index due to the reform. Our method gives larger importance to drastic reforms and smaller importance to minor reforms.

We employ following model to estimate our results

$$Lev_{i,c,t} = \alpha_i + \tau_t + \beta_1 * CRREFORM_{c,t-1} + \beta_2 * CRREFORM_{c,t} * HIGHCULT_{c,j} + \gamma_k * Controls_{i,c,t-1,k} + \varepsilon_{i,c,t} \quad \text{.....(1)}$$

Where, subscripts i, c and t denote firm, country and year respectively. α_i and τ_t denote firm fixed effects and year fixed effects respectively. As discussed earlier, variable CRREFORM captures creditor rights reforms. For each of the six Hofstede's cultural dimensions, we define six HIGHCULT dummies, which take value 1 if the country's score in that particular dimension is greater than 50 and 0 otherwise. For instance, the dummy HIGHIVD takes value 1, if countries individualism score is more than 50 and 0 otherwise. We use this specification instead of adding raw values for easier interpretation of the results.

We control for several firm level and country level variables. At the firm level, we control for size (log of assets in USD mn), growth opportunities (Market to book ratio), profitability (ROA and EBITDA margin) and tangibility of the firm (PPE by total assets). We control for several country level macroeconomic variables like income level (Log of GDP per capita), growth (growth in GDP per capita), price levels (inflation), macroeconomic volatility (volatility of gdp growth and inflation) and total funds available in economy (savings by GNI). We control for institutional environment in the country by property rights index. And finally, we control for political environment by adding control of corruption index. As per prior literature (eg. Demirci et al, 2019), to avoid confounding effects, we include all our dependent variables with one lag. The descriptive statistics are shown in Table 4 and Table 5.

5. Results

Table 6 shows our main results. In columns 1 through six, we run separate regressions for each six cultural dimensions. Based on the coefficient of interaction term between creditor rights reform and cultural dimensions (β_2), we can see that cultural dimensions have significant moderating effect on impact of creditor rights reforms on leverage. The direction of moderating effect is as hypothesized. From model 1, we can see that, after creditor rights strengthening, individualistic countries will see higher increase in leverage than collectivistic countries. Similarly, from model 2 through 6, we observe that, indulgence has positive significant while power distance, masculinity and long term attitude have negative significant moderating effect on impact of creditor rights on leverage. We see that uncertainty avoidance does not have significant moderating effect on impact of creditor rights on leverage.

Coefficient β_2 measures marginal impact of cultural variables. For instance, in model 1, coefficient β_2 signifies the additional impact of creditor rights on leverage in individualistic countries compared to collectivistic countries. On the other hand, coefficient β_1 signifies the total impact of creditor rights on leverage in collectivistic countries. Hence $\beta_1 + \beta_2$ will signify the total impact of creditor rights on leverage in individualistic countries. We tabulate these total impacts in Table 7.

From Table 7, column 1, we can see that creditor rights have positive impact on leverage in individualistic countries, while we see no significant impact in collectivistic countries. This implies that, ceteris paribus, income effect dominates over substitution effect in individualistic countries, while they both offset each other in collectivistic countries. On similar lines, ceteris paribus, income effect dominates over substitution effect in indulgent countries, while they both offset each other in restrained countries. From column 3, we can observe that, income effect will dominate over substitution effect in both low power distant and high power distant

countries, keeping all other thing constant. But it will be less dominant in high power distance countries compared to low power distance countries. From column 4, we see that substitution effect dominates in masculine countries, while income effect dominates in feminine countries. From column 5, we see that impact of creditor rights does not differ based on uncertainty avoidance of a country. Finally, from column 6, we see that income effect dominates over substitution effect in short term oriented countries, while they both offset each other in long term oriented countries.

In column 7 of both Table 6, we present results of backward stepwise regression. First we include all cultural dimensions variables and one-by-one eliminate the non-significant dimensions. As mentioned earlier, three pairs of cultural dimensions viz. PDI- IDV, PDI - UAI, and LTO – IVR. So during elimination, we place a constraint that only one of the dimensions from these pairs would be present. We end up with three dominant dimensions viz. Individualism, Masculinity and Long Term Orientation.

6. Robustness Checks

Our sample has uneven distribution of firms across countries. US Firms dominates the sample and constitute nearly one third of our sample. To verify that our results are not driven by US alone, we exclude US firms from our sample and rerun our regressions. As seen from Table 8, we find that the results are consistent except for the cultural dimension of Indulgence, which becomes insignificant.

7. Conclusion

Law and Finance literature generally agrees on the fact that creditor rights strengthening would improve the debt capacity of borrowers because lenders reduce interest rates and collateral requirements after such reforms. But the decision of borrower to borrow more will depend on whether they perceive these cost savings are sufficient to offset the increased deadweight costs

of bankruptcy. We find that national culture determines this perception. We argue that, in cultures with inherent low preference for debt, the borrowing cost reductions due to creditor rights strengthening may not offset the increased bankruptcy costs, and thus borrowers would not borrow more. On the other hand, in cultures where debt preference is high, borrowers would take advantage of the reduction in borrowing costs and would borrow more. Our paper provides an explanation to the fact that why creditor rights strengthening have had unintended negative effect on corporate borrowings in some countries. Creditor rights strengthening reforms are usually undertaken to clean bank balance sheets and boost credit growth. We argue that policy makers should take into consideration the inherent preference of debt in their respective countries before implementing such reforms.

Table 1: Summary of Hypothesis Development				
Cultural Dimension	Behaviour/Attitude	Preference for Debt	The Dominant Effect	Moderating Impact on relationship between Creditor Rights and Leverage
Individualism	Overconfidence Bias	High	Income Effect	Positive
Indulgence	Free Gratification	High	Income Effect	Positive
Power Distance	(Lack of) Trust	Low	Substitution Effect	Negative
Masculinity	Sense of Achievement, Distaste for oversight, Fear of Failure	Low	Substitution Effect	Negative
Uncertainty Avoidance	Risk Aversion	Low	Substitution Effect	Negative
Long Term Orientation	Thrift, Self-Reliance, Sense of Shame	Low	Substitution Effect	Negative

Table 2: Descriptive Statistics – Cultural Dimensions

Panel A: Country wise cultural dimensions

Country	IDV	PDI	LTO	MAS	UAI	IVR
Argentina	46	49	20	56	86	62
Belgium	75	65	82	54	94	57
Brazil	38	69	44	49	76	59
Canada	80	39	36	52	48	68
Chile	23	63	31	28	86	68
China	20	80	87	66	30	24
Cyprus						70
Czech Republic	58	57	70	57	74	29
Estonia	60	40	82	30	60	16
France	71	68	63	43	86	48
Germany	67	35	83	66	65	40
India	48	77	51	56	40	26
Ireland	70	28	24	68	35	65
Italy	76	50	61	70	75	30
Japan	46	54	88	95	92	42
Latvia	70	44	69	9	63	13
Lithuania	60	42	82	19	65	16
Malaysia	26	100	41	50	36	57
Mexico	30	81	24	69	82	97
Netherlands	80	38	67	14	53	68
Pakistan	14	55	50	50	70	0
Poland	60	68	38	64	93	29
Russian Federation	39	93	81	36	95	20
Slovenia	27	71	49	19	88	48
South Africa			34			63

Spain	51	57	48	42	86	44
Sweden	71	31	53	5	29	78
Switzerland	68	34	74	70	58	66
Turkey	37	66	46	45	85	49
United Kingdom	89	35	51	66	35	69
United States	91	40	26	62	46	68

Panel B Correlation Matrix

	IDV	PDI	LTO	MAS	UAI	IVR
IDV	1.000					
PDI	-0.686***	1.000				
	0.000					
LTO	0.092	-0.031	1.000			
	0.634	0.873				
MAS	0.010	0.073	-0.058	1.000		
	0.959	0.707	0.767			
UAI	-0.270	0.326*	0.066	0.045	1.000	
	0.157	0.085	0.732	0.818		
IVR	0.225	-0.146	-0.549***	0.116	-0.156	1.000
	0.241	0.450	0.002	0.550	0.420	

Table 3: Descriptive Statistics - Creditor Protection Index				
Country	Creditor Protection Index (Total) (Mean)	Restriction on Debtor Activity (Mean)	Facilitation of Secured Credit (Mean)	Creditor Rights in Corporate Bankruptcy (Mean)
Argentina	6.7	1.2	3.0	2.5
Belgium	5.3	2.6	1.2	1.6
Brazil	4.6	1.2	2.2	1.3
Canada	6.9	1.4	3.0	2.5
Chile	4.5	1.5	1.2	1.8
China	6.1	1.4	2.1	2.6
Cyprus	3.6	1.4	0.7	1.5
Czech	7.5	2.7	2.3	2.5
Estonia	5.1	1.1	1.9	2.1
France	5.5	2.1	1.5	1.8
Germany	7.2	2.7	1.4	3.1
India	5.7	1.0	3.0	1.7
Ireland	7.1	1.5	3.0	2.6
Italy	3.8	1.7	0.7	1.4
Japan	6.7	2.1	2.3	2.4
Latvia	6.5	1.1	2.5	2.9
Lithuania	5.7	1.3	1.3	3.0
Malaysia	6.8	1.4	2.7	2.7
Mexico	4.6	0.7	2.4	1.5
Netherlands	6.5	2.2	2.1	2.2
Pakistan	6.3	1.3	3.0	2.0
Poland	6.3	1.9	2.5	1.9
Russia	4.2	0.3	1.8	2.1
Slovenia	5.3	1.4	1.0	2.9
South Africa	5.3	0.8	2.0	2.5
Spain	6.0	1.5	2.7	1.8
Sweden	7.1	2.1	2.8	2.3
Switzerland	6.0	2.3	1.2	2.5
Turkey	6.2	0.5	2.7	3.0
UK	7.1	1.8	2.7	2.6
US	6.0	1.0	3.0	2.0

Table 4: Descriptive Statistics-Firm Level Variables					
Country	Leverage (Mean)	Log (Assets) (Mean)	Tangibility (Mean)	ROA (Mean)	EBITDA Margin (Mean)
Argentina	0.222	6.943	0.441	0.025	0.154
Belgium	0.234	5.935	0.292	0.025	0.070
Brazil	0.260	6.387	0.306	0.042	0.102
Canada	0.207	5.246	0.399	-0.011	0.009
Chile	0.231	5.698	0.476	0.052	0.141
China	0.206	5.786	0.339	0.034	0.123
Cyprus	0.268	4.614	0.514	-0.006	0.072
Czech Republic	0.169	6.328	0.544	0.049	0.217
Estonia	0.188	6.091	0.379	0.086	0.173
France	0.205	5.542	0.189	0.018	0.058
Germany	0.184	5.267	0.242	0.003	0.038
India	0.282	4.247	0.343	0.043	0.106
Ireland	0.223	6.033	0.309	0.030	0.034
Italy	0.249	6.254	0.262	0.009	0.092
Japan	0.244	5.980	0.301	0.013	0.070
Latvia	0.182	3.144	0.455	0.023	0.110
Lithuania	0.230	5.955	0.566	0.031	0.153
Malaysia	0.205	4.491	0.367	0.030	0.113
Mexico	0.221	6.618	0.468	0.041	0.159
Netherlands	0.208	5.585	0.275	0.033	0.079
Pakistan	0.282	4.062	0.466	0.057	0.156
Poland	0.161	3.897	0.307	0.022	0.058
Russian Federation	0.226	6.480	0.473	0.052	0.129
Slovenia	0.294	5.767	0.460	0.013	0.132
South Africa	0.144	4.979	0.281	0.067	0.094
Spain	0.256	6.527	0.376	0.030	0.164
Sweden	0.178	4.544	0.194	-0.021	-0.139
Switzerland	0.222	6.100	0.328	0.028	0.089
Turkey	0.199	5.781	0.335	0.040	0.093
United Kingdom	0.163	4.962	0.316	0.014	0.007
United States	0.192	5.898	0.217	-0.011	0.028

Table 5: Descriptive Statistics-Other Country Level Variables								
Country	GDP per Capita (Mean)	GDP Growth (Mean)	Volatility in GDP Growth (Mean)	Inflation (Mean)	Volatility in Inflation (Mean)	Savings by GNI (Mean)	Property Rights (Mean)	Control of Corruption (Mean)
	9.1058	0.0337	0.0031	0.1450	1.8065	0.1828	36.0041	-0.3556
Argentina	10.6141	0.0186	0.0002	0.0177	0.0000	0.2526	85.8736	1.4447
Belgium	9.2794	0.0336	0.0005	0.0833	3.9876	0.1789	50.0000	-0.0082
Brazil	10.7443	0.0250	0.0002	0.0223	0.0002	0.2262	90.0000	1.9990
Canada	9.3501	0.0433	0.0005	0.0487	0.0010	0.2408	89.3123	1.4728
Chile	8.2525	0.0956	0.0002	0.0396	0.0008	0.4811	23.1410	-0.4829
China	10.3040	0.0107	0.0004	0.0184	0.0002	0.1376	82.4744	1.0629
Cyprus	9.7881	0.0273	0.0006	0.0200	0.0005	0.2711	69.4253	0.3421
Czech Republic	9.6039	0.0381	0.0033	0.0526	0.0008	0.2573	79.5652	0.9877
Estonia	10.5614	0.0167	0.0002	0.0144	0.0000	0.2222	72.4534	1.3814
France	10.5771	0.0153	0.0004	0.0125	0.0000	0.2388	90.0000	1.8521
Germany	7.1439	0.0642	0.0003	0.0749	0.0002	0.3496	50.0000	-0.4523
India	10.6352	0.0443	0.0008	0.0240	0.0004	0.2406	90.0000	1.5774
Ireland	10.4825	0.0050	0.0003	0.0231	0.0001	0.1986	60.0050	0.3764
Italy	10.6612	0.0118	0.0004	0.0063	0.0000	0.2700	78.4506	1.3058
Japan	9.3741	0.0260	0.0041	0.0503	0.0045	0.2204	51.3589	0.2564
Latvia	9.3787	0.0418	0.0032	0.0349	0.0011	0.1723	53.6389	0.2933
Lithuania	8.9871	0.0517	0.0011	0.0392	0.0015	0.3639	54.5679	0.2234
Malaysia	9.1246	0.0244	0.0009	0.0887	0.0027	0.2259	50.5347	-0.3305
Mexico	10.7174	0.0241	0.0002	0.0201	0.0001	0.2747	90.0000	2.1103
Netherlands	6.8658	0.0388	0.0002	0.1077	0.0030	0.2101	32.0887	-0.9842
Pakistan	9.4120	0.0351	0.0002	0.0227	0.0002	0.1771	57.0237	0.4856
Poland	9.2419	0.0344	0.0018	0.1382	0.0201	0.2829	27.7888	-1.0177
Russian Federation	10.0692	0.0045	0.0014	0.0189	0.0002	0.2445	57.4725	0.9276
Slovenia	8.8037	0.0296	0.0003	0.0768	0.0002	0.1677	50.0000	0.3373
South Africa	10.2423	0.0211	0.0002	0.0286	0.0001	0.2167	70.0000	1.2373
Spain	10.7914	0.0217	0.0006	0.0175	0.0001	0.2796	86.9988	2.2313
Sweden	11.1485	0.0184	0.0002	0.0082	0.0001	0.3295	89.1311	2.0854
Switzerland	9.2527	0.0534	0.0021	0.1781	0.0184	0.2285	52.4213	-0.0112
Turkey	10.4776	0.0217	0.0002	0.0276	0.0004	0.1464	89.5607	1.8985
United Kingdom	10.7567	0.0245	0.0002	0.0197	0.0000	0.1829	88.5759	1.5521
United States								

Table 6: Main Results

This table shows results for following equation:

$$Levi,c,t = \alpha i + \tau t + \beta 1 * CRREFORMc,t-1 + \beta 2 * CRREFORMc,t * HIGHCULTc,j + \gamma k * Controlsi,c,t-1,k + \varepsilon i,c,t$$

	(1) Leverage	(2) Leverage	(3) Leverage	(4) Leverage	(5) Leverage	(6) Leverage	(7)
CRREFORM	-0.0035	0.0013	0.0166***	0.0177***	0.0059*	0.0189***	0.0203***
	(0.329)	(0.652)	(0.001)	(0.000)	(0.059)	(0.000)	(0.001)
CR * High Individualism	0.0165***						0.0155***
	(0.001)						(0.006)
CR * High Indulgence		0.0096*					
		(0.053)					
CR * High Power Distance			-0.0163***				
			(0.006)				
CR * High Masculinity				-0.0204***			-0.0126**
				(0.000)			(0.021)
CR * High Uncertainty Avoidance					-0.0030		
					(0.537)		
CR * High Long Term Outlook						-0.0189***	-0.0183***
						(0.001)	(0.001)
Size	0.0477***	0.0478***	0.0478***	0.0479***	0.0478***	0.0480***	0.0482***

	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tangibility	0.1277***	0.1284***	0.1287***	0.1271***	0.1282***	0.1287***	0.1276***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
EBITDA Margin	0.0079***	0.0078***	0.0079***	0.0080***	0.0079***	0.0079***	0.0080***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Return on Assets	-0.1557***	-0.1557***	-0.1557***	-0.1559***	-0.1561***	-0.1559***	-0.1557***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
M/B Ratio	0.0031***	0.0031***	0.0031***	0.0032***	0.0031***	0.0032***	0.0031***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Log GDP Per Capita	-0.0121	-0.0230**	-0.0220**	-0.0132	-0.0292***	-0.0209**	-0.0000
	(0.268)	(0.029)	(0.033)	(0.219)	(0.010)	(0.043)	(0.999)
GDP Growth	-0.0488	-0.0439	-0.0446	-0.0566	-0.0404	-0.0432	-0.0636*
	(0.255)	(0.284)	(0.296)	(0.147)	(0.337)	(0.273)	(0.093)
GDP Growth Volatility	-4.3996***	-4.6124***	-4.7117***	-4.8908***	-4.6114***	-4.7901***	-4.9692***
	(0.004)	(0.002)	(0.002)	(0.001)	(0.002)	(0.001)	(0.000)
Inflation	0.0921***	0.0924***	0.0911***	0.0826***	0.0903***	0.0837***	0.0808***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Inflation Volatility	-0.0006**	-0.0003	-0.0005*	-0.0003	-0.0005*	-0.0002	-0.0002
	(0.034)	(0.186)	(0.053)	(0.319)	(0.073)	(0.405)	(0.395)
Savings	-0.0063	0.0055	0.0083	-0.0065	0.0058	0.0063	-0.0120
	(0.888)	(0.902)	(0.860)	(0.880)	(0.901)	(0.888)	(0.779)

Property Rights	0.0007***	0.0008***	0.0008***	0.0007***	0.0008***	0.0008***	0.0007***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Control of Corruption	-0.0271***	-0.0249***	-0.0241***	-0.0278***	-0.0244***	-0.0256***	-0.0296***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.0417	0.1362	0.1239	0.0550	0.1972**	0.1086	-0.0765
	(0.682)	(0.167)	(0.191)	(0.578)	(0.050)	(0.255)	(0.446)
N	175387	177491	175387	175387	175387	177115	175387
adj. R-sq	0.7865	0.7856	0.7865	0.7866	0.7864	0.7856	0.7868

Table 7: Total Effects of Creditor Rights Reforms in Different Cultures

Panel A of this table provides the sum of β1 and β2 of following equation :

$$Levi,c,t = \alpha i + \tau t + \beta 1 * CRREFORMc,t-1 + \beta 2 * CRREFORMc,t * HIGHCULTc,j + \gamma k * Controlsi,c,t-1,k + \varepsilon i,c,t$$

The values capture the absolute amount of change in leverage in different cultural regimes after creditor rights reforms. In Panel B, we divide the coefficients in Panel A by the average level of leverage in sample. These values represent per cent change in leverage in different cultural regimes after creditor rights reforms.

Panel A

	IDV	IVR	PDI	MAS	UAI	LTO
High	-0.0035	0.0013	0.0166***	0.0177***	0.0059*	0.018***9
Low	0.0130***	0.0109*	0.0003***	-0.002**	0.0089	0.0000

Panel B

High	-0.0175	0.0065	0.083***	0.0885***	0.0295*	0.0945***
Low	0.065***	0.0545*	0.0015***	-0.0135**	0.0445	0.0000

Table 8: Robustness Check - Results excluding US firms

This table shows results for following equation:

$$Levi,c,t = \alpha i + \tau t + \beta 1 * CRREFORMc,t-1 + \beta 2 * CRREFORMc,t * HIGHCULTc,j + \gamma k * Controlsi,c,t-1,k + \varepsilon i,c,t$$

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Leverage	Leverage	Leverage	Leverage	Leverage	Leverage	Leverage
CRREFORM	-0.0032	0.0013	0.0142***	0.0165***	0.0051*	0.0194***	0.0215***
	(0.371)	(0.646)	(0.005)	(0.000)	(0.082)	(0.000)	(0.000)
CR * High Individualism	0.0142***						
	(0.007)						
CR * High Indulgence		0.0070					0.0142**
		(0.160)					(0.010)
CR * High Power Distance			-0.0140**				
			(0.017)				
CR * High Masculinity				-0.0199***			-0.0126**
				(0.000)			(0.016)

CR * High Uncertainty Avoidance					-0.0030		
					(0.506)		
CR * High Long Term Outlook						-0.0203***	-0.0201***
						(0.000)	(0.000)
Size	0.0524***	0.0523***	0.0525***	0.0527***	0.0524***	0.0527***	0.0531***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tangibility	0.1260***	0.1269***	0.1273***	0.1254***	0.1269***	0.1274***	0.1258***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
EBITDA Margin	0.0078***	0.0075***	0.0077***	0.0078***	0.0077***	0.0077***	0.0079***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Return on Assets	-0.1946***	-0.1936***	-0.1947***	-0.1947***	-0.1951***	-0.1939***	-0.1944***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
M/B Ratio	0.0032***	0.0032***	0.0031***	0.0034***	0.0032***	0.0033***	0.0034***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Log GDP Per Capita	-0.0115	-0.0203*	-0.0208*	-0.0082	-0.0251*	-0.0154	0.0021
	(0.364)	(0.092)	(0.085)	(0.523)	(0.057)	(0.196)	(0.868)
GDP Growth	-0.0362	-0.0316	-0.0323	-0.0432	-0.0272	-0.0307	-0.0500
	(0.398)	(0.447)	(0.449)	(0.280)	(0.519)	(0.447)	(0.201)
GDP Growth Volatility	-3.8034**	-3.8672**	-4.0819***	-4.0981***	-3.8377**	-4.0372***	-4.4371***
	(0.016)	(0.012)	(0.010)	(0.006)	(0.014)	(0.008)	(0.003)
Inflation	0.1057***	0.1054***	0.1046***	0.0970***	0.1038***	0.0971***	0.0945***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Inflation Volatility	-0.0006**	-0.0005*	-0.0006**	-0.0003	-0.0006**	-0.0003	-0.0003
	(0.018)	(0.077)	(0.026)	(0.164)	(0.032)	(0.256)	(0.285)
Savings	-0.0854	-0.0867*	-0.0723	-0.1031**	-0.0910*	-0.0964*	-0.0895*
	(0.115)	(0.095)	(0.195)	(0.045)	(0.090)	(0.058)	(0.087)
Property Rights	0.0008***	0.0009***	0.0008***	0.0008***	0.0009***	0.0009***	0.0007***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Control of Corruption	-0.0405***	-0.0410***	-0.0388***	-0.0434***	-0.0416***	-0.0423***	-0.0420***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.0587	0.1345	0.1361	0.0307	0.1804	0.0858	-0.0679
	(0.601)	(0.208)	(0.197)	(0.786)	(0.111)	(0.415)	(0.549)
N	121301	123405	121301	121301	121301	123029	121301
adj. R-sq	0.7876	0.7863	0.7876	0.7877	0.7875	0.7864	0.7879

References

1. Acharya, Viral, Kose John, and Rangarajan K. Sundaram, 2011, Cross-country variations in capital structure: The role of bankruptcy codes, Journal of Financial Intermediation 20, 25–54
2. Adler, N. (1997) International Dimensions of Organizational Behavior, International Thomson Publishing: OH.
3. Aghion, P., Bolton, P., 1992, An incomplete contracts approach to corporate bankruptcy. Review of Economic Studies 59, 473–494.
4. Aghion, Philippe, Oliver Hart, and John Moore, 1992, The economics of bankruptcy reform, Journal of Law, Economics and Organization, 8, 523–546
5. Aggarwal, R., Goodell, J.W., 2009. Markets and institutions in financial intermediation: national characteristics as determinants. Journal of Banking and Finance 33, 1770–1780.
6. Ahern, D. Daminelli, C. Fracassi 2015, Lost in translation? The effect of cultural values on mergers around the world Journal of Financial Economics, 117 (1), 165-189
7. Altman, E., I., 1984, A Further Empirical Investigation of the Bankruptcy Cost Question, Journal of Finance, 39 (4), 1067-1089
8. Araújo, A., Ferreira, R., Funchal, B., 2012. The Brazilian bankruptcy law experience. Journal of Corporate Finance 18, 994–1004
9. Arosa, C. M. V., Richie, N. and Scuhmann, P. W. 2013. The impact of culture on market timing in capital structure choices. Research in International Business and Finance, 31, 178–192
10. Boubakri, N. and Saffar, W. 2016. Culture and externally financed firm growth. Journal of Corporate Finance. 41, 502–520
11. Bjornskov, C., 2008. Social trust and fractionalization: a possible reinterpretation.

European Sociological Review 24, 271–283.

12. Brick, I.E., Palmon, O., 1992. Interest rates fluctuations
13. Castanias, R., 1983, Bankruptcy Risk and Optimal Capital Structure, Journal of Finance , 38, 1617-1635
14. Chang, K. and Noorbakh, A. 2009. Does national culture affect international corporate cash holdings? Journal of Multinational Financial Management, 19, 323-342.
15. Chui A. C. W., Lloyd, A. E. and Kwok C. Y., 2002. The Determination of Capital Structure: Is National Culture a Missing Piece to the Puzzle? Journal of International Business Studies, 33 (1), 99 - 127
16. Chui, A. C. W., Kowk, C. C. Y. and Zou, G. S. 2016. National culture and the cost of debt. Journal of Banking & Finance 69, 1–19
17. Chui, S. Titman, K.C. Wei 2010 Individualism and momentum around the world, Journal of Finance, 65, pp. 361-392
18. Closset, F. and Urban, D., 2019. The balance of power between creditors and the firm: Evidence. Journal of Corporate Finance. 58, 454–477
19. from German insolvency law
20. Davydanko, S. A., and Franks, J. R., 2008, Do Bankruptcy Codes Matter? A Study of Defaults in France, Germany, and the U.K., Journal of Finance, 63: 565–608
21. Djankov, S., McLeish, C. and Shleifer, A., 2007, Private credit in 129 countries, Journal of Financial Economics, 84, 299-329.
22. Djankov, S., Hart, O., McLeish, C. and Shleifer, A., 2008, Debt enforcement around the world, Journal of Political Economy, 116(6), 1105-1149.
23. Dyer, J.H., Chu, W., 2003. The role of trustworthiness in reducing transaction costs and improving performance: empirical evidence from the United States, Japan, and Korea. Organization Science 14, 57–68.

24. Esty, B. C., and Meggins, W. L., 2003, Creditor Rights, Enforcement, and Debt Ownership Structure: Evidence from the Global Syndicated Loan Market, Journal of Financial and Quantitative Analysis, 38 (1), 37-59.
25. Fauver, M. and McDonald, M. B. 2015. Culture, agency costs, and governance: International evidence on capital structure. Pacific-Basin Finance Journal 34, 1–23
26. Fidrmuc, A. P. and Jacob, M. 2010. Culture, agency costs, and dividends, Journal of Comparative Economics 38, 321–339
27. Ghoul, S. L. and Zheng, X. 2016. Trade credit provision and national culture, Journal of Corporate Finance 41, 475–501
28. Gropp, Reint, John Karl Scholz, and Michelle J. White, 1997, Personal bankruptcy and credit supply and demand, Quarterly Journal of Economics 112, 217–251.
29. Hart, O., 1995, Firms, contracts, and financial structure, Clarendon Press.
30. Hart, Oliver, and John Moore, 1994, A theory of debt based on the inalienability of human capital, Quarterly Journal of Economics, 109, 841–879.
31. Hart, O., Moore, J., 1998. Default and renegotiation: a dynamic model of debt. Quarterly Journal of Economics, 113, 1–42.
32. Haselmann, Rainer, Katharina Pistor, and Vikrant Vig, 2010, How law affects lending, Review of Financial Studies 32, 549–580
33. Heine, Steven J., Darrin R. Lehman, Hazel Rose Markus, and Shinobu Kitayama, 1999, Is there a universal need for positive self-regard? Psychological Review 106, 766– 794.
34. Hofstede, G., Bond, M.H., 1988. The Confucius connection: from cultural roots to Economic growth. Organizational Dynamics 16, 5–21.
35. Hofstede, G.H., 1983. The cultural relativity of organizational practices and theories. Journal of International Business Studies 14, 75–89.
36. Hofstede, G.H., 2001. Culture's Consequences: Comparing Values, Behaviours,

Institutions, and Organizations across Nations. SAGE Publications, Thousand Oaks, CA.

37. Homer, P.M. and Kahle, L.R. (1988) 'A structural equation test of the value-attitude-behavior hierarchy', Journal of Personality and Social Psychology 54(4): 638–646.
38. Jaffee, D., Russell, T., 1976. Imperfect information, uncertainty and credit rationing. Quarterly Journal of Economics, 90, 651–666
39. La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. W. Vishny, 1997, Legal determinants of external Finance, Journal of Finance, 52, 1131-1150.
40. La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. W. Vishny, 1998, Law and Finance, Journal of Political Economy, 101, 678-709
41. Levine, Ross, 1998, the legal environment, banks, and long-run economic growth, Journal of Money, Credit and Banking 30, 596–613.
42. Levine, Ross, 1999, Law, finance, and economic growth, Journal of Financial Intermediation 8, 8–35
43. Li, K., Griffin, D., Yue, H. and Zhao, L. 2013, How does culture influence firm risk taking? Journal of corporate finance, 23, 1-22
44. Licht, A.N., Goldschmidt, C., Schwartz, S.H., 2005. Culture, law, and corporate Governance. International Review of Law and Economics 25, 229–255.
45. Markus, Hazel Rose, and Shinobu Kitayama, 1991, Culture and the self: Implications for cognition, emotion, and motivation, Psychological Review 98, 224–253.
46. North, D.C., 1991. Institutions. Journal of Economic Perspectives 5, 97–112.
47. Qian, J. and Strahan, P. E., 2007, how laws and institutions shape financial contracts: The case of bank loans, Journal of Finance, 62(6), 2803-2834.
48. Rajan, R., and L. Zingales, 1995, What Do We Know About Capital Structure? Some Evidence from International Data, Journal of Finance 50, 1421–1460.

49. Rodano, G., Velarde, G.S. and Tarantino, E. 2016. Bankruptcy law and bank financing. Journal of Financial Economics, 120, 363–382
50. Scott, J., Smith, T., 1986. The effect of the bankruptcy reform act of 1978 on small business loan pricing. Journal of Financial Economics 16, 119–140
51. Stiglitz, J., Weiss, A., 1981. Credit rationing in markets with imperfect information. American Economic Review, 71, 393–410
52. Subramanian, K. and Freerick Tung, 2016, Law and Project Finance, Journal of Financial Intermediation, 23, 154-177
53. Wang, D. and Esqueda, O.A. 2014. National cultural effects on leverage decisions: Evidence from emerging-market ADRs Research in International Business and Finance, 31, 152–177
54. Williamson, O.E., 2000. The new institutional economics: taking stock, looking ahead. Journal of Economic Literature 38, 595–613.
55. Van Den Steen, Eric, 2004, Rational over optimism (and other biases), American Economic Review 94, 1141–1151.
56. Vig, V., 2013, Access to Collateral and Corporate Debt Structure: Evidence from a Natural Experiment, Journal of Finance, 68 (3).
57. Zhang, X., Ghoul, S. E., Guedhami, O. and Kwok, C. C .Y. 2012. National culture and corporate debt maturity. Journal of Banking & Finance, 36, 468–488