Labor Protection and Corporate Debt Maturity: International Evidence

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Abstract

This paper investigates the impact of labor protection on corporate debt maturity structure. We hypothesize that stronger labor protection is conducive to a greater use of short-term debt maturity by firms. Using various country-level indicators as measures of labor protection, and a sample of 114,594 firm-years from 43 countries over the 1990-2010 period, we document robust evidence that firms located in countries where labor enjoys a strong protection tend to borrow more short-term. Our analysis suggests that labor protection is an important institutional factor that plays a role in determining the maturity structure of corporate debt over-and-above economic, legal, and political factors identified in prior research.

Key words: Labor protection; Debt maturity; Institutions; Agency theory, Information asymmetry.

JEL Classification: G32; G34; K31

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1. Introduction

The law and finance literature (e.g., La Porta et al., 1998; 2000) argues that some legal and regulatory environments are more protective of investors, and are thereby more favorable to writing and enforcing financial contracts than others. In this logic, prior research shows that the terms of loan contracts are particularly sensitive to the nature of the institutional environment of the country where the borrowing firm is located. Various country-level institutional characteristics have been shown to impact price and non-price terms of loans contracted by firms. For instance, Demirguc-Kunt and Maksimovic (1999), Giannetti (2003), Qian and Strahan (2007), Bae and Goyal (2009), Fan et al. (2012) examine how firm debt maturity differs across countries according to the level of protection provided to investors and the quality of law enforcement. Overall, their findings point out that legal systems favoring creditor rights and strict law enforcement are conducive to the use of more long-term debt. The empirical results reported in these studies are consistent with Diamond's (2004) theoretical argument that firms in countries with weak creditor protection and enforcement are expected to use more short-term debt.

In this paper, we extend the aforementioned literature on the importance of investor protection to the terms of loan contracts to another dimension of a country's institutional environment, which is the legal protection of an important nonfinancial stakeholder, namely employees. Specifically, we use a cross-country setting to investigate whether corporate debt maturity varies according to the extent of institutional protection provided to the labor force. While recent cross-country research highlights the importance of several institutional characteristics to the terms of loan contracts, it is surprising that the effect of labor protection institutions and regulations has so far remained unexplored. Labor is a significant input to the production process of any firm. This makes employees an influential stakeholder whose interests and incentives shape firm decisions and outcomes. Employees' interests and incentives are influenced, *inter alia*, by the extent of protection granted to them through the country's

legislation. As such, it is of interest to understand whether country labor protection regulation impacts the price and non-price terms of corporate loan contracts. In this paper, we aim to fill part of this gap by empirically investigating the relation between country-level labor protection and corporate debt maturity structure.

There are two potential reasons for a country's extent of labor protection to affect corporate debt maturity structure. The first reason is related to potential conflicts of interest that may arise between legally empowered labor and creditors. Legally empowered workers are likely to affect creditors' claim through their impact on default risk and contract enforceability. Well protected labor can engage in disruptive labor behavior, which can increase a firm's default risk. It can also make the repossession of collateral by lenders and the liquidation of the firm, in the event of default, harder and costlier. Creditors would thus rationally anticipate that their capability to enforce debt contracts will be compromised by the stringency of labor regulations. This can, in turn, lead to the prevalence of short-term debt in institutional systems characterized by stringent labor regulations.

The second reason relates to information asymmetry. When firm insiders are better informed than outside investors, firms tend to choose short-term debt to signal that they have good quality projects (Flannery, 1986). In the presence of liquidity risk, Diamond (1991a) also shows that information asymmetry leads firms with higher credit ratings to prefer short-term debt. Moreover, Barnea et al. (1980) rationalize firms' use of short-term debt by its role in reducing the agency costs of debt due to information asymmetry between borrowers and lenders. Berger et al. (2005) report evidence that greater information asymmetry reduces the average maturity of firm borrowings.[1] In parallel with this, information asymmetry is shown to increase with the presence of a stronger bargaining power of the workforce (e.g., Hilary, 2006). Hence, labor protection could also affect the maturity structure of corporate debt by changing the extent of information asymmetry between firm insiders and outsiders.

[1] A more detailed discussion of the literature on the effect of information asymmetry on debt maturity choice follows in Section 2.

Using a large sample of 114,594 firm-year observations from 43 countries over the period 1990-2010, we find strong empirical evidence that stronger labor protection leads to shorter debt maturity. Using the Fraser Institute's labor market regulation index (LMR) as a proxy for a country's labor protection, we find that moving from the 10th (Uruguay) to the 90th percentile (Finland) of LMR, is associated with a decrease in long-term debt to total debt by 14.61%. Using COLLECTIVE and EPL as proxies for labor protection yields similar statistically and economically significant effects on the maturity of corporate borrowings. These results are robust to various firm- and country-level controls identified in prior literature, alternative estimation techniques, changes in sample composition, as well as to accounting for the potential endogeneity of labor regulation. In particular, we treat the potential endogeneity of labor protection by using a country's legal origin as an instrument to predict our labor protection indicators. Across all these robustness tests, we find a substantial negative relation between the extent to which a country protects its labor force and corporate debt maturity. In sum, our results provide empirical support for our theoretical argument that a country's labor protection regulation impacts the maturity of firm borrowings. Furthermore, the battery of country-level legal, political, economic, and financial controls suggests that labor protection regulation is an important institutional factor that exerts an influence on corporate debt maturity over and above the influence of other country-level institutional factors.

Our study's central contribution is that it provides novel empirical evidence that a country's legal protection of labor impacts its firms' debt maturity structure. As much as is known, this paper is the first to investigate whether labor protection institutions and regulations affect the maturity of corporate debt. Specifically, we add to prior research documenting the importance of a country's institutional environment to the maturity structure of corporate debt. The legal protection of creditors (e.g., Qi and Strahan, 2007; Bae and Goyal, 2009), political setting (e.g., Fan et al., 2012), macro-economic environment (e.g., Demirguc-kunt and Maksimovic, 1999; Giannetti, 2003) as well as national culture (Zheng et al., 2012) are shown to be significant determinants of corporate debt maturity. We complement this literature with evidence that the extent to which a country's legislation provides protection to labor also impacts corporate debt

maturity structure. Our findings point to a significant negative effect of strong institutional protection of labor on the use of long-term debt, over-and-above the influence of factors identified by prior research.

This study also complements research work showing that labor regulations impact firm capital structure decisions. Specifically, Serfling (2013) and Simintzi et al. (2012) document evidence that more stringent state/country-level labor protection legislations lead firms to maintain lower debt ratios. This paper supports their findings by showing that stringent country-level labor legislations not only limit firms' use of debt as a source of capital, but also reduce their recourse to long-term debt.

The remainder of the paper proceeds as follows. Section 2 reviews prior literature on the determinants of corporate debt maturity and discusses the potential significance of labor protection as a determinant of corporate debt maturity. Section 3 describes the data and variables. Section 4 reports empirical results. Section 5 reports a battery of robustness tests. Finally, Section 6 concludes the paper.

2. Related Literature and Hypothesis

2.1. Debt Maturity Choice

Prior debt maturity literature identifies two major sets of determinants of firm debt maturity structure: firm-level and country-level characteristics. Firm-level characteristics are derived from two theories wherein optimal debt maturity structures are justified by the prevalence of agency problems and the inability of financial markets to provide complete and costless solutions to those problems: agency theory and information asymmetry-based theory, respectively.

For instance, Myers (1977) argues that risky debt is a source of agency costs as it induces a firm to pass-up valuable investment opportunities – underinvestment – in some states of nature. In particular, a firm's investment decisions are distorted if creditors capture a large part of the cash flows created from such investments – debt overhang. Myers (1977) therefore suggests the solution of short-term debt to the overhang problem, because if all debt matures before growth opportunities are exercised, the firm makes its investment decisions as if it were an all-equity firm. The

potential for asset substitution is another source of agency costs for the firm (Jensen and Meckling, 1976). Barnea et al. (1980) argue that shortening the maturity of debt reduces asset substitution incentives.

In addition, several theoretical models predict that informational asymmetries have implications for firms' preferred maturity of debt. Flannery (1986) presents a model in which the maturity of a firm's risky debt serves as a signal about its credit quality. One of the cross-sectional implications of Flannery's model is that firms operating in more opaque environments should tend to issue more short-term debt as a signal of high current as well as potential creditworthiness. Moreover, Diamond (1991a) develops a model wherein debt maturity choice is analyzed as a trade-off between a borrower's preference for short-term debt due to private information about the future credit rating, and liquidity risk. Diamond's analysis predicts that borrowers with higher ratings prefer short-term debt because their liquidity risk is low, while lower rated borrowers prefer long-term debt as it reduces their liquidity risk. Moreover, some very low rated borrowers have no choice but to borrow short-term despite the control that it gives to lenders because of the extreme adverse selection costs that they face. Barnea et al. (1980) also argue that the use of short-term debt mitigates agency problems of debt due, *inter alia*, to informational asymmetry.

Besides firm level characteristics, an emerging body of literature takes the position that legal and institutional differences between countries are likely to shape corporate debt maturity structure. Diamond (2004) argues that the extent to which creditors are legally protected has an impact on the optimal maturity structure of debt. In particular, he suggests that shortening debt maturity is an effective contracting tool in environments characterized by weak legal protection and costly contract enforcement. Consistent with this argument, Demirguc-Kunt and Maksimovic (1999), Gianetti (2003), Qian and Strahan (2007), and Fan et al. (2012) find that legal systems favoring creditor rights and ensuring stricter enforcement of laws are associated with longer maturity of firm debt. As regards economic and financial development, prior research suggests the importance of inflation and government subsidies (Demirguc-Kunt and Maksimovic, 1999) and the size of the banking sector (Fan et al., 2012) to the maturity of corporate

borrowings. Further, Zheng et al. (2012) report evidence suggesting that national culture affects firms' debt maturity choices; they find that firms located in countries characterized by high uncertainty avoidance, high collectivism, high power distance, and high masculinity rely more on short- rather than long-term debt.

2.2. Labor Protection and Corporate Debt Maturity

In this Section, we turn to the potential impact of the legal protection of labor on corporate debt maturity. Specifically, we argue that strong labor protection is likely to lead to the prevalence of corporate short-term debt. We identify and discuss two main channels through which this impact may work.

2.2.1. Effect on Creditors

Empowered labor can exacerbate the conflict of interest between firm stakeholders by dragging corporate decisions and strategies towards the maximization of the workers' claim, which consists in wages, working conditions, and the continuation of the business. This can be detrimental to creditors. In particular, in the event of default, the creditors' claim can be negatively affected by the presence of legally empowered workers as the latter can affect the enforceability of contracts by creditors; labor regulations may empower the workforce to the point where it can make the repossession of collateral by lenders and the liquidation of the firm, in the event of default, harder and costlier. Liquidation is a painful event for workers as "they lose their firm-specific human capital investments as well as the future income streams they would have received had the firm remained solvent" (Chen et al., 2012; p.351). As such, workers may undertake various actions to avoid liquidation even when it is the efficient option for creditors. These actions can vary from direct bargaining with creditors and regulators, lobbying with the political establishment and the media, to strikes, sit-ins and even more violent acts. Such actions are more likely to be effective in impairing creditors' ability to liquidate the firm if workers are empowered further by labor market institutions and regulations. It is thus likely that enforcement of creditors' rights will be harder and more expensive in the presence of a strong legal protection of labor.

In sum, empowered labor can be a potential threat to creditors' interests as it may make contract enforcement ineffective and costly. In such an environment, Diamond (2004) argues that borrowers rely more heavily on short-term debt.[2] Consistent with this theoretical argument, Bae and Goyal (2009) report evidence of shorter debt maturity in countries where contracts are poorly enforced. Further, Qian and Strahan (2007; p. 2820) report results suggesting that "maturity acts as a useful contracting tool when collateral is relatively ineffective (due to weak creditor rights protection)…" Strong labor protection can thus make creditor contract enforcement more expensive, which, in turn, increases corporate reliance on short-term debt. This leads to expect the prevalence of short-term debt in countries where labor enjoys a strong legal protection.

2.2.2. Information Asymmetry

Besides its potential effect on creditors, strong labor protection can also impact firm debt maturity through the creation of more information asymmetry. Several prior studies support the view that firms have strong incentives to maintain an environment of information asymmetry when labor has a strong bargaining power because reducing information asymmetry enables labor to extract more firm resources. As pointed out by Reynolds et al. (1998), labor negotiations are characterized by efforts to conceal and even to misrepresent one's true position. In support of this view, Kleiner and Bouillon (1988) find that disclosing information on firm financial statements, sales and production costs, wages, future strategies and investments as well as productivity results in significantly greater wages and benefits for production employees. Using a sample of Canadian firms, Scott (1994) finds that firms facing a higher likelihood of strikes reduce the disclosure of information on pension plans. More recently, Hilary (2006) finds that strong organized labor is associated with higher information asymmetry between informed and uninformed market participants; in particular, he reports a positive association between labor strength and both bid-ask spreads and the probability of

[2] In Diamond's (2004) model, lenders operating in institutional systems with expensive or ineffective contract enforcement are reluctant to enforce debt contracts because of the high cost of such enforcement. This induces borrowers to misbehave. Short-term debt is shown to be an effective solution to the problem of lender passivity, as it provides incentives for each short-term lender to enforce his contract even when it hurts lenders collectively. Short-term debt eliminates lender passivity because it is subject to runs. The threat of these runs induces lenders to commit to enforce their debt contracts.

informed trading as well as a negative relation between labor strength and both trading volume and analyst coverage.

Throughout the above cited literature, strong labor protection is reported to lead to greater information asymmetry. Theoretical models – covered in Section 2.1 – suggest, on the other hand, that greater information asymmetry is conducive to the use of more short-term debt (Flannery, 1986; Diamond, 1991a; Barnea et al., 1980). Information asymmetry is hence another channel through which more labor protection can induce firms to shorten the maturity of their borrowings.

Based on the findings of prior literature on the role of country-level determinants in explaining corporate debt maturity and the aforesaid arguments on the potential role of stringent labor protection legislations in affecting debt maturity, in this paper, we extend prior research and investigate the role of labor protection in corporate debt maturity structure. Specifically, we investigate whether labor protection regulations can explain cross-country differences in corporate debt maturity structure after controlling for firm-level features and country-level institutional characteristics. We state the main hypothesis of this paper, expressed in the alternate form, as follows.

H1: The greater a country's legal protection of labor, the shorter the debt maturity of its firms, ceteris paribus.

3. Data and Variables

3.1. Data

The data which we use to investigate the impact of labor protection on corporate debt maturity cover the 1990-2010 period, and is collected from various sources. We collect (i) firms' financial data from Compustat Global North America Databases, (ii) data on labor protection legislation from the Fraser Institute, Botero et al. (2004) and Aleksynska and Schindler (2011), (iii) inflation and GDP per capita data from the World Development Indicators, and (iv) data on political and legal institutions from Djankov et al. (2007), ICRG, and Freedom House (2010). Consistent with prior literature we exclude financial (SIC codes from 6000 to 6999) and utility (SIC codes from 4900 to 4999) companies. We also exclude firm-years with missing financial data. Furthermore, we

exclude all firm-year observations with missing labor and country-level control variables. Finally, we winsorize all firm-level variables at the 1st and the 99th percentiles to mitigate the effect of outlier observations. We end-up with a sample of 114,594 firm-year observations from 43 countries for the period starting in 1990 and ending in 2010.

3.2. Variables

To examine the relation between labor protection and corporate debt maturity, we use three sets of yearly-measured variables: (i) country-level measures of labor regulation; (ii) firm-level financial data; and (iii) country-level controls for legal, political, and economic characteristics. Table 1 presents the definitions, calculations, and sources of all variables used in the empirical analysis.

[Insert Table 1 about here]

3.2.1. Debt maturity

Consistent with prior research (e.g., Demirgüç-Kunt and Maksimovic, 1999), we measure corporate debt maturity – DMAT – as the ratio of long-term debt (maturing in more than one year) to the sum of long-term debt and debt in current liabilities. DMAT is thus the fraction of long-term in a firm's total debt.

3.2.2. Labor protection regulation

We consider three alternative measures of labor regulation, which capture various dimensions of labor protection. The first measure is the Fraser Institute's Labor Market Regulation Index (LMR), which is a time variant index that comprises information on 17 labor market regulations, including minimum wage, hiring and firing, centralized collective bargaining, hours regulation, cost of worker dismissal, and military conscription. LMR is calculated as the average of six sub-indexes, which are mostly *de facto* based on surveys such as the World Bank's Doing Business and Global Competitiveness Report (Gwartney et al., 2012). It has the advantage of combining several aspects of the labor market institutions and regulations. Further, being an index based on *de facto* regulations and institutions rather than just on formal legal rules offers the advantage of capturing the quality of enforcement of labor protection rules. To

facilitate interpretation and be consistent with other institutional variables, we reverse the order of Fraser Institute's Index by subtracting each value from 10. Higher values of LMR indicate more protective labor regulations and institutions.

Our second measure of labor protection regulation is the one suggested by Botero et al. (2004). This measure, which we label COLLECTIVE, is a *de jure* index based on formal legal rules governing an important dimension of labor protection, namely collective relations. This index, thus, encompasses collective relations' laws seeking to protect workers' rights through collective action. COLLECTIVE varies between 0 and 1, and is calculated as the average of (*i*) labor union power and (*ii*) collective disputes; greater values indicate an environment where labor unions have a stronger power vis-à-vis employers.

The third labor variable used in this study is the employment protection legislation index (EPL) developed by Aleksynska and Schindler (2011), which is an indicator of a country's stringency of employment protection. EPL is based on *de jure* labor market institutions, as enshrined in countries' legislations, and covers three dimensions of labor protection: minimum wages, unemployment benefits, and employment protection. EPL varies between 0 and 10, with greater values indicating more protective labor regulations.

3.2.3. Control variables

The aforementioned discussion of theoretical and empirical corporate debt maturity literature points to two sets of determinants of debt maturity choice: firm characteristics and country-level factors. To disentangle the impact of labor protection regulation on debt maturity, we control for firm-and-country-level characteristics in our regression analysis.

Firm-level controls include leverage (LEV), measured as the ratio of total debt to total assets. More levered firms face a greater liquidity risk, and are thus expected to borrow with longer terms to maturity (Johnson, 2003; Custodio et al., 2013). Moreover, more levered firms may tend to use more long-term debt to postpone their exposure to default risk (Morris, 1992). Firm size (SIZE), measured as the natural logarithm of total

sales in millions of U.S dollars, is also included as a control variable. As noted by Barclay and Smith (1995) and Custodio et al. (2013), firm size can be related to the maturity of debt for several reasons, such as financial condition and information asymmetry. Larger firms are thought to suffer less from information asymmetry; hence, they raise more long-term debt (Custodio et al., 2013). Larger firms may also be more financially secure and are thus better able to raise long-term debt (e.g., Johnson, 2003). The market-to-book ratio (MB), calculated as the ratio of the market value of equity to the book value of equity, is included in the regression equation to proxy for a firm's growth opportunities. Firms with more growth opportunities are expected to use more short-term debt to mitigate the underinvestment problem (Myers, 1977; Barclay and Smith, 1995; Barclay et al., 2003). Asset tangibility (PPE), calculated as the ratio of property, plant, and equipment to total assets, proxies for a firm's capability to provide collateral and hence its easiness of access to long-term credit. A greater PPE is expected to be associated with a longer maturity of debt (Demirgüç-Kunt and Maksimovic, 1999; Kirch and Terra, 2012; Custodio et al., 2013).

Asset maturity (AMAT), calculated as the weighted average of the maturities of long-term and current assets, is used as a control for the extent of asset and liability maturity matching. A longer maturity of assets is expected to result in a longer maturity of debt (Morris, 1976; Barclay et al., 2003). We also control for a firm's abnormal earnings (ABNE), which we calculate as the difference between firm's earnings per share in year $t+1$ and that in year t divided by the firm's price in year t. According to the signaling theory of Flannery (1986), debt maturity can be used as a signal on the quality of the firm's investments. More specifically, firms with better-quality investment projects – greater abnormal earnings – are expected to raise more short-term debt (Barclay and Smith, 1995; Custodio et al., 2013). We also include the standard deviation of the return on assets over the past 5 years (STDROA) as an additional control for firm-specific characteristics. There are two alternative potential ways in which the standard deviation of the return on assets can be related to debt maturity. As a proxy for default risk, STDROA is expected to be negatively associated with debt maturity since firms with a higher likelihood of default might be excluded from the market for long-term debt

(Custodio et al, 2013). Alternatively, according to Flannery (1986), firms with lower credit quality – higher STDROA – raise more long maturity debt.

Country-level controls that we include in the debt maturity–labor regulation regression equation proxy for economic and financial development, political institutions, and investor protection. Our proxy for a country's level of economic development is the natural logarithm of GDP per capita (LNGDPC). Prior literature (e.g., Demirgüç-Kunt, and Maksimovic, 1999) argues that firms operating in more economically developed countries enjoy a better contracting environment, which facilitates access to long-term debt. The ratio of stock market capitalization to GDP (MCAP) is used as a proxy for a country's level of financial development. Financial markets are shown to enhance investors' access to information (e.g., Grossman, 1976). As noted by Demirgüç-Kunt and Maksimovic (1999), the greater revelation of information reduces the riskiness of lending to publicly listed firms. Consequently, firms located in countries with more developed stock markets may have easier and cheaper access to long-term credit (Demirgüç-Kunt and Maksimovic, 1998). We thus expect a positive association between MCAP and DMAT.

Moreover, Demirgüç-Kunt, and Maksimovic (1999; p.302) argue that "governments can facilitate the issuance of long-term debt by maintaining a predictable currency value." According to this reasoning, firms located in countries with lower and/or less variable inflation rates should tend to issue more long-term debt. We include a country's inflation rate as a control variable and expect it to be negatively associated with DMAT. Furthermore, Qian and Strahan (2007; p.2808) contend that "the strength of creditor rights is of paramount importance for lenders in determining the degree of their exposure to borrower expropriation." We thus control for the potential effect of creditor rights' protection on debt maturity using the creditors' rights index developed by Djankov et al. (2007).

Besides the firm and country-level controls, we also include year and industry fixed effects to reduce the potential effect of omitted variables. In the robustness section, we also include additional firm- and country-level control variables to check whether our primary results are robust.

3.3. Descriptive statistics

Table 2 reports mean values and number of observations for our dependent variable – DMAT – and for all country-level variables by country, whereas Table 3 reports descriptive statistics of all variables used in the analysis, for the full sample. In a nutshell, Table 2 suggests that our sample covers countries located in all continents. Our sample countries also vary across the level of economic development as the sample includes less developed, emerging, and developed countries. There is also a large cross-country variation in firm debt maturity, with the average DMAT ranging from a minimum of 0.193 (China) to a maximum of 0.746 (Norway); on average, long-term debt represents only 19.3% of total debt of Chinese firms while it represents 74.6% of total debt of Norwegian firms. Norway is also reported as the country with the highest ratio of long-term debt to total assets in Demirguc-Kunt and Maksimovic (1999) and Zheng et al. (2012), and with the second highest ratio in Fan et al. (2012). Fan et al. (2012) also observe that China has the lowest long-term to assets ratio in their sample. Table 3 indicates that our sample mean (median) of DMAT is 0.523 (0.553), while its standard deviation equals 0.335.

Table 2 also shows that there is large variation in the extent to which countries provide protection to workers. Based on the LMR index, Japan is the country with the weakest protection of labor (2.16), whereas Germany is the country that protects its workers the most (6.34). Table 3 indicates that the mean (median) LMR index in our sample is 3.044 (2.735), with a standard deviation of 1.703. Table 2 also suggests that Peru is the country where labor unions enjoy the greatest power (COLLECTIVE: 0.71) and the U.K and Malaysia are the countries whose labor unions have the least power vis-à-vis employers (COLLECTIVE: 0.19). Table 3 shows that the mean (median) COLLECTIVE index in the full sample is 0.422 (0.378), with a standard deviation of 0.176. EPL – our third measure of labor protection – appears with the greatest value in Colombia (9.97) and with the lowest value in the U.S (0.00). Table 3 repots a mean (median) for EPL of 1.294 (1.167) and a standard deviation of 1.243.

[Insert Table 2 about here]

[Insert Table 3 about here]

Table 4 reports Pearson correlation coefficients between the variables used in the regression analysis. Statistically significant correlation coefficients at the 1% level are shown in bold. Consistent with our predictions, our labor protection variables are negatively correlated with debt maturity (DMAT); the coefficient estimates are statistically significantly different from zero at the 1% level indicating that firms located in countries where workers are afforded strong legal protection tend to use shorter-term financing. We also note that the control variables used in the DMAT regression model are generally correlated with DMAT as predicted and reported by prior literature. These correlation coefficients are statistically significant (at the 1% level).[3] Notice also that the correlation coefficients among our explanatory variables are generally low, providing assurance that multi-collinearity is not a major concern for our analysis.

In Table 4, we particularly note the moderate correlations among our labor protection variables; Pearson correlation coefficients vary between 0.332 and 0.467, implying that our three indicators – LMR, COLLECTIVE, and EPL – are capturing different dimensions of labor protection. Whereas LMR and EPL encompass a broad range of labor market policies and institutions, COLLECTIVE captures exclusively collective relations laws. Moreover, while EPL and COLLECTIVE are merely *de jure* indicators measuring the existence of labor protection laws, LMR is a *de facto* indicator containing also information on the extent to which these laws are applied are enforced.

We now turn to the multivariate analysis to examine whether these univariate correlations between DMAT and our labor protection indicators continue to hold when we control for other firm- and country-level factors.

[Insert Table 4 about here]

4. Empirical evidence

This section presents the key results of the analysis of the relation between labor protection and corporate debt maturity structure. We begin by documenting the

[3] Among the firm-level determinants, the only variable that appears with a correlation coefficient with DMAT which is against our expectations is the proxy for growth opportunities (MB). For country-level determinants, only CR appears to be negatively correlated with DMAT, and hence against our expectations.

empirical association between our labor protection indicators and debt maturity at the firm-level. We then present evidence of empirical association between labor protection and firm debt maturity at the country level.

4.1. Labor protection and debt maturity: Firm-level analysis

To investigate the effect of labor protection on corporate debt maturity, we use our sample of 114,594 firm-years from 43 countries over the 1990-2010 period. Our regressions are estimated using pooled OLS and correcting for heteroscedasticity and clustering at the firm level. We also include industry and year fixed effects to account for the potential effect of industry affiliation and time on the proportion of long-term debt in a firm's capital structure. We begin the analysis by documenting the effect of firm-level characteristics on debt maturity. Next, we include the set of country-level factors to the regression model and estimate their impact on debt maturity. Finally, we estimate the relation between each labor protection measure and debt maturity. Panel A of Table 5 reports the results of these estimations.

Model (1) of Table 5 presents the results of the debt maturity regression that includes only firm-level variables. It shows that the firm-level controls selected based on prior research on debt maturity generally load statistically significant with the predicted signs. Long-term debt is more used by more indebted firms, as the coefficient estimate on leverage is positive and significant at the 1% level. This finding suggests that firms with better capacity to raise debt capital are also more capable to borrow with long-term maturity, and is consistent with prior empirical evidence (e.g., Giannetti, 2003; Johnson, 2003; Zheng et al., 2012; Custodio et al., 2013). Consistent with prior research (e.g., Barclay and Smith, 1995; Demirguc-Kunt and Maksimovic, 1999; Johnson, 2003; Fan et al., 2012; Kirch and Terra, 2012; Zheng et al., 2012; Custodio et al., 2013), and in step with the argument that larger firms are less prone to information asymmetry and, hence, tend to lengthen the terms of their borrowings, we also find that firm size (SIZE) is positively and significantly associated with DMAT. In contrast to the theoretical argument and prior findings that firms with more investment opportunities would use more short- than long-term debt, MB appears with a positive and significant coefficient estimate.

However, this statistical significance generally disappears when we include the labor protection variables and other country-level controls.[4]

Consistent with Qian and Strahan (2007), Kirch and Terra (2012) and Fan et al. (2012), we find that PPE – a measure of asset tangibility – loads positive and significant at the 1% level, lending support to the view that firms with more assets to offer as collateral can raise more long-term debt. Contrary to our expectations and to the maturity matching hypothesis, asset maturity (AMAT) loads significantly negative. In step with Flannery's (1986) theoretical argument that short-term borrowings are a tool used by firms to signal their high-quality to investors and consistent with Barclay and Smith (1995), and Zheng et al. (2012) empirical results, we find a statistically negative coefficient estimate on our measure of abnormal returns (ABNE). We further find that the standard deviation of the return on assets over the past five years (STDROA) is positively and significantly associated with the term to maturity of firm debt. This result is consistent with the predictions of Flannery's (1986) and Diamond's (1991a) models that lower risk firms use more short-term debt and with Berger et al.'s (2005) empirical evidence.

In Model (2) of Table 5, we augment the firm-level controls with country-level variables which proxy for the institutional economic, financial, legal, and political setting. We find that consistent with Fan et al. (2012), a country's level of economic development (LNGDP) is positively and significantly associated with greater reliance on long-term debt. Further, we find that corporate debt has longer maturity in countries with more developed stock markets (MCAP), possibly reflecting the positive effect of stock markets on the availability of information to investors (e.g., Grossman, 1976; Grossman and Stiglitz, 1980), which can reduce the risk of longer-term lending. In line with the supply-side view of capital structure (e.g., El Ghoul et al., 2011), we find a negative association between CR and the length of debt maturity. Consistent with the argument that lower inflation facilitates the holding of long-term debt by firms, we find a negative and significant relation at the 1% level between INFL and DMAT.

[4] Fan et al. (2012) find a positive and statistically significant association between the market-to-book ratio and the use of long-term debt in their sub-sample of developing countries. Zheng et al. (2012) also report a positive and statistically significant relation between the market-to-book ratio and the ratio of long-term debt to assets.

The results of the estimation regression models (1) and (2) show that overall our firm- and country-level control variables are associated with debt maturity in the same directions identified in previous studies. In the rest of the regression models reported in Panel A of Table 5 ((3) – (5)), we test our main hypothesis stating that more stringent labor protection leads to a reduction in corporate debt maturity. Our prediction is that over and above the previously identified country-level determinants of debt maturity structure, labor protection regulations play a significant role.

[Insert Table 5 about here]

As discussed earlier, we use three different measures of labor protection, which we include separately in each of the Models (3) to (5) along with the firm- and country-level control variables used in Models (1) and (2). With a few exceptions, the signs as well as the economic magnitude and the statistical significance of the control variables are the same as in Models (1) and (2). In Model (3), we find that LMR loads negative and significant at the 1% level, lending support to our prediction that firms located in countries with more labor protective institutions and regulations are more inclined to the use of short-term debt. As much as economic magnitude is concerned, we find that moving from the 10th (USA) to the 90th percentile (Turkey) of LMR, is associated with a decrease in long-term debt to total debt by 14.61%. This result suggests that over-and-above political, legal, economic and financial characteristics, a country's extent of labor protection also affects corporate debt maturity structure. The potential of strong labor protection to intensify within-firm conflicts of interest and to create more information asymmetry can lead firms to rely on more short-term debt when operating in countries that are host to institutions and policies granting workers a strong protection.

Model (4) reports the results of the debt maturity regression using COLLECTIVE as a measure of labor protection. The coefficient estimate on COLLECTIVE is negative and significant at the 1% level, implying that more stringent collective labor laws lead to the prevalence of short-term debt in firms' balance sheets As much as economic magnitude is concerned, we find that moving from the 10th (UK) to the 90th percentile (Japan) of COLLECTIVE, is associated with a decrease in long-term debt to total debt by

40.85%. This finding suggests that the greater the power of a country's labor unions and the shorter the maturity of debt raised by its firms.

In Model (5), we use EPL as a measure of a country's labor protection, and find that it loads negative and significant at the 1% level, supporting further our prediction on the negative impact of stringent labor regulations on firm debt maturity. Economically, we find that moving from the 10th (USA) to the 90th percentile (Greece) of EPL, is associated with a decrease in long-term debt to total debt by 20.92%.[5] Overall, whether we use a measure of labor protection that captures *de facto* institutions and policies, covers a broad range of labor market dimensions, and contains information on enforcement of such institutions and policies (LMR) or *de jure* measures that capture either the power of a country's labor unions (COLLECTIVE) or the existence of legal rules on minimum wages and unemployment benefits (EPL), our results reported in Panel A of Table 5 indicate that labor market institutions have a significant power in explaining cross-country differences in corporate debt maturity. In sum, firm debt maturity decreases as we move into countries with relatively more protective labor legislations.

4.2. Labor protection and debt maturity: Country-level analysis

In this section, we estimate the impact of our labor protection measures on corporate debt maturity at the country level. To this end, in each year, we calculate the average debt maturity – and the average of all firm-level independent variables – of all firms in a specific country. In each year, we thus end up with one observation per country, which makes up an unbalanced panel of 724 country-year observations (555 when we use EPL) over the 1990-2010 period. We re-estimate the impact of labor protection on corporate debt maturity using as our dependent variable the country-year average debt maturity and as controls the country-year averages of firm-level variables as well as the yearly country-level variables used in Panel A of Table 5. Additionally, we include year fixed effects. The results are reported in Panel B of Table 5.

[5] We note that the fit of our regression models is comparable to prior studies on debt maturity; the Adjusted R^2 ranges from 13.4% to 23.8%.

Consistent with the firm-level results reported above, we find that our three labor protection measures are negatively and significantly associated with a country's average corporate debt maturity. The coefficient estimates on LMR, COLLECTIVE, and EPL are all negative and statistically significant at the 1% level, suggesting that an increase in the stringency of a country's labor laws and regulations results in a decrease in the fraction of long-term debt used by its firms. We also notice that the coefficient estimates on most of the firm- and country-level controls retain their signs and significance observed in Panel A of Table 5. Overall, the results reported in Table 5 are supportive of our hypothesis stating that stronger labor protection leads to a greater reliance on short-term debt by firms; whether we use firm-level or country-level data, we find that firms located in countries where labor enjoys a greater protection use more short-term debt.

5. Robustness Checks

The results reported in Table 5 suggest that firms operating in legislations that afford workers better protection tend to have a lower proportion of long-term debt in their capital structures. In what follows we perform a number of additional analyses in order to ascertain that the uncovered negative association between labor protection measures and debt maturity reflects the effect of labor market institutions and regulations on the choice of corporate debt maturity. Throughout this Section, our interpretations will be focused on whether the documented relation between our labor protection variables and the debt maturity is sensitive to any changes in the variables, samples, or estimation methods adopted in the previous Section. For the sake of brevity, we report only results where LMR is used as a labor protection measure. The results of estimations using COLLECTIVE and EPL are qualitatively the same.[6]

5.1. Additional firm-level controls

The regression analysis reported in Table 5 includes most of the firm-level control variables that were identified by prior literature on debt maturity. Yet, in Table 6 we examine the robustness of our analysis to additional firm-level controls to ensure

[6] These results are available upon request.

that our previous results are not biased due to omitted correlated variables. We re-estimate the debt maturity regression model including the following variables: return on assets (ROA), return on equity (ROE), a dummy variable (LOSS) that takes on 1 if the firm reports negative earnings, effective tax rate (ETR) calculated as total income taxes divided by pre-tax income, Altman's Z-score (Z-SCORE), OWNERSHIP which is the number of closely held shares divided by common shares outstanding, and LABOR_INTENSITY which is the median ratio for each industry - as classified by Campbell (1991) – of the cost of staff normalized by firms' total assets.[7] Across all the additional controls, we find that the negative and significant association (at the 1% level) between our three labor protection measures and DMAT continues to hold. Further, the economic magnitude of the effect of the labor protection measures on debt maturity is generally not altered by including these additional controls.

[Insert Table 6 about here]

5.2. Additional country-level controls

Prior research shows that various facets of a country's institutional environment – economic, legal, political, and cultural – may have an impact on the maturity structure of corporate debt. Although our regression estimations reported previously account for the main country-level controls of debt maturity, in Table 7, we examine whether our results continue to hold when we include additional country-level measures of the institutional environment. In column (1), we re-estimate the DMAT model including CORRUPTION which is an index that assesses corruption within a country's political system, with higher values indicating a lower level of corruption. Fan et al. (2012; p.27) argue that "since short-term debt is more difficult to expropriate, it will be used relatively more frequently than long-term debt in more corrupt countries". While we find no empirical evidence of this prediction in our sample, the negative and significant (at the 1%) association between our labor protection measure – LMR – and debt maturity continues to hold. We also re-estimate the debt maturity model including LAW&ORDER as an additional country-level control of the legal environment.

7 Closely held shares, as reported in Worldscope, include the following items: (i) shares held by insiders, such as senior executive officers, directors, and their immediate families, (ii) shares held in trusts, (iii) shares held by another corporation (except shares held in a fiduciary capacity by financial institutions), (iii) shares held by pension/benefit plans, and (v) shares held by individuals who hold 5% or more of total shares outstanding.

LAW&ORDER is an index that measures the extent to which a country has a strong law and order tradition, with higher levels of the index indicating greater reliance on the legal system to settle disputes. Consistent with prior literature (e.g., Demirguc-Kunt and Maksimovic, 1999 and Bae and Goyal, 2009), the coefficient estimate on LAW&ORDER appears positive and significant at the 1% level – column (2) – implying that a corporate debt maturity is longer in countries with better law and order traditions. Importantly, this does not prevent the labor protection measure from remaining negative and significant. In column (3) of Table 7, we report results of the estimation of the DMAT model where we include REV_ANTIDR as an additional country-level control for the legal protection of minority shareholders. The results regarding the association between LMR and DMAT are unaffected by this additional control.

Besides the legal environment, Zheng et al. (2012) contend and find evidence that national culture influences corporate debt maturity. Omitting to control for national culture in an analysis of labor protection-debt maturity relation can be a source of bias. The reason is that national culture may also affect the extent to which a country provides legal protection to workers. We thus re-run the debt maturity regression including power distance index (PDI) developed by Hofstede (2001) as a proxy for national culture. In step with Zheng et al. (2012) results, PDI loads negative and significant at the 1% level – model (4) – suggesting that corporate debt maturity is shorter in countries that endorse a culture of high power distance. Crucially for our analysis, our labor protection variable continues to load negative and significant at the 1% level, indicating that the initially reported association between labor protection and debt maturity is not due to the omission of a cultural variable. In column (5) of Table 7, we include a measure of financial development – FD – as an additional control variable. FD is calculated as the sum of stock market capitalization and private credit relative to GDP. The results indicate that adding this control does not alter our previously reported negative association between LMR and DMAT.

In summary, our documented evidence of a negative association between labor protection and debt maturity is insensitive to the inclusion of additional country-level controls for the legal, political, financial, and cultural environment, lending further

support to our argument on the relevance of labor market institutions and regulations as a determinant of debt maturity structure, over-and-above country-level determinants identified by prior literature.

[Insert Table 7 about here]

5.3. Alternative Regression Methods

In columns (1) through (4) of Table 8, we examine the robustness of our results on the labor protection-debt maturity relation to the use of alternative regression methods. We start by re-estimating our DMAT model using the Tobit regression technique since our dependent variable is truncated at zero and one. The results reported in column (1) indicate that our labor protection variable continues to load negative and significant at the 1% level, reinforcing our initial findings. We also check whether our main results hold when we use the weighted least squares regression (WLS) method instead of OLS. Although we corrected for the potential heteroscedasticity of random errors in our main analysis, WLS is thought to produce more efficient estimates than OLS when the error term is heteroscedastic. Our results reported in column (2) indicate that our documented negative association between labor protection and debt maturity continues to hold in this alternative framework; the coefficient estimate on LMR continues to be negative and statistically significant at the 1% level. In column (3), we consider whether the uncovered negative relation between labor protection and corporate debt maturity persists when we use the random effects regression technique. Again, the coefficient estimate on LMR remains qualitatively invariant, supporting our main results in Table 5. In column (4), we account for the potential endogeneity of both debt maturity and leverage; we use the two-stage least squares regression technique (2SLS) where leverage and debt maturity are simultaneously determined (e.g., Barclay and Smith, 1995; Guedes and Opler, 1996).[8] The results indicate that our labor protection variable continues to load negative and statistically significant at the 1% level, suggesting that our main evidence is not due to endogeneity of leverage.

[8] In the leverage regression equation, we use the same regressors as in the DMAT model, except that we add ROA to identify the leverage model. The unreported results of the leverage regression are generally consistent with prior research.

5.4. Alternative Samples

In column (5) of Table 8, we report results based on a sample where U.S and Japanese firms are excluded. The latter represent a large fraction of our initial sample, and it is possible that our main results are driven by U.S and Japanese firms. We continue to find a negative and statistically significant negative relation between our labor protection measure and debt maturity, reducing the concern that our core evidence is driven by the overrepresentation of firms from these two countries. We also re-run the same regressions excluding U.K firms, which also represent a substantial fraction of our sample. The unreported results are robust to excluding these firms.

5.5. Alternative Debt Maturity Proxies

In columns (6) and (7) of Table 8, we analyze whether our main findings are sensitive to alternative measures of corporate debt maturity. After El Ghoul et al. (2011), we calculate two alternative measures of debt maturity: (1) DMAT2 which is a dummy variable that takes on one if the firm uses long-term debt and zero otherwise; and (2) DMAT3 which is calculated as the difference between total liabilities and current liabilities to total liabilities. We use the logit regression technique to estimate the DMAT2 model and the OLS technique to estimate DMAT3 model. We find that the use of these alternative measures of debt maturity reinforces further our main evidence of a negative relation between labor protection and corporate debt maturity; across the two models, the labor protection measure loads negative and significant at the 1% level.

5.6. Endogeneity of Labor

One potential threat to our analysis of the effect of labor protection on corporate debt maturity is that our labor protection variables may not be exogenous. In fact, labor regulations may be determined by unobserved variables that also affect corporate debt maturity; this can lead to biased and inconsistent estimates. We address this concern using an instrumental variable approach. Following Botero et al. (2004), we use legal origin as an instrument for LMR, COLLECTIVE, and EPL. Legal origins can be considered to be exogenous as they reflect countries' historical developments such as colonization. Botero et al. (2004) show that countries with French or other civil law

systems have more rigid labor regulations than countries with English common law systems. We use legal origin as an instrument for each of our three labor protection measures. Specifically, we use a dummy variable, which is equal to one for firms from common law countries, and zero otherwise (COMMON).

We re-estimate Models (3) to (5) of Table 5, using the two-stage least squares regression technique. In the first-stage regression, we predict the labor measure using the country's legal origin as well as the other independent variables used in each model. The results reported in columns (8) and (9) of Table 8 show a negative and significant coefficient at the 1% level for COMMON, implying that countries with common law legal origin have less labor protective institutions and regulations, which is consistent with Botero et al.'s (2004) findings. In the second-stage regression, we use the first-stage fitted values of our labor protection measures as explanatory variables to estimate the DMAT model. Importantly, we continue to find a negative and statistically significant relation at the 1% between labor protection and debt maturity. This result reinforces the confidence in our analysis, which attributes the previously documented negative association between labor protection variables and DMAT to stronger legal protection of labor leading to shorter maturity of corporate debt.

[Insert Table 8 about here]

6. Conclusion

In this study, we document that a country's legal protection of labor plays a significant role in determining the maturity of corporate debt. The financial economics literature has established that corporate debt maturity is determined by factors that are not only firm-specific but also country-specific. Corporate debt maturity has been shown to be determined by a country's economic, financial, political, legal, and cultural characteristics. We reason that labor protection institutions and regulations can be a significant determinant of corporate debt maturity structure over-and-above the above-mentioned country-level factors. Specifically, strong legal protection of labor can add to the conflicts of interest between corporate stakeholders and increase information asymmetry, which according to theoretical literature rationalize the use of more short-

term debt. We thus hypothesize that strong legal protection of labor is conducive to a greater use of short-maturity debt by firms.

We test our hypothesis using a regression analysis of a debt maturity model where the proportion of long-term debt to total debt is determined by firm- and country-level characteristics identified by prior research augmented with labor protection variables. Our empirical analysis reveals that firms located in countries with strong legal protection of labor use a lower fraction of long-maturity debt thereby; we find a statistically and economically significant negative effect of labor protection indicators on the proportion of long-term debt. We interpret this result as evidence that strong legal protection of labor can be a source of additional conflicts of interest and information asymmetry, which increases firm reliance on short-term debt. Our findings are robust to various firm- and country-level controls, alternative regression techniques, different sample composition, endogeneity of country labor regulations, as well as alternative measures of debt maturity.

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Table 1

Variables: Descriptions and Sources

Variable	Description	Source
Panel A: variables used in the main analysis		
DMAT	Debt maturity calculated as the ratio of long-term debt (maturing in more than one year) to total debt. Total debt is the sum of long-term debt and debt in current liabilities.	Authors' calculation based on data from Compustat
LMR	Fraser Institute's Labor Market Regulation Index. It is a time variant index that covers labor regulations, such as minimum wages, hiring and firing practices, the share of the labor force whose wages are set by centralized collective bargaining, and unemployment benefits system. To facilitate interpretation and be consistent with other institutional variables, we reverse the order of Fraser Institute's Index by subtracting each value from 10. Higher values of LMR indicate more protective labor regulations.	Fraser Institute
COLLECTIVE	This measure of labor protection regulation is suggested by Botero et al. (2004). It encompasses laws on the protection of collective relations. COLLECTIVE varies between zero and one, and is calculated as the average of (*i*) labor union power and (*ii*) collective disputes. Greater values indicate an environment where labor has a stronger power.	Botero et al. (2004)
EPL	EPL is a labor protection index which encompasses three dimensions of labor market institutions and regulations: minimum wages, unemployment benefits, and employment protection legislation. EPL varies between 0 and 10, with greater values indicating more protective labor regulations.	Aleksynska and Schindler (2011)
LEV	Leverage calculated as the ratio of total debt to total assets.	Authors' calculation based on data from Compustat
SIZE	Firm size measured as the natural logarithm of the firm's sales in millions of U.S. dollars.	As previous variable
MB	The market-to-book ratio calculated as the ratio of the market value of equity to the book value of equity.	As previous variable
PPE	Asset tangibility calculated as the ratio of property, plant, and equipment to total assets.	As previous variable
AMAT	Asset maturity calculated as the weighted average of the maturities of long-term assets and current assets. The maturity of long-term assets is computed as gross property, plant and equipment divided by depreciation expenses and the maturity of current assets is computed as current assets divided by the cost of goods sold.	As previous variable
ABNE	The difference between firm's earnings per share in year *t+1* and the firm's earnings per share in year *t* divided by the firm's price in year *t*.	As previous variable

STDROA	Asset risk measured as the standard deviation of the return on assets in the last five years.	As previous variable
LNGDPC	The natural logarithm of GDP per capita.	World Development Indicators
MCAP	The ratio of stock market capitalization over GDP.	World Development Indicators
CR	An index of creditor rights developed by Djankov et al. (2007). A score of one is assigned when each of the following rights of secured lenders is defined in laws and regulations: (1) there are restrictions, such as creditor consent or minimum dividends, for a debtor to file for reorganization; (2) secured creditors are able to seize their collateral after the reorganization petition is approved, i.e., there is no automatic stay or asset freeze; (3) secured creditors are paid first out of the proceeds of liquidating a bankrupt firm, as opposed to other creditors such as government or workers; (4) management does not retain administration of its property pending the resolution of the reorganization. The index ranges from 0 (weak creditor rights) to 4 (strong creditor rights).	Djankov et al. 2007
INFL	Inflation, measured as the annual percentage change in the consumer price index	World Development Indicators
Panel B: variables used in the robustness tests		
ROA	Return on assets calculated as the ratio of earnings before interest, taxes, and depreciation and amortization (EBITDA) to total assets.	Authors' calculation based on data from Compustat
ROE	Return on equity calculated as the ratio of earnings before interest, taxes, and depreciation and amortization (EBITDA) to total equity.	Authors' calculation based on data from Compustat
LOSS	Dummy variable that takes on 1 if the firm reports negative earnings.	As previous variable
ETR	Effective tax rate calculated as total income taxes divided by pre-tax income. Takes the value of 0 if pre-tax income is negative.	As previous variable
Z-SCORE	Altman's Z-score calculated based on four financial ratios: Z-score = 6.56A + 3.26B + 6.72C + 1.05D where A = Working Capital/Total Assets; B = Retained Earnings/Total Assets; C = Earnings Before Interest & Tax/Total Assets; D = Market Value of Equity/Total Liabilities.	As previous variable
DMAT2	Dummy variable that takes on 1 if the firm has 100% long-term debt and 0 otherwise.	As previous variable
DMAT3	Proxy for long-term debt maturity calculated as (Total liabilities minus current liabilities) to Total Liabilities.	As previous variable
LAW&ORDER	The ICRG Law and Order Index. The index is an assessment of the strength and impartiality of the legal system as well as the popular observance of the law. The index is time-varying and	International Country Risk Guide

	ranges from 0 to 6, with higher values indicating stronger reliance on the legal system.	(ICRG)
PDI	Hofstede's cultural index on power distance. Power distance is the extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally.	Hofstede (2001)
CORRUPTION	The ICRG corruption index, which is an assessment of corruption within a country's political system. The index varies between 0 and 6, with higher values indicating lower levels of corruption.	ICRG
REV_ANTIDR	A measure of legal protection of minority shareholders against expropriation by corporate insiders developed by Djankov et al. (2008). The index is formed by summing: (1) vote by mail; (2) shares not deposited; (3) cumulative voting; (4) oppressed minority; (5) pre-emptive rights; and (6) capital to call a meeting. A higher value of the index indicates better protection of minority shareholders.	Djankov et al. (2008)
OWNERSHIP	In Worldscope, closely held shares comprise (1) shares held by insiders, including senior corporate officers, directors, and their immediate families, (2) shares held in trusts, (3) shares held by another corporation (except shares held in a fiduciary capacity by financial institutions), (4) shares held by pension/benefit plans, and (5) shares held by individuals who hold 5% or more of shares outstanding.	Worldscope
LABOR_INTENSITY	The median ratio for each industry as classified by Campbell (1991) of the cost of staff normalized by firms' total assets.	Authors' calculation
FD	The sum of stock market capitalization and private credit relative to Gross Domestic Product.	World Development Indicators

TABLE 2

Descriptive Statistics by Country

Country	N	DMAT	LMR	COLLECTIVE	EPL	LNGDPC	MCAP	CR	INFL
Argentina	219	0.499	4.62	0.58	5.63	9.02	35.22	1.00	-1.12
Australia	2678	0.646	2.55	0.37	0.67	10.03	107.21	3.00	0.23
Austria	540	0.498	4.98	0.36	2.16	10.07	23.30	3.00	0.29
Belgium	693	0.584	4.01	0.42	2.26	10.03	63.32	2.00	-3.22
Brazil	1171	0.487	5.65	0.38	6.23	8.28	49.22	1.00	-0.04
Canada	3201	0.693	2.38	0.20	0.97	10.05	96.76	1.00	0.80
China	5151	0.193	4.96	0.33	0.50	7.48	87.92	2.00	-1.10
Colombia	117	0.508	5.03	0.49	9.97	7.91	24.11	0.00	-0.10
Czech Republic	30	0.335	2.69	0.34	1.75	8.80	28.20	3.00	2.52
Denmark	1054	0.568	4.00	0.42	1.78	10.29	55.03	3.00	0.07
Finland	647	0.630	5.60	0.32	1.38	10.11	116.36	1.00	0.37
France	4265	0.527	4.95	0.67	1.48	9.99	73.95	0.00	1.36
Germany	4337	0.516	6.34	0.61	1.50	10.05	44.54	3.00	0.24
Greece	1125	0.383	5.80	0.49	2.67	9.49	56.72	1.00	0.28
Hungary	109	0.546	3.35	0.61	2.20	8.59	25.46	1.00	0.01
India	2284	0.588	2.93	0.38	2.50	6.38	66.94	2.00	0.11
Indonesia	138	0.372	5.39	0.39	1.50	6.67	28.42	2.00	2.09
Ireland	423	0.683	3.21	0.46	0.71	10.15	55.27	1.00	-0.03
Israel	316	0.598	5.18	0.31	4.41	9.93	86.48	3.00	0.55
Italy	1448	0.462	5.05	0.63	0.60	9.85	35.21	2.00	0.05
Japan	26537	0.408	2.16	0.63	1.48	10.54	78.05	2.00	4.53
Korea South	4113	0.352	5.51	0.54	4.50	9.53	73.25	3.00	0.10
Malaysia	2899	0.366	2.48	0.19	3.30	8.40	142.55	3.00	0.44
Mexico	791	0.635	4.68	0.58	4.17	8.66	27.90	1.00	-0.03
Morocco	31	0.299	6.26	0.49	3.78	7.43	72.43	1.00	0.06
Netherlands	1456	0.585	4.60	0.46	1.07	10.06	102.03	3.00	0.05
New Zealand	310	0.623	2.11	0.25	1.32	9.56	39.94	4.00	0.28
Norway	907	0.746	5.45	0.65	0.83	10.53	47.30	2.00	0.46
Pakistan	341	0.373	4.31	0.31	3.28	6.40	29.75	1.00	0.36
Peru	282	0.429	3.32	0.71	7.32	7.81	48.14	0.00	0.63
Philippines	426	0.417	4.07	0.51	3.63	7.07	45.36	1.00	0.10
Poland	364	0.392	3.28	0.57	1.83	8.66	30.05	1.00	0.21
Portugal	49	0.500	5.79	0.65	6.75	9.17	20.58	1.00	-0.15
Russia	88	0.489	3.93	0.58	2.25	7.93	65.74	2.00	-0.16
Singapore	2243	0.409	2.82	0.34	1.29	10.19	173.08	3.00	3.24
South Africa	1439	0.534	4.17	0.54	0.76	8.10	196.71	3.00	0.12
Spain	836	0.491	5.26	0.59	3.06	9.58	74.81	2.00	-0.55
Sweden	1279	0.626	5.44	0.54	1.68	10.28	100.43	1.00	-0.36
Switzerland	1635	0.613	3.16	0.42	1.00	10.46	218.70	1.00	2.17

Thailand	1712	0.351	4.67	0.36	3.17	7.73	54.23	2.00	-0.27
Turkey	789	0.314	5.68	0.47	4.96	8.48	29.29	2.00	-0.06
United Kingdom	10623	0.541	2.41	0.19	1.09	10.10	133.26	4.00	0.04
United States	25498	0.719	1.48	0.26	0.00	10.48	126.07	1.00	-0.41

TABLE 3

Descriptive Statistics

Variable	Mean	Median	Stdev	Min	Max
DMAT	0.523	0.553	0.335	0.000	1.000
LMR	3.044	2.735	1.703	0.722	7.200
COLLECTIVE	0.422	0.378	0.176	0.188	0.711
EPL	1.294	1.167	1.243	0.000	9.972
LEV	0.250	0.230	0.179	0.000	1.000
SIZE	12.714	12.672	1.763	4.673	16.931
MB	2.128	1.430	3.728	-35.580	62.500
PPE	0.326	0.299	0.206	0.000	0.919
AMAT	11.092	8.574	10.714	0.422	188.624
ABNE	0.026	0.002	0.309	-1.693	3.472
STDROA	0.062	0.029	0.108	0.003	1.736
LNGDPC	9.874	10.269	1.021	5.974	10.643
MCAP	97.585	93.448	47.658	4.467	328.876
CR	1.968	2.000	1.026	0.000	4.000
INFL	1.099	-0.049	6.302	-42.177	80.486
OWNERSHIP	0.389	0.375	0.241	0.000	2.287
LABOR_INTENSITY	7.446	7.050	7.631	-612.100	189.960

This table presents descriptive statistics for the variables used in our multivariate regression analysis to examine the impact of labor regulations on the choice of debt maturity for a sample of 114,594 firm-year observations from 43 countries for the 1990-2010 period. Descriptions and sources of these variables are provided in Table 1.

TABLE 4

Pearson Correlation Coefficients

Variable	*DMAT*	*LMR*	*COLLECTIVE*	*EPL*	*LEV*	*SIZE*	*MB*	*PPE*	*AMAT*	*ABNE*	*STDROA*	*LNGDPC*	*MCAP*	*CR*	*INFL*	*OWNERSHIP*
LMR	**-0.160**															
COLLECTIVE	**-0.208**	**0.332**														
EPL	**-0.231**	**0.467**	**0.356**													
LEV	**0.167**	**0.059**	**0.040**	**0.072**												
SIZE	**0.264**	**0.024**	**0.117**	0.007	**0.127**											
MB	**0.030**	**-0.012**	**-0.095**	**-0.101**	**-0.029**	**0.024**										
PPE	**0.164**	**0.086**	**-0.034**	**0.147**	**0.258**	**0.125**	**-0.072**									
AMAT	**0.043**	**-0.008**	**0.049**	**0.153**	**0.159**	**0.047**	**-0.045**	**0.459**								
ABNE	**-0.023**	0.002	**-0.013**	**0.016**	**0.090**	**-0.059**	**-0.016**	**0.008**	-0.003							
STDROA	**-0.015**	**-0.113**	**-0.192**	**-0.088**	**-0.024**	**-0.330**	**0.073**	**-0.142**	**-0.026**	**0.064**						
LNGDPC	**0.184**	**-0.443**	**0.124**	**-0.495**	**-0.057**	**0.091**	**-0.023**	**-0.161**	**-0.083**	**-0.015**	**0.035**					
MCAP	**0.131**	**-0.394**	**-0.481**	**-0.419**	**-0.086**	**-0.054**	**0.109**	**-0.067**	**-0.039**	**-0.019**	**0.121**	**0.184**				
CR	**-0.157**	**0.124**	**-0.114**	**0.176**	**-0.029**	**-0.082**	**-0.024**	**0.066**	**0.070**	**-0.019**	**-0.029**	**-0.096**	**0.064**			
INFL	**-0.061**	**-0.116**	**0.213**	**0.020**	**-0.009**	**0.009**	**-0.032**	-0.001	**0.052**	**-0.016**	**-0.055**	**0.123**	**0.021**	**0.012**		
OWNERSHIP	**-0.204**	**0.301**	**0.298**	**0.273**	0.004	**-0.215**	**-0.059**	**0.046**	**0.036**	0.005	**-0.040**	**-0.248**	**-0.210**	**0.024**	**0.031**	
LABOR_INTENSITY	**0.085**	**0.077**	**-0.183**	**-0.050**	**-0.073**	0.004	**0.071**	-0.004	**-0.080**	**-0.069**	**0.008**	**-0.131**	**0.187**	**0.055**	**-0.034**	**-0.030**

This table presents Pearson pairwise correlation coefficients between the regression variables. The full sample includes 114,594 firm-year observations from 43 countries for the 1990-2010 period. Bold face indicates statistical significance at the 1% level. Descriptions and data sources for these variables are provided in Table 1.

TABLE 5

The Impact of Labor Regulations on Debt Maturity

Variable	(1)	(2)	(3)	(4)	(5)
Panel A: Firm-level regressions					
LMR			-0.016		
			(-10.684)***		
COLLECTIVE				-0.486	
				(-35.621)***	
EPL					-0.038
					(-16.322)***
LEV	0.208	0.227	0.226	0.227	0.220
	(18.142)***	(20.937)***	(20.784)***	(22.009)***	(17.467)***
SIZE	0.050	0.043	0.044	0.045	0.041
	(43.057)***	(39.449)***	(39.632)***	(43.042)***	(32.680)***
MB	0.002	0.001	0.001	0.000	0.000
	(4.416)***	(2.560)***	(2.665)***	(1.041)	(0.882)
PPE	0.194	0.243	0.241	0.217	0.292
	(16.347)***	(21.800)***	(21.616)***	(20.113)***	(21.764)***
AMAT	-0.001	-0.001	-0.001	0.000	-0.001
	(-6.753)***	(-4.528)***	(-5.083)***	(2.260)**	(-5.458)***
ABNE	-0.025	-0.026	-0.025	-0.027	-0.028
	(-8.370)***	(-8.846)***	(-8.528)***	(-9.454)***	(-7.157)***
STDROA	0.245	0.144	0.138	0.049	0.117
	(14.642)***	(9.309)***	(8.983)***	(3.296)***	(5.820)***
LNGDPC		0.047	0.037	0.065	0.006
		(21.233)***	(15.069)***	(27.485)***	(1.897)**
MCAP		0.001	0.001	0.000	0.001
		(24.370)***	(18.210)***	(0.196)	(18.323)***
CR		-0.046	-0.044	-0.050	-0.043
		(-24.149)***	(-22.968)***	(-27.773)***	(-19.813)***
INFL		-0.004	-0.005	-0.002	-0.004
		(-28.090)***	(-29.929)***	(-14.824)***	(-21.992)***
Intercept	-0.157	-0.639	-0.496	-0.586	-0.040
	(-1.913)*	(-7.494)***	(-5.807)***	(-6.782)***	(-1.058)
INDUSTRY EFFECTS	YES	YES	YES	YES	YES
YEAR EFFECTS	YES	YES	YES	YES	YES
N	114594	114594	114594	114594	72964
Adjusted R^2	0.134	0.200	0.204	0.238	0.212
Panel B: Country-level regressions					
LMR			-0.019		
			(-4.489)***		
COLLECTIVE				-0.117	

				(-3.165)***	
EPL					-0.028
					(-7.487)***
LEV	0.449	0.414	0.436	0.398	0.366
	(4.126)***	(4.425)***	(4.704)***	(4.294)***	(3.463)***
SIZE	0.064	0.027	0.032	0.030	0.019
	(6.711)***	(3.387)***	(3.958)***	(3.825)***	(2.026)**
MB	0.009	0.014	0.012	0.013	0.007
	(0.910)	(1.558)	(1.428)	(1.542)	(0.778)
PPE	0.169	0.683	0.613	0.633	0.779
	(1.801)*	(8.458)***	(7.317)***	(7.508)***	(8.664)***
AMAT	-0.003	-0.004	-0.004	-0.003	-0.003
	(-2.084)**	(-3.143)***	(-3.069)***	(-2.669)***	(-2.399)**
ABNE	0.010	-0.002	0.006	-0.001	0.021
	(0.141)	(-0.035)	(0.084)	(-0.014)	(0.286)
STDROA	0.599	0.163	0.072	0.127	-0.287
	(1.808)*	(0.604)	(0.271)	(0.486)	(-1.039)
LNGDPC		0.076	0.073	0.076	0.076
		(11.681)***	(11.293)***	(11.670)***	(9.257)***
MCAP		0.000	0.000	0.000	0.000
		(2.149)**	(0.350)	(1.013)	(1.997)**
CR		-0.025	-0.027	-0.030	-0.034
		(-5.553)***	(-6.536)***	(-6.561)***	(-6.904)***
INFL		-0.001	-0.001	-0.001	-0.001
		(-1.226)	(-1.174)	(-1.136)	(-1.055)
Intercept	-0.502	-0.853	-0.759	-0.822	0.028
	(-3.507)***	(-6.935)***	(-6.173)***	(-6.637)***	(0.196)
YEAR EFFECTS	YES	YES	YES	YES	YES
N	724	724	724	724	555
Adjusted R^2	0.169	0.386	0.406	0.394	0.427

This table presents regression results of the impact of labor regulations and control variables on debt maturity. The full sample includes 114,594 firm-year observations from 43 countries for the 1990-2010 period. **Panel A** reports the results of the firm-level regressions. **Panel B** reports the results of the country-level regressions. Descriptions and data sources for the regression variables are provided in Table 1. z-statistics based on robust standard errors adjusted for clustering by firm are shown below each estimate – in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made, and two-tailed otherwise.

TABLE 6

Labor Regulations on Debt Maturity: Additional firm-level Controls

Variable	**ROA**	**ROE**	**LOSS**	**ETR**	**Z-SCORE**	**OWNERSHIP**	**LABOR_INTENSITY**
	(1)	(2)	(3)	(4)	(5)	(6)	-7
LMR	-0.016	-0.016	-0.016	-0.016	-0.009	-0.009	-0.018
	(-10.833)***	(-10.514)***	(-10.993)***	(-10.711)***	(-5.498)***	(-5.237)***	(-11.846)***
LEV	0.230	0.232	0.244	0.226	0.246	0.265	0.235
	(20.616)***	(19.768)***	(22.306)***	(20.769)***	(21.142)***	(21.729)***	(21.789)***
SIZE	0.043	0.043	0.042	0.044	0.047	0.035	0.043
	(36.288)***	(38.054)***	(37.434)***	(39.699)***	(39.880)***	(28.104)***	(39.548)***
MB	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	(2.437)***	(1.219)	(2.464)***	(2.587)***	(3.185)***	(3.477)***	(2.111)**
PPE	0.240	0.244	0.239	0.241	0.208	0.229	0.239
	(21.362)***	(21.382)***	(21.432)***	(21.608)***	(17.719)***	(18.863)***	(21.598)***
AMAT	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
	(-4.801)***	(-4.951)***	(-4.712)***	(-5.042)***	(-4.099)***	(-2.769)***	(-3.710)***
ABNE	-0.019	-0.023	-0.011	-0.024	-0.024	-0.029	-0.020
	(-4.061)***	(-7.263)***	(-3.670)***	(-8.447)***	(-7.412)***	(-8.447)***	(-6.471)***
STDROA	0.157	0.171	0.162	0.139	0.152	0.049	0.136
	(8.847)***	(9.924)***	(10.407)***	(9.000)***	(9.024)***	(3.005)***	(8.910)***
LNGDPC	0.038	0.037	0.038	0.037	0.060	0.033	0.042
	(15.100)***	(14.926)***	(15.683)***	(15.037)***	(22.071)***	(11.749)***	(16.869)***
MCAP	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	(18.094)***	(18.180)***	(17.989)***	(18.213)***	(21.788)***	(16.433)***	(13.569)***
CR	-0.044	-0.044	-0.044	-0.044	-0.043	-0.046	-0.044
	(-23.070)***	(-22.927)***	(-23.202)***	(-22.989)***	(-20.452)***	(-22.930)***	(-23.456)***
INFL	-0.005	-0.005	-0.005	-0.005	-0.005	-0.004	-0.004

	(-29.857)***	(-29.514)***	(-30.480)***	(-29.945)***	(-28.869)***	(-23.121)***	(-28.287)***
Additional Control	0.048	0.000	0.041	0.000	0.000	-0.132	0.004
	(1.645)*	(1.800)*	(12.985)***	(0.662)	(1.399)	(-15.070)***	(6.832)***
Intercept	-0.512	-0.506	-0.524	-0.496	-0.836	-0.328	-0.540
	(-6.069)***	(-5.977)***	(-6.221)***	(-5.802)***	(-10.200)***	(-3.781)***	(-6.530)***
INDUSTRY EFFECTS	YES	YES	YES	YES	YES	YES	YES
YEAR EFFECTS	YES	YES	YES	YES	YES	YES	YES
N	114593	111685	114594	114525	88486	90456	114579
Adjusted R^2	0.205	0.204	0.206	0.204	0.224	0.199	0.212

This table presents our regression results when we add additional firm-level control variables. The full sample includes 114,594 firm-year observations from 43 countries for the 1990-2010 period. Descriptions and data sources for the regression variables are provided in Table 1. z-statistics based on robust standard errors adjusted for clustering by firm are shown below each estimate – in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made, and two-tailed otherwise.

TABLE 7

Labor Regulations on Debt Maturity: Additional country-level Controls

Variable	CORRUPTION	LAW&ORDER	REV_ANTIDR	PDI	FD
	(1)	(2)	(3)	(4)	(5)
LMR	-0.025	-0.016	-0.017	-0.019	-0.038
	(-18.516)***	(-10.961)***	(-11.243)***	(-13.823)***	(-23.872)***
LEV	0.233	0.223	0.225	0.236	0.247
	(22.757)***	(20.604)***	(20.762)***	(23.118)***	(23.496)***
SIZE	0.044	0.044	0.043	0.043	0.046
	(42.472)***	(40.348)***	(39.568)***	(41.093)***	(42.592)***
MB	0.000	0.001	0.001	0.000	0.001
	(0.330)	(1.954)**	(2.446)**	(0.788)	(3.126)***
PPE	0.233	0.242	0.241	0.212	0.223
	(21.939)***	(21.774)***	(21.618)***	(19.888)***	(20.519)***
AMAT	0.000	-0.001	-0.001	0.000	-0.001
	(2.137)**	(-4.622)***	(-4.994)***	(0.032)	(-4.415)***
ABNE	-0.026	-0.024	-0.025	-0.026	-0.025
	(-8.994)***	(-8.354)***	(-8.524)***	(-8.996)***	(-8.591)***
STDROA	0.077	0.138	0.136	0.048	0.123
	(5.179)***	(8.991)***	(8.847)***	(3.247)***	(8.102)***
LNGDPC	-0.014	0.021	0.037	-0.029	0.070
	(-5.835)***	(7.351)***	(14.856)***	(-10.415)***	(28.354)***
MCAP	0.000	0.001	0.001	0.001	0.002
	(6.736)***	(17.589)***	(18.166)***	(17.061)***	(33.445)***
CR	-0.048	-0.047	-0.042	-0.058	-0.042
	(-26.584)***	(-24.798)***	(-19.022)***	(-30.877)***	(-22.438)***
INFL	-0.004	-0.005	-0.005	-0.003	-0.005
	(24.793)***	(29.486)***	(30.016)***	(17.454)***	(31.386)***
Additional Control	0.048	0.030	-0.004	-0.006	-0.002
	(1.645)*	(10.422)***	(-1.903)*	(-39.585)***	(-29.847)***
Intercept	-0.091	-0.495	-0.492	0.469	-0.564
	(-43.415)***	(-5.902)***	(-5.828)***	(-5.423)***	(-6.908)***
INDUSTRY EFFECTS	YES	YES	YES	YES	YES
YEAR EFFECTS	YES	YES	YES	YES	YES
N	114594	114594	114594	114594	113757
Adjusted R^2	0.243	0.207	0.204	0.252	0.225

This table presents our regression results when we add additional control variables. Panel A reports results when additional firm-level variables are included. Panel B reports results when additional country-level variables are included. The full sample includes 114,594 firm-year observations from 43 countries for the 1990-2010 period. Descriptions and data sources for the regression variables are provided in Table 1. z-statistics based on robust standard errors adjusted for clustering by firm are shown below each estimate – in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made, and two-tailed otherwise.

TABLE 8

Labor Regulations on Debt Maturity: Additional tests

Variable	Tobit	WLS	Random Effects	2SLS	Excluding US & Japan	DMAT2	DMAT3	Endogeneity of Labor	
								First Stage	Second Stage
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LMR	-0.018	-0.015	-0.016	-0.019	-0.046	-0.057	-0.003		-0.106
	(-10.944)***	(-20.336)***	(-3.385)***	(-13.353)***	(-23.469)***	(-5.497)***	(-3.531)***		(-41.054)***
LEV	0.281	0.222	0.226	1.043	0.248	0.946	0.377	-0.127	0.241
	(22.594)***	(40.157)***	(8.147)***	(20.113)***	(18.153)***	(12.616)***	(47.128)***	(2.767)***	(22.956)***
SIZE	0.049	0.043	0.043	-0.009	0.048	0.260	0.031	-0.012	0.045
	(39.464)***	(78.900)***	(19.597)***	(-3.150)***	(34.947)***	(32.126)***	(39.550)***	(-2.240)**	(43.121)***
MB	0.001	0.001	0.001	0.000	0.001	0.009	0.000	0.005	0.002
	(2.297)**	(3.403)***	(4.244)***	(1.006)	(2.172)**	(3.575)***	(0.664)	(4.195)***	(5.510)***
PPE	0.272	0.245	0.265	0.047	0.213	1.637	0.328	0.055	0.218
	(21.283)***	(42.665)***	(6.652)***	(2.988)***	(15.982)***	(21.315)***	(33.066)***	(1.116)	(20.050)***
AMAT	-0.001	-0.001	-0.001	0.000	0.000	-0.006	0.001	-0.010	-0.002
	(-5.517)***	(-8.083)***	(-1.912)**	(0.741)	(2.178)**	(-4.975)***	(2.165)**	(11.306)***	(9.298)***
ABNE	-0.028	-0.025	-0.025	0.001	-0.033	-0.120	-0.017	0.079	-0.020
	(-8.569)***	(-8.046)***	(-6.754)***	(0.257)	(-8.468)***	(-5.965)***	(-8.401)***	(8.182)***	(-6.881)***
STDROA	0.145	0.144	0.173	-0.104	0.074	1.008	0.136	0.681	0.095
	(7.955)***	(13.423)***	(4.977)***	(-5.191)***	(3.494)***	(9.710)***	(12.617)***	(12.438)***	(6.564)***
LNGDPC	0.044	0.040	0.040	0.037	0.066	0.197	0.034	-0.790	-0.043
	(15.642)***	(35.222)***	(7.948)***	(15.498)***	(25.667)***	(12.036)***	(22.641)***	(-58.007)***	(-15.514)***
MCAP	0.001	0.001	0.001	0.000	-0.001	0.006	0.000	-0.003	0.000
	(17.596)***	(33.465)***	(7.365)***	(10.048)***	(-9.324)***	(16.703)***	(9.322)***	(-11.029)***	(6.719)***
CR	-0.047	-0.043	-0.044	-0.047	-0.028	-0.255	-0.032	0.168	-0.030
	(-22.397)***	(-47.250)***	(-9.831)***	(-24.451)***	(-13.066)***	(-20.101)***	(-25.162)***	(20.166)***	(-16.034)***
INFL	-0.005	-0.005	-0.005	-0.005	0.001	-0.027	-0.002	-0.039	-0.007
	(-28.167)***	(-28.967)***	(-32.257)***	(-29.672)***	(2.720)***	(-23.676)***	(-30.140)***	(-36.212)***	(-38.220)***

COMMON								-1.826	
								(-85.833)***	
Intercept	-0.698	-0.521	-0.580	-0.226	-0.506	-5.777	-0.522	11.468	0.487
	(-6.746)***	(-6.463)***	(-5.649)***	(-2.650)***	(-1.575)	(-11.537)***	(-26.927)***	(49.399)***	(5.659)***
INDUSTRY EFFECTS	YES	YES	YES	YES	YES	YES	YES	YES	YES
YEAR EFFECTS	YES	YES	YES	YES	YES	YES	YES	YES	YES
N	114594	114594	114594	116633	62559	114594	113202	109324	109324
Pseudo R2/Adjusted R^2	0.205	0.203	0.193	0.198	0.223	0.110	0.349	0.598	0.236

This table presents additional tests for the analysis of the impact of labor regulations on debt maturity. The full sample includes 114,594 firm-year observations from 43 countries for the 1990-2010 period. Descriptions and data sources for the regression variables are provided in Table 1. z-statistics based on robust standard errors adjusted for clustering by firm are shown below each estimate – in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made, and two-tailed otherwise.