

Creditor Rights and Investment-Cash Flow Sensitivity

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ABSTRACT

The incremental effect of better creditor protection on investment-cash flow sensitivity (ICFS) was examined in this cross-country investigation. Strengthening creditor rights may have two competing effects on ICFS. On one hand, strengthening creditor rights improve market imperfections and reduce ICFS as the wedge between the costs of external and internal funds is lessened. On the other hand, strengthening creditor rights increase ICFS as stronger creditor protection prompts firm managers to protect private interests in an environment of asymmetric information and agency problems. The overall effect of creditor rights on ICFS is determined by a tradeoff between the two competing effects. The results show that the incremental effect of creditor rights lowers the ICFS of firms in developed countries, implying that the firms prefer the benefit of better access to external funds in evaluating the tradeoff. In addition, the results show that the incremental effect of creditor rights on the ICFS of firms in developing countries is largely insignificant; implying that firm managers in developing countries in general are more concerned about protecting private interests and less interested in the better access to external capital associated with strengthening creditor rights. The results remain robust under various model settings and using alternative measures of creditor protection.

Keywords: Creditor rights, investment-cash flow sensitivity, agency problems, asymmetric information, national culture

1. INTRODUCTION

Investment-cash flow sensitivity (ICFS) is one of the most investigated topics in corporate finance. The excess sensitivity of investment to cash flow, documented by Fazzari, Hubbard, and Petersen (1988) for firms that pay low dividends, has triggered a significant interest in the literature toward the factors underlying this phenomenon. Asymmetric information models argue that the positive relationship between corporate investment outlays and internal cash flows is driven by the wedge between the costs of internal and external funds, which arises because firm managers have better information relative to shareholders. Firms facing higher informational imperfections experience a wider wedge. Alternatively, agency cost theory predicts a positive relationship between investment and cash flows as managers tend to overinvest when firms generate excess internal cash flows. Collectively, these theories suggest that imperfect capital markets and the manager's private motives are important determinants of ICFS.

The work of Fazzari et al. (1988) on ICFS has prompted significant debates among financial economists for decades. The early debates have focused on whether ICFS is stronger among financially constrained firms (Kaplan and Zingales, 1997; Clearly, 1999, 2006; Gomes, 2001; Moyen, 2004). Researchers expand the recent literature on ICFS by investigating the relationship between ICFS and family control (Pindado et al., 2011), corporate governance (Francis et al., 2013), labor unions (Chen and Chen, 2013), banking system reform (Tsai, et al., 2014), management quality practices (Attig and Cleary, 2014), and asset tangibility (Moshirian et al., 2017), among others. In this study, the relationship between creditor rights and ICFS was examined. It's posited that creditor rights have a significant impact on ICFS because better protection of creditors affects the wedge between the costs of internal and external funds. In addition, creditor rights are related to ICFS because better creditor protection affects firms' demand for external funds as firm managers strive to protect private interests. Strong creditor rights do not imply that lenders want to become passive bystanders until firms are in default given the fact that bankruptcy can be a costly solution to lenders as violations of the absolute priority distribution rule in bankruptcies are not uncommon (Naples Layish, 2003; White, 2001; Franks and Torous, 1989; Weiss, 1990, and Eberhart et al. 1990). Creditor rights are related to firm investment decisions because there is evidence that private credit represents an important source of financing. For example, according to the World Bank, domestic credit to private sector as a percentage of GDP in 2014 was 194.23% for the U.S., 162.67% for Japan, 79.17% for Germany, 94.17% for France, 137.39% for the U.K., and 140.15% for China. Nini et al. (2009) examine firms in the U.S. between 1995 and 2006 and find that about 80% of all public firms in the U.S. maintain private credit agreements, compared with only 15-20% that have public debt (Faulkender and Petersen, 2006; Sufi, 2009). While fewer than 5% of public indentures contain an explicit restriction on firm investments, Nini et al. find evidence of widespread use of direct contractual restrictions on firm investment in the private credit agreements of publicly traded companies. Private credit agreements govern the terms of sole-lender and syndicated bank loans to companies, and they contain covenants that are more detailed, comprehensive, and tightly set than public bonds. Creditors are more likely to limit firm investment in response to deteriorations in the borrower's credit quality, as measured by the firm's ratio of debt to cash flow and credit rating. Although credit agreements in general do not make capital expenditure restrictions explicitly contingent on borrower performance, Nini et al. (2009) find that renegotiation in response to a financial covenant violation serves to make the restrictions effectively contingent on borrower performance. A financial covenant violation represents a technical default that gives

creditors the right to accelerate the loan, which could force the firm into bankruptcy. These acceleration rights permit creditors to introduce capital expenditure restrictions into subsequently renegotiated agreements.

Recent evidence in the literature also supports that the influence of creditor rights exists before bankruptcy. For example, in a cross-country study, Acharya et al. (2011) find that firms are less aggressive in risk-taking in countries where creditor rights in bankruptcy are better protected. According to Acharya et al., creditor rights that mandate the dismissal of management in bankruptcy impose private costs on managers. To avoid these costs, managers lower the likelihood of distress by reducing cash-flow risk. Similarly, Wang (2010) documents that creditor rights affect the design of covenants of debt contracts. Tan (2013) finds that firms are conservative in reporting accounting information when creditor rights are strong. The importance of creditor rights for the development and performance of the credit market has also been recognized. The dominant view is that better protection of creditor rights decreases lending risk, which in turn leads to lower interest rates and increased availability of credit. Anyangah (2017) shows that when the information asymmetry between lenders and borrowers is one-sided, strong creditor rights lower the cost of capital and enhance credit supply. Boubakri et al. (2010) find evidence of a negative relationship between creditor rights and cost of debt in a study that examines about 8000 firms from 22 countries. Qi et al. (2017) document that strong creditor rights encouraged lenders to provide loans even during the global financial crisis of 2007-2009.

It's posited that creditor rights affect ICFS through two channels. In the first channel, better creditor protection encourages creditors to lower the cost of external funds and increase credit supply. As the wedge between the costs of internal and external funds declines, ICFS declines. In the second channel, strengthening creditor rights reduce firms' demand for credit and cause ICFS to increase. It's argued that the demand for credit declines because in an environment with asymmetric information and agency problems, strengthening creditor rights prompt firm managers to protect private interests and/or to avoid private costs of bankruptcy levied by lenders (Acharya et al., 2011). Behavioral biases (which will be discussed later) may also cause firm managers to develop feelings of resentment toward lenders as creditor rights strengthen. Thus, the overall effect of creditor rights on ICFS might be determined by a tradeoff between the benefits (better access to external funds) and costs (burden on firm managers' private interests) associated with better protection of creditors. The firms in 36 countries over the 2001-2014 periods were examined to investigate the effect of creditor rights on ICFS. A cross-country analysis provides an ideal setting for testing the hypotheses as creditor rights are heterogeneous across countries. While some variation in creditor rights may be an endogenous response of the legal system to the characteristics of the national economy, it is reasonable to assume for the empirical analysis that creditor rights are predetermined. Firms in the U.S. were excluded from the sample as researchers have documented that ICFS has declined or largely disappeared in this country. The analysis was performed on firms in developed countries and developing countries separately to examine if institutional differences between these countries result in different reactions of ICFS to the effect of creditor rights. Given the fact that capital markets are less developed in developing countries, private credit is likely an important source of financing in developing economies. In addition to the baseline model, whether the effect of creditor rights on ICFS is affected by factors that may impact firms' demand for credit was examined. For example, the effect of firm-level financial constraints was examined because constrained firms are more likely to welcome the higher credit supply associated with stronger creditor protection. Specifically the effect of creditor rights on ICFS of capital-intensive and investment-intensive

firms was examined, respectively, as these firms tend to have larger demands for financing. It's expected that capital-intensive and investment-intensive firms prefer the higher credit supply and lower cost of external funds in evaluating the tradeoff between costs and benefits associated with strengthening creditor rights. Moreover, it's expected that familiarity with the monitoring imposed by creditors has an important effect on how borrowing firms react to strengthening creditor rights. Thus, the effect of creditor rights on ICFS in countries that have high (low) domestic credit to private sector as a percentage of GDP was examined. Firms in countries with high domestic credit to private sector as a percentage of GDP are likely familiar with the demands of creditors and thus react more favorably to the better supply of external funds associated with strengthening creditor rights. At the country-level, national culture is a major institutional factor that has been found to have significant impacts on managerial behavior. Therefore, whether the effect of creditor rights on ICFS is affected by masculinity, uncertainty avoidance, and individualism (Hofstede, 2001) was examined. It's argued that these cultural influences reduce firms' demand for credit as managers in societies of strong masculinity, strong individualism, or strong uncertainty avoidance are prone to have feelings of resentment toward the monitoring imposed by lenders. Some researchers find evidence that ICFS has declined globally in recent decades. Therefore, the sub-period analysis was performed to determine if the effect of creditor rights on ICFS changes over time. Recently, Moshirian et al. (2017) argue that the global decline in ICFS is associated with declines in asset tangibility as firms transitioned from traditional manufacturers to high-tech and service-oriented companies. The asset tangibility was controlled for in the regression models to reexamine the effect of creditor rights on ICFS. Lastly, it has been shown that laws protecting creditors mean little if not upheld in the courts (Safavian and Sharma, 2007; Bae and Goyal, 2009). Thus, the robustness check of the results was performed by using alternative measures of creditor rights that focus on the enforcement of creditor protection. The key findings are as follows:

- (1) Creditor rights have a significant negative incremental effect on ICFS in developed countries. For developing countries, creditor rights have an insignificant incremental effect on ICFS. The results imply that in evaluating the tradeoff between benefits and costs associated with better creditor protection, firm managers in developed countries emphasize the benefit of better access to external funds whereas firm managers in developing countries emphasize the protection of private interests.
- (2) The incremental effect of creditor rights on ICFS is insignificant for financially unconstrained firms in both developed and developing countries. For financially constrained firms, the incremental effect of creditor rights on ICFS is negative and significant for firms in developed countries but insignificant for firms in developing countries.
- (3) National culture affects the incremental effect of creditor rights on ICFS. Specifically, better creditor protection heightens ICFS of firms in countries that have high masculinity, high uncertainty avoidance, and high individualism, respectively. These cultural traits imply a lower tolerance of difference in opinion. The results suggest that the impact of national culture does not overcome the effect of creditor rights on ICFS.
- (4) The incremental effect of creditor rights on ICFS is negative and significant for capital-intensive or investment-intensive firms in developed countries. In contrast, better protection of creditors has mixed effects on ICFS in developing countries. The results imply that firms in developing countries prefer less interferences by lenders in deciding the tradeoff between the benefits and costs associated with strengthening creditor rights.

(5) For country-years that have high domestic credit to private sector as a percentage of GDP, the effect of creditor rights on ICFS is insignificant for developed countries but is negative and significant for developing countries. The results suggest that if firms in developing countries are already familiar with the demands of lenders, they are likely to lower ICFS and accept the easier access to external financing instead of striving to protect private interests in evaluating the tradeoff associated with strengthening creditor rights. For country-years that have low domestic credit to private sector as a percentage of GDP, strengthening creditor rights significantly lower ICFS in developed countries but have an insignificant effect on ICFS in developing countries. Firms in developed countries are more familiar with the demands of lenders relatively to firms in developing countries; they therefore welcome the higher credit supply associated with better creditor protection and rely less on internal funds for investment activity. Firms in developing countries are less familiar with the demands of creditors, particularly when domestic credit supply is low, thus the firm managers strive to protect their private interests and do not respond to the higher credit supply associated with stronger creditor rights.

(6) In subperiod analysis, the effect of strengthening creditor rights on ICFS appears to be significant mainly in the second subperiod (2007-2014) in the baseline model and for financially constrained firms. The effect of time on the relationship between creditor rights and ICFS is insignificant for investment-intensive firms, and for subsamples grouped along the cultural dimensions of masculinity, uncertainty avoidance, and individualism, respectively.

(7) The evidence suggests that asset tangibility reduces ICFS in both developed and developing countries. However, the incremental effect of creditor rights on ICFS persists after controlling for asset tangibility in regression models. In addition to the effect of creditor rights on ICFS, a significant effect of creditor rights on investment-cash flow-tangible capital sensitivity (Moshirian et al., 2017) was detected.

(8) In robustness tests, creditor rights variable was measured by using alternative measures that are related to the enforcement of creditor protection. In general, the results are similar and consistent with the earlier findings.

This paper contributes to the finance literature in several ways. First, it provides insight into how better protection of creditors impacts ICFS. The results are consistent with the implication that the incremental effect of creditor rights on ICFS is determined by a tradeoff between the benefits (a smaller wedge between the costs of internal and external funds) and costs (burden on managers' private interests) associated with better protection of creditors. Second, the study adds to the literature on corporate bankruptcy by providing evidence suggesting that creditor rights affect firm behavior before bankruptcy (Acharya et al., 2011; Tan, 2013; Cho, 2014; Wang, 2017). The results are consistent with the implication that managers' desire to avoid private costs of bankruptcy is one of the reasons of a non-negative effect of creditor rights on ICFS. Third, a line of previous research suggests that strong creditor rights affect investment by imposing restrictions on investment activity (Nini et al., 2009). Another line of research provides evidence that better creditor protection lowers the cost of external financing and increases credit supply (Boubakri et al., 2010; Cho et al., 2014; Qi et al., 2017). The study combines the two lines of research and provides evidence suggesting that creditor rights, investment decisions, and the supply and demand for credit are related.

The rest of this paper proceeds as follows: Section 2 reviews related literature and develops the main hypothesis; Section 3 describes the sample and data; Section 4 presents the empirical results and Section 5 concludes this study.

2. RELATED LITERATURE AND HYPOTHESES

Investment-cash flow sensitivity arises from capital market imperfections. When the external capital market is frictionless, internal and external financing are perfect substitutes (Modigliani and Miller, 1958). In this case, corporate investment should be unrelated to internal cash flows. However, the real-world capital market is imperfect. The existence of information asymmetry and transaction costs make external financing costlier than internal financing. This wedge between internal and external financing costs may cause a firm's investment to be dependent on internal cash flow. The seminal work of Fazzari et al. (1988) investigated such dependency and provided supporting evidence of a positive relationship between firm investment activity and internal cash flows among firms that have low dividend payouts. Dependency on internal funds for investment can be reduced when strengthening creditor rights lower the cost of external funds and increase credit supply. Below is an explanation on how creditor rights are related to investment and affect ICFS.

2.1. The link between credit markets and firm investment activity

Frictions in credit markets affect a firm's investment decisions. As has been widely discussed in an extensive literature (Townsend, 1979; Stiglitz and Weiss, 1981; Williamson, 1986, 1987, among others), information asymmetries between borrowers and lenders, can increase the cost of external financial resources and, in this way, affect a firm's investment opportunities. Typically, where there are information asymmetries the financial contract will involve higher interest rates, a lower level of funds transferred, or additional contractual elements that would otherwise be absent, such as the probability of rationing or screening. As a result of such distortions, some investment projects become more profitable than others, even when they offer a lower expected real rate of return. In this framework, the Modigliani–Miller theorem on the irrelevance of the financial structure is invalidated, and the private debt market can, in fact, affect a firm's investment choice.

The extension of business credit is problematic because of the information wedge between lenders and borrowers. Informational opacity significantly affects business access to external finance and its cost, particularly for smaller companies. These firms are excluded from public debt and equity markets and are substantially dependent on private debt markets for external finance. Large firms also use private debt extensively. Nini et al. (2009) find private credit arrangements among 80% of the US public firms, compared with only 15–20% that have public debt (Faulkender and Petersen, 2006; Sufi, 2009). Private credit is also a major source of financing for firms in developed and developing countries. According to the World Bank, domestic credit to private sector as a percentage of GDP in 2014 was 194.23% for an average country in North America, 99.84% for an average member country of the European Union, and 122.16% for an average country in the world.

2.2. Creditor rights and ICFS

Information asymmetries are a pervasive problem affecting the performance of credit markets. Lenders are unwilling to provide credit when they are poorly informed about borrowers' characteristics and actions. To alleviate the problem, giving protection to creditors

can motivate them to participate more actively in the private credit market (Boubakri et al., 2010; Cho et al., 2014; Anyangah, 2017).

Strong creditor rights do not imply lenders want to become passive bystanders until firms are in default given the fact that bankruptcy can be a costly solution to borrowers and lenders. There is significant evidence of deviations from the absolute priority distribution rule in bankruptcy distributions (Naples Layish, 2003; Frank and Torous, 1989; Weiss, 1990; Eberhart et al., 1990). For example, Weiss (1990) examines 37 bankruptcy cases between 1979 and 1986; he finds deviations from the absolute distribution rule in 27 cases. Research evidence also shows that unsecured creditors typically receive payoff rates of between .50 and .70 in Chapter 11 reorganizations and the average time from filing to approval of a reorganization plan is 1-2 years. White (2001) reports that payoff rates under Chapter 7 bankruptcies tend to be very low.

In earlier studies, corporate creditors are thought to remain passive bystanders until firms are in default, which is typically associated with failure to make a payment (Townsend, 1979; Hart and Moore, 1998). However, Nini et al. (2012) find that creditor influence over managerial decisions extends outside of payment default states. They document that creditors begin to play an active role in corporate governance when firm performance deteriorates, but well before bankruptcy. Loan covenant violations present opportunities for lenders to influence the affairs of borrowers (Tan, 2013, Nini et al., 2009, 2012; Wang, 2017), and covenant violations are much more common than are payment defaults. Nini et al. (2012) find that between 10% and 20% of public U.S. firms were in violation of a covenant in each year of their sample period of 1996-2008, and more than 40% of the firms were in violation at some point during the period. Violations in general occur well before a firm is in danger of a payment default. Loan covenant violations are frequently not committed by financially weak firms. According to the sample of the US public firms examined by Nini et al. (2012), the median firm that is a first-time covenant violator has a market-to-book ratio larger than one, positive operating cash flow, and enough liquidity to easily cover their current liabilities. Despite creditors have the right to demand immediate repayment, financial covenant violations rarely lead to liquidation or bankruptcy. Instead, creditors frequently renegotiate the credit agreement and impose stronger contractual restrictions on the borrower. Amended agreements frequently require collateral and contain restrictive covenants on the cash management and capital expenditures of violating firms. For companies suffering from severe structural problems, creditors can recommend significant changes to the organization including the replacement of top executives (Nini et al., 2012). Studies focusing on creditor control before payment default include Daniels and Triantis (1995) and Baird and Rasmussen (2006), who provide anecdotal evidence of creditor influence and argue that this influence has been overlooked in the finance and legal literature. Some studies show that borrowers rarely switch lenders following a violation (Roberts and Sufi, 2009a). This further ensures lenders' ability to significantly influence firm policies.

Although covenants are common to all types of debt agreements, including bond and note indentures, they are typically more numerous, detailed, and tightly set in private loan agreements (Verde 1999; Sansone and Taylor 2007; Roberts and Sufi, 2009). Wang (2017) reports results implying that the primary mechanism of debt governance through strict covenants is to assist creditor control after the lending relationship is underway. Ex post creditor decision rights are exercised through either a covenant violation or renegotiation.

Collectively, the literature suggests that stronger creditor rights have positive effects on mitigating asymmetric information and agency problems. The result is improved credit supply as the cost of external funds decline. Yet there are disagreements whether stronger creditor rights

result in higher firm leverage ratios. On one hand, stronger creditor rights are associated with higher levels of credit supply (Boubakri et al., 2010; Cho et al., 2014; Anyangah, 2017). On the other hand, stronger creditor rights may increase the likelihood for the borrower to lose control of its company. Thus, laws which grant secured lenders extensive rights to seize assets and instigate a reorganization without the consent of management or shareholders may reduce demand for this type of credit (Acharya et al., 2011). Consistent with this view, Cho et al. (2014) and Qi (2017) both suggest that stronger creditor rights may increase credit supply but may also cause borrowers to use less debt. The opposite effects of creditor rights on the supply and demand for credit motivate the investigation. The following null and alternative hypotheses are proposed:

Hypothesis 1a: Strengthening creditor rights improve access to external funds and enable borrowing firms to rely less on internal cash flows for investment activity. That is, strengthening creditor rights have a negative effect on ICFS.

Hypothesis 1b: Strengthening creditor rights trigger firm managers to protect private interests in an environment with asymmetric information and agency problems, resulting in a lower demand for external funds. That is, strengthening creditor rights have a non-negative effect on ICFS.

3. SAMPLE AND DATA

The sample consists of listed firms from 36 countries over the 2001-2014 period. Firms with data in *Worldscope* of Thomson One are included. American Depository Receipts and firms in utility and financial industries are excluded. Prior studies document that ICFS has declined rapidly and/or disappeared in the United States since the late 1990s (Allayannis and Mozumdar, 2004; Ascioğlu et al., 2008; Brown et al., 2009; Chen and Chen, 2012). As a result, only non-US firms are included in the sample. To reduce the effect of outliers, all the financial variables are trimmed at the 1st and 99th percentiles. The data used on creditor rights is from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) and Djankov et al. (2008). The countries are divided in the sample into developed countries and developing countries. The final sample consists of 40,026 firm-year observations for 19 developed countries and 32,077 firm-year observations for 17 developing countries.

In Table 1, the definitions of the variables used in the study are reported. Firm-level financial variables are obtained from the *Worldscope* database of Thomson One. Creditor rights are measured by an index that reflect four powers of secured lenders in bankruptcy, with higher values indicating stronger creditor rights over collateral. This index measures the degree to which collateral and bankruptcy laws facilitate lending. A score of 1 is assigned for each of the following features of the law: (1) Secured creditors are able to seize their collateral when debtor enters reorganization, that is, there is no automatic stay. (2) Secured creditors are paid first out of the proceeds from liquidating a bankrupt firm. (3) Management does not stay during reorganization. (4) There are restrictions, such as creditor consent, when a debtor files for reorganization. The value of the creditor rights index ranges from 1 to 4.

Table 2 provides selected descriptive statistics of the regression variables by country. On average, firms in developed countries have smaller Capex/TA, higher Tobin's Q, slower sales growth, larger firm size, higher book leverage, more financial slack, and higher dividend

payouts. The cash flow (CF/TA) median values are comparable between firms in developed and developing countries. Asset tangibility is much smaller for firms in developed countries compared to firms in developing countries, implying that firms in developed economies are transitioning from traditional manufacturing firms to hi-tech or service-oriented companies (Mohsirian et al., 2017).

4. RESULTS

4.1. Baseline results

It's posited that the effect of creditor rights on ICFS is determined by a tradeoff between the benefits and costs associated with better creditor protection. To empirically examine the impact of creditor rights on ICFS, the standard regression models of investment-cash flow relationship (Hovakimian, 2009) is augmented. Specifically, the model has the following specification:

$$\text{Capex/TA}_{it-1} = \beta_{0i} + \beta_{1i} \text{CF/TA}_{it-1} + \beta_{2i} \text{CR*CF/TA}_{it-1} + \beta_{3i} \text{Tobin's } Q_{it-1} + \beta_{4i} X_{it} + \text{Year fixed effects} + \text{Industry fixed effects} + \varepsilon_{it} \quad (1)$$

where β_1 is the measure of ICFS. A positive β_1 implies that firm investment is dependent on internal cash flow. An interaction variable creditor rights*cash flow (CR*CF/TA) is created as the independent variable of interest. Basically, the coefficient on CR*CF/TA tells us the incremental effect of creditor rights on ICFS. A negative β_2 implies that better creditor protection is associated with a negative effect on ICFS. In other words, strengthening creditor rights reduce the dependence of firm investment on internal cash flow. The outcome suggests that firms rely less on internal funds for investment activity as they consider the benefit of better access to external financing outweighs the cost burden on private interests. On the other hand, a positive β_2 suggests that better creditor protection increases ICFS. This outcome implies that firms do not want to borrow, instead they rely more on internal cash flows for investment activity because strengthening creditor rights arouse negative sentiment toward lenders as the private interests of firm managers are attacked.

In equation 1, X_{it} is a set of control variables commonly used in this line of research. The firm size (measured as LnTA) was controlled for because smaller firms are expected to face higher hurdles when raising capital and therefore are more likely to show higher ICFS. Some studies associate large firm size with more disperse ownership structure, higher likelihood of agency problems of overinvestment, and greater flexibility in investment timing, leading to higher cash flow sensitivity for larger firms (Kadapakkam, Kumar, and Riddick, 1998). Thus, the relationship between firm size and ICFS is ambiguous. Q is Tobin's Q measured as market capitalization plus total assets minus book equity all over total assets. Tobin's Q and sales growth are expected to affect firm investment as proxy variables for growth opportunities. Firms with more growth opportunities will be in greater need of financing. Higher growth opportunities may also imply lower hurdles when accessing capital markets. Financial slack is used as a stock measure of internal liquidity, which, similar to cash flow, may directly affect firm investment. Internal liquidity reflects a firm's ability to finance projects without accessing the capital markets. Cash is an important element of financial slack. There is significant global evidence that firms are holding more cash in the last two decades (Pinkowitz et al., 2006; Bates et al., 2009). A

higher level of cash holdings as internal funds will attenuate ICFS. Book leverage is related to firm investment activity as debt payments may reduce the amount of cash available for investment. Leverage may also reduce the amount of free cash flow, which may mitigate the tendency of managers to overinvest. However, high leverage for a certain group of firms may also be interpreted as high debt capacity and lower financial constraints. Asset tangibility affects firm investment because firms with lower tangibility of assets are more likely to have difficulties borrowing due to the lower collateral value of their assets. However, firms with lower asset tangibility are also more likely to operate in industries with higher growth opportunities. Dividend payout is a proxy variable for financial constraints. Firms that do not pay dividends are considered as liquidity constrained and are found to have higher ICFS. Firms that are dividend payers are frequently considered financially strong and can access external financing easier. The year and industry fixed effects are controlled for in the model as well. Standard errors are clustered by country and at the firm-level.

Table 3 reports regression results using equation (1). The sample is divided between developed countries and developing countries to examine if creditor rights have different impacts on ICFS in these two regions. In columns (2), (4), (6), and (8), ΔD (change in total debt) and ΔE (new equity issue) are added as additional independent variables to control for access to capital markets (Moshirian et al., 2017). Consistent with the literature, the coefficient on cash flow (CF/TA_{it-1}) is positive and significant at the one percent in each regression for both the developed and developing countries. The size of ICFS is two to three times larger in developing countries compared to developed countries. For example, ICFS is 0.0475 in column (1) of developed countries whereas ICFS is 0.1589 in column (5) of developing countries. The larger ICFS in developing countries implies that firms in these countries rely more on internal funds for investment activity relative to comparable firms in developed economies. The reason may be because firms in developing countries have less access to external financing or the firms do not want to rely on external funds because they dislike the monitoring imposed by lenders. In column (3), the coefficient on $CR*CF/TA$ is -0.0083 and significant at the five percent level (p-value is 0.0141). The negative coefficient on $CR*CF/TA$ implies that in the presence of strengthening creditor rights, firms in developed countries rely less on internal funds for investment activity. The outcome is consistent with the implication that firms in developed economies react favorably to the higher credit supply and lower cost of external funds associated with better protection of creditors, and firms in developed countries are less likely to have bitter feelings of resentment toward the monitoring imposed by lenders given the fact that financial markets are better developed in these economies and borrowing firms are more familiar with the demands of creditors. The incremental impact of creditor rights on ICFS is considerable. Comparing the coefficient on CF/TA and the coefficient on $CR*CF/TA$, it's calculated that a one-level increase in creditor rights reduce ICFS by 11.32%. A similar result is observed in column (4) where $CR*CF/TA$ is -0.0089 and significant at the one percent level. In sharp contrast, the coefficient on $CR*CF/TA$ is insignificant for firms in developing countries. For example, in column (7) the coefficient on $CR*CF/TA$ is 0.0041 with a p-value of 0.5663; in column (8) the coefficient on $CR*CF/TA$ is 0.0042 with a p-value of 0.5911. An insignificant effect of strengthening creditor rights on ICFS implies that firms in developing countries refrain from obtaining external financing despite better protection of creditors is frequently associated with higher credit supply and lower cost of external funds. The result suggests that firm managers in developing countries emphasize the protection of their private interests and their

feelings of resentment toward lenders in evaluating the tradeoff between the costs and benefits associated with strengthening creditor rights.

The estimated coefficients on Tobin's Q in all regressions are positive and significant at the one percent level. The result is consistent with the findings of Attig et al. (2012) and Francis et al. (2013). Similarly, the coefficients on sales growth in all regressions are positive and significant at one percent. Firm size is negatively related to investment in developed countries but positively related to investment in developing countries. A plausible reason is that firms in developing countries are prone to overinvest (empire building) given the fact that governance practices are less established in developing economies. As expected, the relationship between leverage and firm investment activity is ambiguous. Firm leverage is negatively associated with firm investment in developed countries but is sometimes positively associated with investment in developing countries. The coefficient on asset tangibility is positive and significant in all the regressions. The observation is consistent with the interpretation that firms with higher tangibility of assets are less likely to have difficulties borrowing due to the higher collateral value. The estimated coefficients on dividend payout in all regressions are negative and significant at the one percent level. The result implies that higher dividend payouts mitigate the agency problem of overinvestment; it is also plausible that higher payouts reduce the funds available for investment. Consistent with Hovakimian (2009), the coefficient on financial slack is positive and significant.

4.2. Creditor rights, financial constraints, and ICFS

A major debate regarding ICFS is the effect of financial constraints. Fazzari et al. (1988) interpret the high ICFS among firms with low dividend payouts as an indicator of financial constraints. The idea has been refuted or supported by various researchers in later studies (Kaplan and Zingales, 1997; Clearly, 1999, 2006; Islam and Mozumdar, 2007; Allayannis and Mozumdar, 2004; Chen and Chen, 2012). To relate the effect of financial constraints to the relationship between creditor rights and ICFS, it's posited that financially constrained firms are receptive to the higher credit supply and lower cost of external financing associated with better protection of creditors because the firms need financing urgently. That is, it's expected that strengthening creditor rights have a negative incremental effect on ICFS among financially constrained firms. For financially unconstrained firms, higher credit supply and lower cost of external financing may be not attractive enough to offset the cost burden on managers' private interests since the firms are already unconstrained and the need for external financing is less urgent. Thus, it's expected that financially unconstrained firms either maintain the status quo by not responding to the changes associated with strengthening creditor rights or increase their reliance on internal funds for investment activity given their managers' desire to protect private interests. That is, for financially unconstrained firms, it's expected that the incremental effect of creditor rights on ICFS be non-negative. It's expected that the coefficient on $CR*CF/TA$ be either insignificant or significantly positive.

Three popularly used classification schemes are adopted to differentiate The sample firms between financially constrained and unconstrained: firm size, dividend payout, and the Whited-Wu index (Whited-Wu, 2006). These proxies often appear in the literature as measures of financial constraints (e.g., Almeida et al., 2004; Faulkender and Wang, 2006; Denis and Sibilkov, 2010). In addition, some researchers find evidence that firm size is an accurate indicator of the cost of external funds (Gilchrist and Himmelberg, 1995; Hennessy and Whited,

2007). Size can be considered exogenous because it is not a choice variable for the manager in the short run. For the investigation, the sample firms with total assets below the 30th percentile of the distribution for country j in year t are considered financially constrained. Firms with total assets above the 70th percentile of the distribution are considered unconstrained. Dividend payout is another commonly used proxy variables for the level of financial constraints. For the investigation, non-dividend-paying firms are treated as financially constrained, and dividend-paying firms are considered unconstrained in a year. For the third proxy variable, the Whited-Wu index is an index to estimate the likelihood that a firm faces financial constraints. The index is computed using six firm and industry-specific characteristics (Whited and Wu, 2006). Firms in the top (bottom) three deciles of the annual distribution are considered financially constrained (unconstrained). The Whited-Wu index is computed annually.

The table 4A reports regression results using equation (1) for financially constrained and unconstrained firms identified by firm size. For brevity sake, the coefficients on salient variables (CF/TA and CR*CF/TA) are reported in the table. As discussed earlier, it's expected that the effect of creditor rights on ICFS be weak (strong) for financially unconstrained (constrained) firms. In the upper panel of Table 4A, the regression results for financially unconstrained firms are reported. As expected, the coefficient on CR*CF/TA is insignificant in columns (3) and (4) for firms in developed countries, the coefficient on CR*CF is also insignificant in columns (7) and (8) for firms in developing countries. In the lower panel of Table 4A, the regression results for financially constrained firms are reported. Consistent with the expectation, the estimated coefficient on CR*CF/TA is significant and negative in columns (3) and (4) for firms in developed countries. The incremental impact of creditor rights on ICFS is considerable. For example, in column (3), the coefficient on CR*CF/TA is -0.0109; a one-level increase in creditor rights reduces ICFS by 21% given the coefficient on CF/TA is 0.0519 in the column. Similarly, in column (4), the coefficient on CR*CF/TA is -0.0118; a one-level increase in creditor rights reduces ICFS by 17%. The coefficient on CR*CF/TA is insignificant in columns (7) and (8) for firms in developing countries. The results imply that constrained firms in developing countries do not respond to the higher credit supply and lower cost of external financing associated with better creditor protection. A likely reason is because the firms' negative sentiment toward creditors offsets the benefit of better access to external finance.

The table 4B reports regression results using equation (1) for financially unconstrained and constrained firms identified by whether they are dividend-paying or non-dividend-paying firms. The upper panel reports results for financially unconstrained firms (dividend-paying firms) and it is expected that the incremental effect of creditor rights on ICFS be weak for these firms. As expected, the estimated coefficients on CR*CF/TA in columns (3), (4), (7), and (8) are insignificant. In the lower panel of Table 4B, the regression results for financially constrained firms (non-dividend-paying firms) are reported and it's expected that the incremental effect of creditor rights on ICFS be strong for these firms. In column (3), the coefficient on CR*CF/TA is -0.0090 and significant at the five percent level. That is, for firms in developed countries, a one-level increase in creditor rights reduce ICFS by 16.9% given the coefficient on CF/TA is 0.0534 in column (3). A similar result is observed in column (4). In columns (7) and (8), the coefficient on CR*CF/TA is insignificant. That is, for financially constrained firms in developing countries, their desire to protect private interests trumps the benefits of better access to external funds associated with stronger creditor protection.

The table 4C reports the regression results using equation (1) for financially unconstrained and constrained firms identified by the Whited-Wu index. The upper panel reports

results for financially unconstrained firms. It's expected that the effect of creditor rights on ICFS be weak for these firms. As expected, the estimated coefficients on CR*CF/TA in columns (3), (4), (7), and (8) are insignificant. In the lower panel of Table 4C, the regression results for financially constrained firms are reported. It's expected that the incremental effect of creditor rights on ICFS be strong for these firms. In column (3), the coefficient on CR*CF/TA is -0.0093 and significant at the five percent level. That is, for firms in developed countries, a one-level increase in creditor rights reduces ICFS by 21.5% given the coefficient on CF/TA is 0.0433 in column (3). A similar result is observed in column (4). In columns (7) and (8), the coefficient on CR*CF/TA is insignificant. The results in Table 4C are similar and consistent the results in Tables 4A and 4B. Collectively, the results in Tables 4A, 4B, and 4C support the postulation that creditor rights are associated with competing effects on ICFS.

4.3. Creditor rights, national culture, and ICFS

It's postulated that the negative sentiment of firms toward lenders could be caused by the desire of managers to protect private interests. It is also possible that the feeling of resentment towards lenders is caused by behavioral biases. In a cross-country setting, national culture is one of the most important institutional factors related to the behavioral biases of firm managers. The finance literature has provided ample evidence that national culture matters for a range of managerial behavior involving important firm decisions such as corporate capital structures (Chui et al., 2002; Fauver et al., 2015), levels of cash holdings (Ramirez and Tadesse, 2009; Chang and Noorbakhsh, 2009), risk-taking activity (Shao et al., 2013), and dividend payouts (Fidmuc et al., 2010).

For the investigation, the cultural dimensions developed by Hofstede (2001) are used to examine the effects of individualism (IDV), masculinity (MAS), and uncertainty avoidance (UAI) on the relationship between creditor rights and ICFS. These three cultural dimensions are picked because they are the most likely cultural traits that may have an association with the firm's abhorrence of the monitoring imposed by lenders. According to Hofstede, masculinity is defined as "a preference in society for achievement, heroism, assertiveness and material rewards for success." Its counterpart represents "a preference for cooperation, modesty, caring for the weak and quality of life. It is clear from the definition that high masculinity implies a low likelihood of cooperation and thus, a disdain of being monitored by other parties. Regarding individualism, people in individualistic societies prefer a loosely knit social framework in which individuals are expected to pursue their own interests, whereas people in collectivistic societies tend to work for group interest and harmony. Fidmuc et al. (2010) find that in individualist societies, agency conflicts are inherently more severe because their members are more prone to pursue their own personal interests rather than adhere to others' decisions and preferences. There is also evidence that firms in countries of high individualism tend to be more aggressive in risk-taking activity (Shao et al., 2013). Thus, it is reasonable to expect that managers in individualist societies are less willing to cooperate with lenders. Regarding uncertainty avoidance, it is defined as a society's tolerance for ambiguity (Hofstede, 2001). A higher degree in this index shows less acceptance of differing thoughts or ideas. The definition suggests that managers in countries of high uncertainty avoidance are less willing to accept the monitoring imposed by lenders.

The table 5 reports the regression results using equation (1) for subsamples created according to the cultural dimensions of masculinity (MAS), uncertainty avoidance (UAI), and

individualism (IDV), respectively. High (low) MAS countries are those in the top (bottom) three deciles of the MAS index. The same rule applies to the UAI and IDV subsamples. A priori, it's expected that the coefficient on $CR*CF/TA$ be negative in countries with low MAS, low UAI, and low IDV, respectively, as firms in these countries are likely more willing to cooperate with lenders. In contrast, it's expected that firms in High MAS, high UAI, and high IDV countries, respectively, be less willing to cooperate with lenders. That is, it's expected that the coefficient on $CR*CF/TA$ be non-negative as firm managers in these countries tend to resist the interference imposed by creditors.

The panel A of Table 5 reports the impact of MAS on the incremental effect of creditor rights and ICFS. In columns (1) to (4), the results for firms in high MAS countries are reported. In columns (5) to (8), the results for firms in low MAS countries are reported. The results are moderately strong in supporting the conjecture. The coefficient on $CR*CF/TA$ is positive and significant in columns (3) and (4), implying investment is more positively related to internal funds for firms in high MAS countries when creditor rights are strengthening. Despite the coefficient on $CR*CF/TA$ has the expected negative sign in columns (7) and (8) for firms in low MAS countries, the coefficient is insignificant in either column.

Panel B of Table 5 reports the impact of UAI on the relationship between creditor rights and ICFS. In columns (1) to (4), the results for firms in high UAI countries are reported. In columns (5) to (8), the results for firms in low UAI countries are reported. The results in panel B strongly support the conjecture. The coefficient on $CR*CF/TA$ is positive and significant in columns (3) and (4), implying investment is more positively related to internal funds for firms in high UAI countries when creditor rights are strengthening. The coefficient on $CR*CF/TA$ is negative and significant at the one percent level in columns (7) and (8), implying firms in low UAI countries rely less on internal funds for investment activity when creditor rights are getting stronger.

In panel C of Table 5, the effect of IDV on the incremental effect of creditor rights on ICFS is reported. In columns (1) to (4), the results for firms in high IDV countries are reported. In columns (5) to (8), the results for firms in low IDV countries are reported. The coefficient on $CR*CF/TA$ is positive but insignificant in columns (3) and (4). The coefficient on $CR*CF/TA$ is negative and significant at the five percent level in columns (7) and (8). The results in panel C also support the conjecture.

Collectively, the results in Table 5 range from moderately strong to strong in supporting the conjecture that behavioral biases associated with cultural influences are related to the behavior of firm managers toward lenders. The results, however, do not refute the incremental effect of creditor rights on ICFS.

4.4. Creditor rights, ICFS, investment-intensive, and capital-intensive firms

ICFS is affected by the firm's demand for financing. Firms that are investment-intensive or capital-intensive are likely to respond favorably to the higher credit supply associated with strengthening creditor rights because of the firms' large investment needs. Thus, it's expected that the incremental effect of creditor rights on ICFS be strong and negative for investment-intensive and capital-intensive firms, respectively.

Investment-intensive firms are defined as those that invest more than enough to replace depreciating assets because at the minimum, firms maintain productive assets by investing to replace depreciating assets. Those firm-years for which physical capital deteriorates (i.e.,

investment is less than depreciation) are eliminated. The panel A of Table 6 reports regression results using equation (1) for investment-intensive firms. Columns (1) to (4) report results for firms in developed countries, columns (5) to (8) report results for firms in developing countries. As expected, the coefficient on $CR*CF/TA$ is negative and significant in columns (3) and (4). That is, firms in developed countries rely less on internal funds for investment activity as strengthening creditor rights increase credit supply at a lower cost. Despite the coefficient on $CR*CF/TA$ in columns (7) and (8) has the expected negative sign, the coefficient is insignificant in these two columns. The results in column (7) and (8) suggest that firm managers in developing countries have strong feelings of resentment toward lenders and the desire to protect private interests prevents borrowing firms from reacting to the better access to external funds associated with better protection of creditors.

The capital-intensive firms are examined in panel B of Table 6. The firms are ranked based on their share of tangible assets in total assets in each country and year and those firms in the top quarter of the asset tangibility distribution are assigned to the capital-intensive group. Firms that have high asset tangibility are likely to need significant amounts of capital investment. Thus, it's expected that the incremental effect of creditor rights on ICFS be negative for capital-intensive firms because these firms are likely to welcome a large and stable supply of funds. In panel B of Table 6, columns (1) to (4) report results for capital-intensive firms in developed countries, columns (5) to (8) report results for capital-intensive firms in developing countries. As expected, the coefficient on $CR*CF/TA$ is negative and significant in columns (3) and (4). In contrast, the coefficient on $CR*CF/TA$ in columns (7) and (8) is positive and significant. The results in column (7) and (8) suggest that firms in developing countries have strong negative sentiment toward lenders and the firms turn to internal funds for investment needs in the face of strengthening creditor rights. The observation supports the hypothesis that strengthening creditor rights have competing effects on ICFS.

4.5. Creditor rights, ICFS, and domestic credit to private sector

Firms in countries with high (low) credit supply are likely less (more) enthusiastic about the improvements in credit supply and lower cost of external financing associated with strengthening creditor rights. Thus, it's expected that the incremental effect of creditor rights on ICFS be weak (strong) for firms in countries with high (low) credit supply. To obtain empirical support for the postulation, subsamples are created according to the Domestic Credit to Private Sector (% of GDP) of the World Bank. For the investigation, the countries with Domestic Credit to Private Sector (%GDP) below the 30th percentile of the distribution in year t are considered low domestic credit countries. Countries with Domestic Credit to Private Sector (%GDP) above the 70th percentile of the distribution in year t are considered high domestic credit countries.

The panel A of Table 7 reports regression results using equation (1) for countries with low domestic credit to private sector. Columns (1) to (4) report results for firms in developed countries, columns (5) to (8) report results for firms in developing countries. As expected, the coefficient on $CR*CF/TA$ is negative and significant in columns (3) and (4). That is, firms in developed countries with low domestic credit to private sector respond favorably and strongly to the improvement in credit supply associated with better strong creditor protection, leading to less reliance on internal funds for investment activity. For firms in developing countries with lower domestic credit to private sector, the coefficient on $CR*CF/TA$ is insignificant in columns (7) and (8). The results suggest that the desire to protect private interests is so strong among firms in

developing countries that the firms prefer to forgo the benefit of better access to external funds associated with strengthening creditor rights.

The panel B of Table 7 reports regression results for countries with high domestic credit to private sector. It's expected that the incremental effect of creditor rights on ICFS be weak in these countries. As expected, the coefficient on CR*CF/TA is insignificant in columns (3) and (4) for firms in developed countries. That is, firms in developed countries with high domestic credit to private sector do not find the improvement in credit supply associated with better strong creditor protection attractive as the firms are already exposed to strong domestic credit supply. For firms in developing countries, the coefficient on CR*CF/TA is negative and significant in columns (7) and (8). Despite the observation is contrary to the expectation, the coefficient on CR*CF/TA in columns (7) and (8) is only significant at the 10% level.

4.5. Creditor rights, ICFS, and subperiod results

Prior studies document evidence that ICFS has declined rapidly and disappeared in the United States since the late 1990s (Allayannis and Mozumdar, 2004; Ascioigu et al., 2008; Brown and Petersen, 2009; Chen and Chen, 2012). Moshirian et al. (2017) find that ICFS has also declined rapidly (moderately) in non-U.S. developed countries (developing countries) during the 2007-13 interval. To determine if the findings on the incremental effect of creditor rights on ICFS persist over time, the results are reexamined over the 2001-07 and 2008-14 subperiods.

The panel A of Table 8 reports regression results of the baseline model over the subperiod 2001-2007. The panel B reports results of the 2008-2014 intervals. A comparison of the two sub-periods shows that ICFS has indeed declined substantially in developed countries. In column (1), ICFS has declined by 56.1% from 0.0754 in the first subperiod to 0.0331 in the second subperiod. In column (4), the decline is 21.2%. ICFS has also declined in developing countries in the second subperiod. In column (5), ICFS has declined 36.4% from 0.2123 in the first subperiod to 0.1349 in the second subperiod. In column (8), the decline is 38.5%. The results confirm the findings of prior studies that the decline of ICFS is a global phenomenon. Regarding the incremental effect of creditor rights on ICFS, the coefficient on CR*CF/TA remains negative and significant in columns (3) and (4) in the two subperiods for firms in developed countries. The coefficient on CR*CF/TA remains insignificant in columns (7) and (8) in the two subperiods for firms in developing countries. The results are consistent with the baseline results reported in Table 3.

All the prior analyses are repeated and only the incremental effect of creditor rights on ICFS (i.e., the coefficient on CR*CF/TA) is reported in panel C of Table 8 for brevity sake. Results are largely consistent with the reported findings in the earlier tables but the significant effect of creditor rights on ICFS appear to be more noticeable in the second subperiod. For example, as expected, the coefficient is insignificant for financially unconstrained firms (large size, dividend-paying, or top 30th percentile of Whited-Wu index) in the two subperiods for both developed and developing countries. For financially constrained firms (small size, non-dividend-paying, or bottom 30th percentile of Whited-Wu index), the coefficient on CR*CF/TA is negative and significant only in the second subperiod for firms in developed countries. For investment-intensive firms, the incremental effect of creditor rights on ICFS is negative and significant in both subperiods for both developed and developing countries. But for capital-intensive firms, the effect of creditor rights on ICFS is only significant in the second subperiod.

Regarding the effect of domestic credit to private sector, the incremental effect of creditor rights on ICFS is significant only in the second subperiod for firms in developed countries.

Panel D of Table 8 reports subperiod results on the incremental effect of creditor rights on ICFS in the presence of cultural influences. The results are largely consistent with the whole period results reported in Table 5. There is no time effect on the influence of cultural factors on CR*CF/TA.

4.6. Creditor rights, ICFS, and asset tangibility

Moshirian et al. (2017) attribute the global decline in ICFS to declines in capital investment as firms transitioned from traditional manufacturers to high-tech and service-oriented companies. They point out that as intellectual and liquid capital become more important in the transition, the role of tangible capital and investment has declined. The result is a decline in ICFS though the authors find that the rate of change is slower in developing economies. Moshirian et al. (2017) argue that ICFS is basically investment-cash flow- tangible capital sensitivity because the investment of a firm with low tangible capital is not systematically sensitive to cash flow. Only firms with high tangible capital have investments that vary with cash flows. They find supporting evidence for their arguments by showing that ICFS is low or absent if a cross-product term CF*PPE_TA (cash flow * asset tangibility) is included in the baseline model.

It's expected that creditor rights continue to exert influence on ICFS through the two postulated channels unaffected by asset tangibility. Firms with higher asset tangibility are in general favored by lenders due to the higher collateral value. When creditor protection is strong, firms with low asset tangibility will also benefit as creditors are now more willing to lend. Thus, asset tangibility is unlikely to affect credit supply in the face of strengthening creditor rights. In addition, asset tangibility is also unlikely to reduce the negative sentiment among borrowers toward lenders. The reason is because firms with significant capital investment projects and physical assets are less flexible and therefore may not welcome the monitoring imposed by creditors when firm managers strive to protect private interests. Collectively, it's believed that the effect of creditor rights on ICFS would be still determined by a tradeoff between better access to external financing and resistance against lenders. In other words, controlling for the effect asset tangibility is unlikely to change the incremental effect of creditor rights on ICFS.

To examine if the results on the incremental effect of creditor rights on ICFS persist in the face of asset tangibility, the baseline model is modified to include a cross-product term CF*PPE_TA (cash flow * asset tangibility) in the equation:

$$\text{Capex/TA}_{it-1} = \beta_{0i} + \beta_{1i} \text{CF/TA}_{it-1} + \beta_{2i} \text{CR*CF/TA}_{it-1} + \beta_{3i} \text{Tobin's } Q_{it-1} + \beta_{4i} X_{it} + \beta_{5i} \text{CF*PPE/TA}_{it-1} + \text{Year fixed effects} + \text{Industry fixed effects} + \varepsilon_{it} \quad (2)$$

All the earlier analyses are repeated to determine if the estimated coefficients on CR*CF/TA in all regressions will remain consistent with the earlier results.

To obtain additional information, another regression is created in which the effect of creditor rights on investment-cash flow- tangible capital sensitivity is investigated by replacing CR*CF/TA with CR*CF*PPE_TA while controlling for CF*PPE_TA. Equation 3 shows the modified model. Same as in earlier tables, only results of the salient coefficients are reported in Table 9.

$$\text{Capex/TA}_{it-1} = \beta_{0i} + \beta_{1i} \text{CF/TA}_{it-1} + \beta_{2i} \text{CR*CF*PPE/TA}_{it-1} + \beta_{3i} \text{Tobin's } Q_{it-1} + \beta_{4i} X_{it} + \beta_{5i} \text{CF*PPE/TA}_{it-1} + \text{Year fixed effects} + \text{Industry fixed effects} + \varepsilon_{it} \quad (3)$$

As shown in columns (1) and (3) of Table 8, the estimated coefficients on $CR*CF/TA$ in all regressions are consistent with the results reported in earlier tables. For example, as expected the incremental effect of creditor rights on ICFS is weak for financially unconstrained firms (large size, dividend-paying, or bottom 30th percentiles on Whited-Wu index) in both developed and developing countries; the incremental effect of creditor rights on ICFS is strong for financially constrained firms in developed countries but insignificant in developing countries. The results are similar to the findings reported earlier in Tables 4A to 4C. In Table 9, effects of investment intensiveness, domestic credit to private sector, cultural dimensions of MAS, UAI, and IDV, respectively, on the incremental effect of creditor rights on ICFS are similar and consistent with the results reported earlier.

Regarding the effect of creditor rights on investment-cash flow- tangible capital sensitivity, the estimated coefficients on $CR*CF*PPE_TA$ in columns (2) and (4) are highly similar to the estimated coefficients on $CR*CF/TA$ in columns (1) and (3). In sum, Table 9 shows that the incremental effect of creditor rights on ICFS or investment-cash flow- tangible capital sensitivity is largely determined by a tradeoff between the benefits and costs associated with strengthening creditor rights.

4.7. Alternative measures of creditor rights

Creditor-friendly laws are generally associated with more credit to the private sector and deeper financial markets. But laws mean little if not upheld in the courts. Safavian and Sharma (2007) and Bae and Goyal (2009) show that it is the enforcement, not the existence of laws, that matters for debt contracts. To evaluate the robustness of the results, two alternative measures of creditor rights that are related to the enforcement of creditor protection are used. The two measures include bankruptcy laws efficiency (Efficiency) and creditor rights enforcement (Enforce).

For bankruptcy laws efficiency, the Resolving Insolvency index of Doing Business of the World Bank is used. The index measures the time, cost and outcome of insolvency proceedings involving domestic legal entities. These variables are used to calculate the recovery rate, which is recorded as cents on the dollar recovered by secured creditors through reorganization, liquidation or debt enforcement (foreclosure or receivership) proceedings. To determine the present value of the amount recovered by creditors, Doing Business uses the lending rates from the International Monetary Fund, supplemented with data from central banks and the Economist Intelligence Unit. The indicator is constructed based on the efficiency of debt enforcement measure of Djankov et al. (2008).

For creditor rights enforcement, the Enforcing Contracts indicator of Doing Business of the World Bank is used. It measures the time and cost for resolving a commercial dispute through a local first-instance court, and the quality of judicial processes index to evaluate whether each economy has adopted a series of good practices that promote quality and efficiency in the court system.

$CR*CF/TA$ in equation (1) is replaced with $Efficiency*CF/TA$ and $Enforce*CF/TA$, respectively, and repeat all the analyses. Results are consistent with the findings reported earlier. For brevity sake, only the results of the modified baseline model are reported in Table 10.

$$\text{Capex/TA}_{it-1} = \beta_{0i} + \beta_{1i} \text{CF/TA}_{it-1} + \beta_{2i} \text{Efficiency*CF/TA}_{it-1} + \beta_{3i} \text{Tobin's } Q_{it-1} + \beta_{4i} X_{it} + \text{Year fixed effects} + \text{Industry fixed effects} + \varepsilon_{it} \quad (4)$$

$$\text{Capex/TA}_{it-1} = \beta_{0i} + \beta_{1i} \text{CF/TA}_{it-1} + \beta_{2i} \text{Enforce*CF/TA}_{it-1} + \beta_{3i} \text{Tobin's } Q_{it-1} + \beta_{4i} X_{it} + \text{Year fixed effects} + \text{Industry fixed effects} + \varepsilon_{it} \quad (5)$$

In the upper panel of Table 10, the coefficient on Efficiency*CF/TA in columns (3) and (4) is negative and significant for firms in developed countries. That is, firms rely less on internal funds for investment activity where efficient bankruptcy laws encourage creditors to improve access to external funds. For developing countries, the insignificant coefficient on Efficiency*CF/TA in columns (7) and (8) implies that firms in developing countries resist borrowing from lenders despite efficient bankruptcy laws make lenders more willing to lend. The results in the panel are consistent with the baseline results reported in Table 3.

In the lower panel of Table 10, the results show that firms in developed countries rely less on internal funds for investment activity when creditors improve access to external finance in response to better enforcement of contracts. Firms in developing countries do not respond to the effect. The results in the lower panel of Table 10 are consistent with the baseline results in Table 3. Overall, results in Table 10 show that the findings on the incremental effect of creditor rights on ICFS are robust.

5. CONCLUSIONS

This study examines the incremental effect of strengthening creditor rights on ICFS. It's argued that better creditor protection has two competing effects on ICFS. On one hand, strengthening creditor rights alleviate capital market imperfections. As the wedge between the costs for internal and external financing decreases, sensitivity of investment to internal cash flow availability is reduced. On the other hand, strengthening creditor rights impose a cost burden on firm managers as the managers strive to protect private interests in an environment with asymmetric information and agency problems; the outcome is an increase in ICFS as the demand for credit declines. Strong evidences are provided to support the hypotheses that the incremental effect of creditor rights on ICFS is determined by a tradeoff between the costs and benefits associated with better creditor protection. Central to the contribution of this study is that the incremental effect of creditor rights on ICFS holds even after controlling for factors (financial constraints, capital-intensiveness, investment-intensiveness, domestic credit to private sector as a percentage of GDP, and cultural influences) that are likely to impact firms' demand for credit. The tradeoff associated with better creditor protection suggests that the existence of stronger creditor rights is not always desirable. The optimal level of creditor rights should balance their positive effect on the supply of credit against their negative effect on the demand for debt.

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Table 1 Variable definitions and the source of data

Variable	Definition and source
CR	Creditor rights index reported in La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) and Djankov et al. (2008). The value of the creditor rights index ranges from 1 to 4. A higher value means stronger creditor rights. The index covers four aspects including no automatic stay on firm assets, restrictions on reorganization, priority in the distribution of assets in bankruptcy, and no management stay.
Q	Q is Tobin's Q measured as market capitalization plus total assets minus book equity all over total assets.
Firm size	Measured as the logarithmic value of total assets (LnTA).
Leverage	Total debt scaled by total assets of the prior period.
Capex/TA	Capital expenditures scaled by total assets of the prior period.
CF/TA	Cash flow to total assets. Cash flow is the sum of income before extraordinary items and depreciation.
Dividend payout	Measured as cash dividends divided by net income.
Slack	Financial slack is the sum of cash and marketable securities, 0.7 times accounts receivable, 0.5 times inventories, less the accounts payable, divided by net fixed assets (Cleary, 1999).
PPE/TA	Net property, plant, and equipment divided by total assets of the prior period.
ΔD	Change in total debt.
ΔE	Net equity issue. Measured as total equity issued minus common and preferred redeemed, and cash reserves.
Efficiency	The Resolving Insolvency index of Doing Business of the World Bank. The index measures the time, cost and outcome of insolvency proceedings involving domestic legal entities.
Enforce	The Enforcing Contracts indicator of Doing Business of the World Bank which evaluates whether a country has adopted a series of good practices that promote quality and efficiency in the court system.

Table 2 Descriptive statistics for major variables by country.

Country	Economy	N	Capex/TA	CF/TA	Q	Sales growth	Firm size	Leverage	PPE/TA	Slack	Dividend payout
Australia	Developed	1286	0.0371	0.0827	1.2120	0.1299	4.6332	0.4303	0.2850	0.1711	0.0107
Austria	Developed	519	0.0641	0.0985	1.2123	0.0777	6.7307	0.5448	0.4115	0.2118	0.0157
Belgium	Developed	474	0.0503	0.0883	1.1339	0.0367	6.4340	0.6086	0.3358	0.1594	0.0100
Canada	Developed	2729	0.0553	0.0888	1.3026	0.0935	6.3427	0.4750	0.4505	0.1022	0.0047
Finland	Developed	698	0.0357	0.0960	1.2858	0.0586	5.9525	0.5538	0.2400	0.2342	0.0222
France	Developed	2119	0.0333	0.0762	1.1578	0.0691	5.7785	0.5812	0.1491	0.2422	0.0076
Germany	Developed	3199	0.0373	0.0872	1.2342	0.0635	5.7478	0.5662	0.2271	0.2559	0.0076
Hong Kong	Developed	3991	0.0284	0.0679	0.9953	0.0889	5.3208	0.4006	0.2317	0.2836	0.0072
Ireland	Developed	305	0.0312	0.0868	1.3289	0.0811	6.8858	0.5485	0.2404	0.1592	0.0075
Israel	Developed	843	0.0291	0.0720	1.2327	0.0572	5.9054	0.5671	0.1749	0.2630	0.0000
Italy	Developed	1070	0.0299	0.0630	1.1442	0.0665	6.5854	0.6266	0.2238	0.1703	0.0087
Japan	Developed	11683	0.0285	0.0582	0.9970	0.0292	6.5750	0.5124	0.2998	0.2148	0.0065
Netherlands	Developed	966	0.0346	0.0996	1.3664	0.0465	6.9507	0.5496	0.1944	0.2146	0.0086
New Zealand	Developed	409	0.0515	0.1037	1.3329	0.0991	5.8324	0.4562	0.4364	0.1092	0.0431
Norway	Developed	545	0.0501	0.0735	1.1470	0.0403	7.1941	0.6003	0.3963	0.1607	0.0148
Singapore	Developed	2906	0.0259	0.0739	0.9966	0.0803	4.7683	0.4339	0.2836	0.2663	0.0114
Spain	Developed	539	0.0343	0.0629	1.1926	0.0187	6.8435	0.5961	0.3161	0.1356	0.0122
Switzerland	Developed	681	0.0359	0.1029	1.3637	0.0615	6.3302	0.4871	0.2501	0.2663	0.0139
U.K.	Developed	5064	0.0298	0.0890	1.3146	0.0878	5.0760	0.4990	0.1848	0.1864	0.0112
Average			0.0380	0.0827	1.2079	0.0677	6.0993	0.5283	0.2806	0.2003	0.0118
Argentina	Developing	271	0.0395	0.0784	1.0248	0.0886	5.9586	0.4773	0.5680	0.1005	0.0000
Brazil	Developing	1065	0.0513	0.0971	1.1970	0.0574	7.3042	0.5543	0.3554	0.2037	0.0252
Chile	Developing	915	0.0499	0.0948	1.2300	0.1041	6.5288	0.4584	0.5354	0.1353	0.0431
China	Developing	6176	0.0459	0.0643	1.5523	0.1227	6.2792	0.4664	0.3167	0.2638	0.0242
Greece	Developing	416	0.0277	0.0344	0.9159	0.0180	6.1075	0.6002	0.4424	0.1445	0.0001
India	Developing	5048	0.0450	0.0788	1.0582	0.1080	5.2229	0.5256	0.4572	0.1793	0.0000
Indonesia	Developing	1115	0.0495	0.0774	1.0746	0.0931	5.0846	0.6113	0.4005	0.1797	0.0064

Malaysia	Developing	4325	0.0264	0.067	0.9149	0.0762	4.5304	0.3969	0.3939	0.2381	0.0100
Mexico	Developing	658	0.0410	0.0868	1.2498	0.0809	7.1599	0.4741	0.4981	0.1359	0.0038
Pakistan	Developing	793	0.0464	0.1096	1.1967	0.1112	5.5189	0.5700	0.6207	0.1584	0.0138
Philippines	Developing	930	0.0338	0.0789	1.0294	0.1054	5.1992	0.4654	0.3901	0.1704	0.0050
Poland	Developing	697	0.0441	0.0821	1.0871	0.0377	5.3706	0.4499	0.3697	0.1590	0.0009
Portugal	Developing	220	0.0432	0.0709	1.0468	0.0659	6.8596	0.6990	0.3396	0.1315	0.0078
South Africa	Developing	1063	0.0629	0.1296	1.3790	0.0649	6.4628	0.4918	0.3395	0.1667	0.0164
South Korea	Developing	6073	0.0400	0.0689	1.1561	0.0880	5.4528	0.4796	0.3760	0.2269	0.0045
Thailand	Developing	1360	0.0431	0.1029	1.2081	0.0866	5.1351	0.4643	0.4087	0.2005	0.0228
Turkey	Developing	952	0.0372	0.0810	1.2073	0.0372	5.5077	0.4711	0.3443	0.2174	0.0000
Average			0.0428	0.0825	1.1367	0.0771	5.8637	0.5092	0.4210	0.1772	0.0108

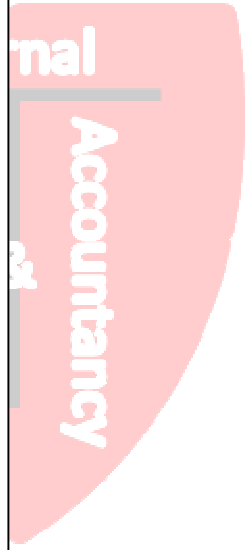


Table 3 Regression results of the effect of creditor rights on investment cash flow sensitivity.

	Developed countries				Developing countries			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	-0.0038 (0.1180)	-0.0003 (0.9040)	-0.0035 (0.1541)	0.0001 (0.9781)	-0.0282 (<0.0001)	-0.0084 (0.0118)	-0.0284 (<0.0001)	-0.0085 (0.0122)
CF/TA _{t-1}	0.0475 (<0.0001)	0.0617 (<0.0001)	0.0733 (<0.0001)	0.0896 (<0.0001)	0.1589 (<0.0001)	0.1726 (<0.0001)	0.1478 (<0.0001)	0.1626 (<0.0001)
CR*CF/TA _{t-1}			-0.0083 (0.0141)	-0.0089 (0.0072)			0.0041 (0.5663)	0.0042 (0.5911)
Q _{t-1}	0.0105 (<0.0001)	0.0089 (<0.0001)	0.0105 (<0.0001)	0.0088 (<0.0001)	0.0098 (<0.0001)	0.0081 (<0.0001)	0.0099 (<0.0001)	0.0081 (<0.0001)
Sales growth	0.0064 (<0.0001)	0.0014 (0.0190)	0.0074 (<0.0001)	0.0014 (0.0205)	0.0039 (0.0037)	0.0051 (0.0002)	0.0039 (0.0035)	0.0051 (0.0002)
Firm size	-0.0009 (0.0014)	-0.0009 (0.0058)	-0.0010 (0.0001)	-0.0008 (0.0027)	0.0012 (0.0021)	0.0007 (0.0583)	0.0012 (0.0020)	0.0007 (0.0547)
Leverage	-0.0041 (0.1023)	-0.0078 (0.0024)	-0.0042 (0.0147)	-0.0075 (0.0021)	0.0138 (<0.0001)	0.0003 (0.9080)	0.0139 (<0.0001)	0.0004 (0.8892)
PPE/TA _{t-1}	0.1451 (<0.0001)	0.1389 (<0.0001)	0.1456 (<0.0001)	0.1388 (<0.0001)	0.1177 (<0.0001)	0.1010 (<0.0001)	0.1177 (<0.0001)	0.1010 (<0.0001)
Slack	0.0137 (<0.0001)	0.0078 (0.0075)	0.0139 (<0.0001)	0.0081 (<0.0001)	0.0103 (0.0362)	0.0138 (0.0049)	0.0101 (0.0378)	0.0137 (0.0036)
Dividend dummy	-0.0711 (<0.0001)	-0.0725 (<0.0001)	-0.0705 (<0.001)	-0.0719 (<0.0001)	-0.0875 (<0.0001)	-0.0903 (<0.0001)	-0.0865 (<0.0001)	-0.0897 (<0.0001)
ΔDebt		0.0569		0.0570		0.1217		0.1217
ΔEquity		(<0.0001)		(<0.0001)		(<0.0001)		(<0.0001)
		0.0538		0.0550		0.0831		0.0839
		(<0.0001)		(<0.0001)		(<0.0001)		(<0.0001)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	40,046	40,046	40,046	40,046	32,077	32,077	32,077	32,077
Adj. R ²	0.3921	0.4095	0.3926	0.4210	0.3564	0.3566	0.3067	0.3788

Unconstrained and unconstrained firms identified by dividend payment. For brevity, only the estimates (in brackets) are reported. Standard errors are clustered by country and at the firm-level.

Unconstrained and unconstrained firms identified by firm size. For brevity, only the estimates (in brackets) are reported. Standard errors are clustered by country and at the firm-level.

	Developing countries			
	(5)	(6)	(7)	(8)
1453	0.1961	0.2084	0.1852	0.1975
<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
0.0079		0.0047		0.0046
0.1073		(0.6027)		(0.5936)
Yes	No	Yes	No	Yes
5,311	21,062	21,062	21,062	21,062
4309	0.3534	0.3910	0.3434	0.3910

	Developing countries				
	(4)	(5)	(6)	(7)	(8)
0.1258	0.1247	0.2204	0.2312	0.2209	0.2215
<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
-0.0039	-0.0047			0.0047	0.0042
0.5782	(0.4984)			(0.6973)	(0.7236)
No	Yes	No	Yes	No	Yes
12,635	12,635	10,358	10,358	10,358	10,358
0.4184	0.4376	0.3646	0.3986	0.3646	0.3985

	Developing countries				
	(4)	(5)	(6)	(7)	(8)
0.0519	0.0697	0.1119	0.1262	0.1353	0.1463
<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
-0.0109	-0.0118			-0.0097	-0.0058
(0.0179)	(0.0009)			(0.4464)	(0.6307)
No	Yes	No	Yes	No	Yes
11,296	11,296	8,448	8,448	8,448	8,448
0.3174	0.3358	0.2402	0.3034	0.2403	0.3034

ure. For brevity, only the salient coefficient estimates and their p-values (in country and at the firm-level.

		Low MAS					
(4)	(5)	(6)	(7)	(8)			
0.1321	0.1033	0.1213	0.1137	0.1350			
(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)			
0.0295			-0.0048	-0.0017			
(0.0497)			(0.4062)	(0.2527)			
Yes	No	Yes	No	Yes			
22,300	30,263	30,263	30,263	30,263			
0.4075	0.3255	0.3623	0.3256	0.3625			
		Low UAI					
(4)	(5)	(6)	(7)	(8)			
0.1506	0.0660	0.0760	0.1509	0.1589			
(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)			
0.0187			-0.0259	-0.0225			
(0.0160)			(0.0005)	(0.0007)			
Yes	No	Yes	No	Yes			

y constrained and unconstrained firms identified by the Whited-Wu index (2006). For their p-values (in brackets) are reported. Standard errors are clustered by country and

trained firms		Developing countries					
(3)	(4)	(5)	(6)	(7)	(8)		
0.1419	0.1411	0.2183	0.2299	0.1975	0.2217		
(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)		
-0.0062	-0.0060			0.0093	0.008		
(0.3824)	(0.3899)			(0.4306)	(0.491)		
No	Yes	No	Yes	No	Yes		
12,602	12,602	10,077	10,077	10,077	10,077		
0.4264	0.4427	0.3705	0.4032	0.3706	0.4032		
ined firms		(5)	(6)	(7)	(8)		
(3)	(4)	(5)	(6)	(7)	(8)		
0.0433	0.0599	0.1174	0.1051	0.1051	0.1151		
(0.0049)	(<0.0001)	(<0.0001)	(<0.0001)	(0.0019)	(0.001)		
-0.0093	-0.0095			0.0017	0.0010		
(0.0404)	(0.0291)			(0.8952)	(0.935)		
No	Yes	No	Yes	No	Yes		
11,240	11,240	8,851	8,851	8,851	8,851		
0.3151	0.3343	0.2418	0.3037	0.2417	0.3037		

Table 6 Regression results for investment-intensive firms and capital-intensive firms. For brevity, only the salient coefficient estimates and their p-values (in brackets) are reported. Standard errors are clustered by country and at the firm-level.

		Developed countries				Developing countries			
		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
A: Investment-intensive firms									
CF/TA _{t-1}	0.0558 (<0.0001)	0.0821 (<0.0001)	0.1053 (<0.0001)	0.1330 (<0.0001)	0.1174 (<0.0001)	0.1868 (<0.0001)	0.1795 (<0.0001)	0.1925 (<0.0001)	
CR*CF/TA _{t-1}			-0.0151 (0.0028)	-0.0164 (0.0009)			-0.0031 (0.7317)	-0.0024 (0.7906)	
ΔD + ΔE	No	Yes	No	Yes	No	Yes	No	Yes	
N	17,929	17,929	17,929	17,929	18,948	18,948	18,948	18,948	
Adj. R ²	0.4231	0.4453	0.4243	0.4467	0.3696	0.4133	0.3696	0.4133	
B: Capital-intensive firms									
CF/TA _{t-1}	0.1064 (<0.0001)	0.1419 (<0.0001)	0.1560 (<0.0001)	0.1925 (<0.0001)	0.2980 (<0.0001)	0.3263 (<0.0001)	0.2177 (<0.0001)	0.3643 (<0.0001)	
CR*CF/TA _{t-1}			-0.0163 (0.0626)	-0.0165 (0.0481)			0.0340 (0.0163)	0.0262 (0.0433)	
ΔD + ΔE	No	Yes	No	Yes	No	Yes	No	Yes	
N	11,938	11,938	11,938	11,938	10,673	10,673	10,673	10,673	
Adj. R ²	0.2563	0.2989	0.2563	0.3000	0.2211	0.3191	0.2226	0.3199	

of the baseline model. For brevity, only the salient coefficient estimates and their p-values (in
 are clustered by country and at the firm-level.

Developed countries		Developing countries					
(3)	(4)	(5)	(6)	(7)	(8)	(8)	
0.0858	0.1047	0.2123	0.2200	0.2104	0.2240		
(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)		
-0.0033	-0.0053			0.0047	0.0013		
(0.4789)	(0.2532)			(0.4514)	(0.9147)		
No	Yes	No	Yes	No	Yes		
14,501	14,501	10,188	10,188	10,188	10,188		
0.3542	0.3752	0.3020	0.3645	0.3019	0.3644		

(3)	(4)	(5)	(6)	(7)	(8)
0.0679	0.0825	0.1349	0.1494	0.1239	0.1378
(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)
-0.0112	-0.0111			0.0048	0.0049
(0.0049)	(0.0048)			(0.5651)	(0.5379)
No	Yes	No	Yes	No	Yes
25,520	25,520	21,886	21,886	21,886	21,886
0.4190	0.4342	0.3171	0.3597	0.3171	0.3597

del regression results. Only the salient coefficient (CR*CF/TA) estimates and their p-values are

Developed countries		Developing countries	
(1)	(2)	(3)	(4)
0.3597			
21,886			
Yes			
10,188			
0.3645			
(0.0001)			
0.1494			
(0.0001)			
0.2200			
(0.0001)			

credit countries and high domestic credit countries. For brevity,
 e reported. Standard errors are clustered by country and at the firm

Developed countries		Developing countries	
(3)	(4)	(5)	(6)
0.0860	0.1054	0.1670	0.1779
(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)
-0.0169	-0.0177		
(0.0013)	(0.0005)		
No	Yes	No	Yes
14,137	14,137	15,230	15,230
0.3970	0.4167	0.3029	0.3551

(3)	(4)	(5)	(6)
0.0629	0.0778	0.1515	0.1648
(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)
-0.0048	-0.0054		
(0.1657)	(0.1136)		
No	Yes	No	Yes
18,252	18,252	13,118	13,118
0.3756	0.3935	0.3116	0.3552

-0.0042 (0.3879)	-0.1015 (0.0053)	-0.0903 (0.0106)	-0.0067 (0.3155)	-0.0274 (0.1527)	-0.0233 (0.1932)
-0.0054 (0.1791)	-0.0161 (0.0284)	-0.0139 (0.0344)	-0.0153 (0.0069)	0.0008 (0.9559)	0.0044 (0.7612)
-0.0127 (0.1267)	0.0026 (0.9612)	0.0030 (0.8121)	-0.0101 (0.0875)	-0.0047 (0.7363)	-0.0034 (0.7926)
-0.0193 (0.0011)	-0.0048 (0.5689)	0.0056 (0.5031)	-0.0075 (0.1428)	0.0080 (0.3796)	0.0077 (0.3920)
			-0.0023 (0.7133)	-0.0117 (0.5832)	-0.0141 (0.4963)
			-0.0148 (0.0109)	-0.0040 (0.7079)	-0.0034 (0.8052)
			-0.0048 (0.5731)	0.0026 (0.8834)	-0.0006 (0.9729)
			-0.0092 (0.2710)	0.0098 (0.4262)	0.0094 (0.4540)
			-0.0044 (0.4801)	-0.0221 (0.2786)	-0.0201 (0.2949)
			-0.0136 (0.0147)	0.0105 (0.4639)	0.0137 (0.3308)
			-0.0168 (0.0123)	-0.0217 (0.8781)	-0.0026 (0.8485)
			-0.0153 (0.0108)	-0.0051 (0.5800)	-0.0033 (0.7178)
			-0.0141 (0.1719)	0.0328 (0.1265)	0.0203 (0.2961)
			-0.0988 (0.0176)	0.0348 (0.0327)	0.0276 (0.0867)

nal culture. Only the salient coefficient (CR*CF/TA) estimates

		Developed countries		Developing countries	
		R*CF/TA _{t-1}	(2) CR*CF*PPE/TA _{t-1}	(3) CR*CF/TA _{t-1}	(4) CR*CF*PPE/TA _{t-1}
with asset tangibility considered. For brevity, only the salient coefficient estimates are reported. Standard errors are clustered by country and at the firm-level.	(7)	12 (0.8548)	-0.0059 (0.7476)	0.0115 (0.3032)	0.0244 (0.2556)
	(8)	01 (0.0215)	-0.0549 (0.0175)	0.0105 (0.3343)	0.0476 (0.0709)
		11 (0.7931)	0.0057 (0.6361)	0.0111 (0.2185)	0.0426 (0.0678)
		60 (0.0643)	-0.0327 (0.0848)	0.0212 (0.3213)	0.0469 (0.1405)
		32 (0.6450)	-0.0021 (0.9099)	0.0143 (0.1976)	0.0284 (0.1859)
		86 (0.0430)	-0.0473 (0.0398)	0.0180 (0.1137)	0.0672 (0.1170)
		09 (0.0267)	-0.0278 (0.0224)	0.0057 (0.5320)	0.0345 (0.0496)
		20 (0.4340)	-0.0009 (0.9438)	-0.0270 (0.1441)	-0.0309 (0.3505)
		55 (0.0023)	-0.0352 (0.0452)	0.0059 (0.4779)	0.0275 (0.1072)
		(1) CR*CF/TA _{t-1}	(2) CR*CF*PPE/TA _{t-1}		
		0.0614 (0.4533)	0.1157 (0.3121)		
		0.0026 (0.6158)	0.0136 (0.4123)		
		0.0085 (0.1009)	0.0817 (0.2055)		
		-0.0070 (0.0247)	-0.0475 (0.0163)		
		-0.0020 (0.7270)	-0.0213 (0.3134)		
		-0.0029 (0.06710)	-0.0153 (0.0451)		