Cash Holdings and Debt Issuance

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Abstract

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Keywords: Debt Issuance, Cash-Holding, Debt Contracting, Financial Integration.
JEL CLASSIFICATIONS: G21, G34.

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1 Introduction

Corporate access to debt, whether in the form of bank loan or bond, has become a major issue in Europe since the outbreak of the financial crisis. It is generally acknowledged that corporate debt issuance has been further constrained, the main motivations being put forward relate to higher corporate risk and banking regulation. Very little is yet known as of how firms may take decisions to promote debt issuance, and whether the current crisis has exogenously exacerbated financial constraints. In this paper we first examine the impact of cash-holdings on the issuance of debt, whether bank loan or bond. We then examine whether the sovereign and banking crises have exogenously increased financial constraints on corporations through their impact on the value of cash-holdings.

Erel, Julio, Kim, and Weisbach (2012, EJKW henceforth) analyze empirically the determinants of debt issuance. Using a multinomial logit estimation model of financing instruments, the authors find that bond issuance patterns of non-investment grade companies are pro-cyclical – they issue fewer bonds in bad times; while bond issuance of investment grade companies is counter-cyclical – they issue fewer bonds in good times. Nevertheless in all of their estimates corporate cash-holdings have a negative impact on both bank loan and bond issuance. The authors motivate the latter impact with existing evidence of the link between debt issuance and financial constraints. In fact, in their seminal paper, Opler, Pinkowitz, Stulz, and Williamson (1999) show that corporate cash-holding chiefly relates to transaction and precautionary motives. Transaction motive asserts that should debt issuance be frictionless, firms would hold zero cash because holding cash bears its own cost of financing. In frictionless capital markets, firms are able to issue debt any time such a need arises, thus reducing the financing costs. Yet, there is widespread and strong evidence that firms maintain cash-holdings for precautionary and growth prospects which shows the existence of financial constraints.[1]

In order to examine the impact of cash-holding on debt issuance, we design an empirical framework similar to the one proposed by EJKW. Yet we construct a firm-year level sample of European companies because we suspect that the value of "cash" has varied across time and countries for exogenous reasons which provides a valuable experimental setup for our analysis. Also our sample is more comprehensive than the one used by EJKW as it comprises private and public companies. In our empirical model the dependent variable is a firm-year variable allowing four financing options: bond issuance, bank loan issuance, both bond and bank loan issuance, and no debt issuance. We specify a second empirical model where the dependent variable substitutes the option *both bond and*

[1] See also Almeida et al. (2004, 2011), and Bates et al. (2009), for further evidence of the link between corporate financial constraints and cash-holdings.

bank loan issuance with *bond issuance*. Like EJKW, in all our estimates we find that cash-holding has a negative impact on debt issuance, whether bond or bank loan, at highly significant levels.

Consistently with Acharya, Davydenko, and Strebulaev (2013, ADS henceforth) we are especially interested in the renegotiation and signaling feature of cash-holding in debt contracting. In their earlier work, Davydenko and Strebulaev (2007) show empirically that corporations behave strategically against creditors. Managers take financial decisions so to create incentives for creditors to renegotiate. ADS extend the results and show in a theoretical framework, that firms will hold sufficient cash to meet debt repayment requirements. In their model, cash and bond yields have common risk determinants. Nevertheless, should they be determined by factors which are unrelated to operational risk, larger cash-holdings reduce the price of debt. The empirical framework confirms the theoretical model. Cash-holdings have a positive impact on bond yield unless cash-holding is endogenized, i.e., larger endogenous cash-holdings have a negative impact on bond yields. In an interesting robustness empirical analysis the authors show that unlike other risk factors large cash-holdings are associated with a lower probability of default in the short-run, yet a higher probability in the long-run.

We argue that debt issuance and cash-holdings follow similar patterns. In a second series of estimates, we follow ADS and endogenize cash-holdings in our empirical models with two instruments, namely *growth prospects* and *managerial costs in distress*. We proxy growth prospects with sector median intangible asset ratio, and managerial costs in distress with the largest shareholding. We find that endogenized cash-holdings have a positive impact on debt issuance. Therefore, all-in-all our results provide evidence that cash-holding and debt issuance are affected by a common set of factors, but endogenized cash-holdings have a positive impact on debt issuance. This is consistent with ADS results on bond yields.

In a third round of estimates we examine the impact of exogenous shocks on the value of corporate cash-holdings on debt issuance. Cash-holding account includes cash and cash-equivalent, and short-term investments. In their recent studies, Cardella et al. (2015) hand-collected the composition of cash, cash-equivalent, and short-term investment in a random sample of firms' annual reports. They find that 72% of so-called corporate cash-holding is composed of bank deposits, and Treasury and municipal debt securities; "risk-free" Treasury and municipal debt securities amount to 22% of cash-holdings. Duchin et al. (2015) report similar numbers in a hand-collected data of S&P 500 companies. Therefore because most of corporate cash-holding is bank deposits and Treasury securities, the recent banking sector and sovereign crises in Europe provide with exogenous shocks on the value on the value of cash-holdings. First in 2007-2008, the European banking sector received a financial shock wave from US subprime crisis. Several large banks were exposed to asset backed securities markets. In a second phase, in October 2009, the Greek government unexpectedly

revised government debt numbers triggering the start of the European sovereign crisis. Both of the shocks are likely to have had unexpected and strong impacts on the value of the "cash" held by corporations through the risk borne *via* bank deposits and securities, and these shocks were substantially uneven across countries. In our empirical model we add proxies for risks of sovereigns and banking sectors, and interact these proxies with cash-holding. We find that firms incorporated in countries with riskier banking sectors and sovereigns need larger cash-holding amounts to issue debt. The results provide evidence that firms need more cash to access debt markets as cash has lower expected values. Moreover the results provide innovative evidence of exogenous financial constraints. Sovereign and banking sectors add on the cash-holding costs to issue debt.

By examining the link between cash-holding and debt issuance, our study chiefly contributes to the literature on corporate access to debt and financial constraints. We complement previous results on debt issuance like Erel et al. (2012) who found a negative relationship between debt issuance and cash-holding. In fact, consistent with Acharya et al. (2013) analysis of bond yields we show that cash-holding relates to risk factors which are common with debt issuance. As a result companies take financial decisions to promote debt issuance. Our paper also complements Faulkender and Petersen (2006) who show that that firms with bond market access have 50% larger leverage ratios. By accumulating cash, firms signal their ability to save and are able in exchange to access debt.

By looking at the impact of cash-holding on access to debt, our study adds one reason why firms hold cash. There has been growing scientific interest in the function of corporate cash-holdings. In their seminal paper, Bates, Kahle, and Sulz. (2009) show that the average cash ratio of increased from 12.9% in 1980 to 39.0% in 2006. By showing that cash-holding is endogenous to access to debt we argue that firms may hold additional cash to access debt markets. The riskier the firm is, the larger the amount. The results are thus consistent with the financial constraints motivation for cash-holding

Last our paper contributes to business cycle factors of debt issuance and the European integration. By showing that firms need additional cash for exogenous but cyclical economic reasons, we provide evidence that current sovereign debt market and banking system segmentations have non-trivial implications for non-financial companies. Firms incorporated in countries with riskier banking sectors and sovereigns are further financially constrained, thus reducing their growth prospects. The results call in for further banking and sovereign debt risks convergence within Europe to support the European capital market integration.

The remainder of the paper is organized as follows. The next section describes the data sampling and reports descriptive statistics of our sample. Section 3 describes our results and compare with existing studies. The last section concludes.

2 Empirical Strategy

2.1 The Baseline Model

We are interested in the impact of cash-holdings of firms on debt issuance, whether bank loan or bond. In this purpose we design a multinomial logit model where the dependent variable is the debt instrument selected by the firm, taking the no debt issuance event as the base case. In order to ensure the robustness of our results, we construct two dependent varables Issuance3 and Issuance2. Issuance3 is a firm-year level variable that takes the value zero if the firm issued no debt in a year, one if it issued bank loans only, two if it issued bonds only, and three if it issued both bank loans and bonds. Issuance2 instead is a firm-year level variable that takes the value zero if the firm issued no debt in a year, one if it issued bank loans only, two if it issued bonds – the value two comprises bank loan and bond issuance.

In order to identify bank loan and bond issuance we construct three variables. First we make an estimate of the total amount of debt issued in a year – *debt issuance*. Debt issuance equals the total amount of debt in a year minus long-term debt in the previous year. The information is available in Orbis in two items. One item reports the total debt under non-current liabilities, i.e., long-term debt. Another item reports "current debt and long-term debt falling due" among current liabilities items. Therefore, by the end of the accounting year the current debt reported in the previous year should be paid back, while none of the long-term should be. We are aware of three limitations in our measures. First it ignores any of the long-term debt that may be pre-paid. Also, it ignores any of the short-term debt that may be rolled over within a year, e.g., on a six months maturity. Last, it ignores other types of debts that may be part of short-term liabilities such as leasing.

In a second stage we construct *bond issuance* as the sum of all issued bond amounts in a year. We obtain bond information from Dealogic Capital Market (DCM). DCM is a widely used dataset of bond issuance which comprises details about bond terms and issuers. We are then able to compare the total amount of bond issued in a year with the total debt issued, controlling for the reporting date available in Orbis. Finally we construct the variable bank debt issuance by subtracting bond issuance from debt issuance. Because debt issuance and bond issuance are estimates, we set the value to zero if the amount is less than 5% of total assets.[2]

The debt issuance variables are defined as the dependent variables in two distinct multinomial logit models. Multinomial logit models provide with the most suitable estimates of the determinants of multinomial variables. The model is as follows.

[2]We made additional unreported estimates with lower thresholds and obtained similar results.

$$\Pr(\text{Security type} = \text{j}) \quad = \quad \frac{e^{\beta_j' \text{X}}}{\sum_{k=0}^{3} e^{\beta_k' \text{X}}} \tag{1}$$

where j indicates the debt instrument as described above. For instance should Issuance5 be the dependent variable, 0 indicates that the firm did not issue any debt in the year, 1 that the firm issued bank loan only, 2 that the firm issued bond only, and 3 that the firm issued both bank loans and bonds. The vector of explanatory variables X includes firm and country level yearly variables.

The model adapts the EJKW model of financing instruments to non-listed companies. We include the following firm level information. Cash is the ratio of cash-holding to total assets. The definitions of Cash follows the definition widely used in the cash-holding literature, e.g., Opler et al. (1999) and Bates et al. (2009).[3] Size is the natural logarithm of asset size in constant euro. Age is the natural logarithm of one plus the number of years since incorporation as reported in Orbis. Book leverage is the book value of debt to total assets. Fixed assets is property, plants, and equipment to total assets. Cash flow is the operating cash flow on total assets. Interest coverage is the natural logarithm of one plus the ratio of earnings before interest, taxes, and depreciation on interest expenses. Growth is the growth in net sales. Listed is a dummy that takes the value one if the firm is listed.

The model also includes country level variables that indicates the growth prospects and the general market conditions. GDP growth is the GDP growth in the country where the firm is incorporated. Term spread is the difference between lowest 10 year and 1 year government yields in the euro area. Moreover, in order to control for unobserved but constant determinants the model includes, year t and country c fixed effects. Standard errors are adjusted for clustering at the firm-level.

2.2 Endogenous Cash-Holding

ADS show that cash-holding and debt pricing have a common set of factors. EJKW in their debt issuance model show that debt issuance is also determined by risk factors. As a result cash-holding

[3]In their recent studies using hand-collected data, Cardella et al. (20015) and Duchin et al. (2015) show that except for a few exceptions like Apple, most of the liquid assets are reported under the Compustat item Cash & Cash Equivalent (*che*). Cash & Cash-Equivalent is the sum of cash and short-term investments. In order to ensure that we do capture the same cash-holding information as reported in previous studies, we made several verifications. First, we looked at US companies which are available both in Compustat and Orbis. Then, we looked at European listed companies in Orbis because they report both cash and short-term investments separately, on top of cash-holding. We could verify that alike Compustat *che* item, the Orbis item cash is indeed equal to the sum of cash & cash-equivalent, and short-term investment, and thus comprises all liquid assets.

and debt issuance are determined by a common set of factors which may give rise to misleading estimates of the debt issuance Model (1). ADS design an empirical model with endogenous cash-holding whereby cash-holding is determined by factors unrelated to bond yields. In practice, they implement empirical model estimates with endogenous cash-holding. We examine such relationship by endogenizing cash-holding. Even though there exist standard cash-holding models like those offered by Opler et al. (1999) and Bates et al. (2009), we prefer using a similar approach as the one suggested by ADS for comparability purpose.

Therefore we estimate the first cash-holding model which includes the same determinants as those in the debt issuance Model (1), and two instruments simlar to those described by ADS. The first instrument captures *future growth prospects*. Like ADS, we measure growth prospects with the ratio of intangible assets to total assets. The ratio captures the growth prospects of the firm. In fact intangible assets include copyrights, patents, and goodwill which will capture the growth potential of the company. It is different from the market-to-book ratio which includes other information such as managerial skills which may reflect subjective market beliefs. In our sample we are unable to compute the market-to-book value of assets since we have listed and non-listed companies. Alike ADS argument on bond yields, market-to-book value of assets is part of the debt issuance model (as defined by EJKW).[4]

Following ADS we define a second instrument that captures *managerial costs in distress*. ADS defines the latter with the CEO share holding. Unfortunately the information is unavailable in Orbis. We thus proxy managerial costs in distress with the largest share of ownership in the company. Larger exposure of leading shareholder reflect larger risk exposures, thus costs in distress. The ownership takes values between 0 and 1, and give the value 1 if no ownership is reported in Orbis.[5] It is noteworthy that ownership is available in Orbis both for private and public companies. All-in-all we define the cash-holding first stage model is as follows.

$$\begin{aligned} (\textit{Cash-Holding}) &= \gamma_0 + \gamma_1(\textit{Future Growth Prospects}) \\ &+ \gamma_2(\textit{Managerial Costs in Distress}) \\ &= \gamma_3 \mathrm{X} \end{aligned} \tag{2}$$

where X is the vector of independent variables as defined in the debt issuance model. *Future*

[4]See Acharya, Davydenko, Strabulaev (2013) for further discussion on the distinction between intangible assets and market-to-book value of assets.

[5]Further robustness analysis implementing alternative estimation methods and first-stage instruments will be reported in the next sections.

Growth Prospects is proxied with intangible assets to total assets. *Managerial Costs on Distress* is the largest share of ownership in the company. We make an OLS estimate of Model (2) and replace cash in Model (1) with error terms predicted in Model (2).

3 Data and Sample Selection

We collect the data on bond issuances from Dealogic Bond Analytics. Bond Analytics is the most widely used and comprehensive dataset which collects bond issuances worldwide. We select all bonds issued by non-financial companies (SIC code below 6000, and between 7000 and 7999) in the period 2004-2015. In our selection we keep bonds which report a settlement date and removed those with a cancellation date. We obtain 12,767 bonds. We exclude bonds which do not report information about amount, maturity, interest spreads, and type. We consolidate names of issuers based on the parent names. We obtain firm specifics from Orbis dataset published by Bureau van Dijk. Orbis collects firms financials and ownership worldwide. The data starts in 2004 and the set of firms are added as Bureau van Dijk establishes new agreements with national statistics providers.[6] We collected all consolidated accounts of non-financial companies companies in Orbis with a SIC code below 6000 and between 7000 and 7999. We retain companies incorporated in the European Union. We extracted all names of companies whose accounting report is *annual report* in Orbis.

We then link names between Orbis and Bond Analytics companies using names. We first run a routine based on common and letters. We then manually check the algorithmic matching and continue the linkage on unmatched names by search DCM issuers names in Orbis. Of the 949 DCM names we downloaded from DCM, we could matched 815 names, representing 73% of the bond issuance sample.

Our sample is at firm-year level. To be retained in our sample, we require firm-year observations to have strictly positive book value assets ($ASSETS > 0$) and non-negative leverage. Also to be retained in our sample each firm-year observation should have non-missing *age*, *cash-holding*, *total assets*, *growth*, *interest coverage*, and *leverage*. Finally based on the remaining observations, we construct a sector level proxy for *growth option* of a company by calculating a yearly median *intangible assets* at SIC 2 level.

Table 5 presents the sample distribution of our dependent variable. Panel A shows that in term of Issuance5 most of the firms issue only loans, while only a limited number of firms have access to the bond market, issuing either bond or both bond and loans. Both bank debt and bond issuance

[6]Orbis includes Amadeus European coverage. there are several advantages about Orbis though, one of them being that Orbis preserves historical data. Kalemli-Özcan et al. (2015) provide further detail about Orbis.

show an alternating trend, but with some drop in 2008 and 2010-2011 as the financial turmoil hit Europe which triggered an increase in sovereign risks. Looking at the alternative dependent variable Issuance2, the patterns of the financing instruments are similar. Panel B show a rather heterogeneous distribution in the issuance of debt instruments across European countries. Firms incorporated in France, Great Britain, Germany and Sweden issue more frequently bonds than firms of other countries.

Table 5 reports the summary statistics of our sample. Our final sample includes 79,470 firm-year level observations. The sample includes 11,569 firm-year level public companies. Table 5 compares firms characteristics by debt issuance. The figures show that issuing firms have a lower amount of cash relative to firm with no issues, which is 11%. However, the average cash of firms that issue bonds is 8.4%, but it is only 5.7% for those firms issuing just bank debt. Regarding the other variables, compared to firm-year with no issues, firms that issue bank loans have a larger book leverage, more fixed assets but lower cash flow, interest coverage and growth. Characteristic of those firms issuing only bonds or both bond and loans seem quite different, they have larger, have larger values of fixed assets and growth, and are more frequently listed.

4 Results

4.1 The Baseline Multinomial Model

The results of the baseline multinomial Model 1 are reported in Table 3. The first three columns report the estimates of the model that uses Issuance3 (three debt instrument outcome); columns 4-5 report the results that uses Issue2 (two debt instrument outcome). All outcomes are estimated with respect to the baseline case of no debt issuance (Issuance = 0).[7] Our variable of interest *Cash-holding* has a negative and significant impact at 1% statistical level. The impact is similar in both specifications using Issuance3 and Issuance2. The impact is also negative at 1% whether debt instrument is bank loan or bond, but insignificant for the outcome *both bank loan and bond*, i.e., Issuance3 = 3. The results thus suggest that firms with lower levels of cash-holding are more likely to issue debt. The results are consistent with EJKW who found a negative impact of cash-holding on both bank loan and bond issuances.

Other variables are consistent with EJKW. The size of the firm is a key determinant of the debt instrument – larger firms are more likely to issue bonds, smaller firms are more likely to issue bank loan. Also, age has a positive and significant impact on debt issuance, whether bank loan or bond. This is consistent with the reputation and transparency based theories that claim access to external financing relates to principal-agent information asymmetries. The positive impact on debt

[7]The Hausman test suggests that the independence of irrelevant alternatives (IIA) has not been violated.

issuance of a firm being listed should be interpretated with similar arguments.

Book leverage is also associated with larger probabilities to issue debt whether bank loan or bond. The results are consistent with the financial constraints literature which shows that reducing financial constraints have an impact on external financing amounts. Among others Faulkender and Petersen (2006) show that access to bond markets have a positive impact on leverage – their results hold after controlling for endogeneity. Nevertheless in our estimates, GDP growth hardly has any impact. Term spread has no impact either. Two reasons may explain these results. First our sample is a firm-year level panel which may not capture GDP growth and interest movements in a precise fashion. Moreover, EJKW found similar results. Using the whole sample of firms, their Recession dummy has no impact on debt issuance, bank loan and bond.

All-in-all we find that cash-holding has a negative impact on debt issuance, whether bank loan or bond. Our results are consistent with previous research like EJKW. Yet, we question the suitability of the one-stage multilogit estimates of our debt issuance model. Following ADS, we conduct a two stage estimates where a cash model is estimated with additional instruments.

4.2 Endogenous Cash-Holding

Table 4 reports the second stage of the multnomial ilogit estimates of Model 1, where the cash-holding Model 2 is estimated in the first stage. We substitute Cash in Model 1 with the predicted cash values we obtain in the first stage. Consistent with ADS, we use two instruments, namely future growth prospects and managerial costs in distress. We proxy future growth prospects with intangble assets akin ADS, but managerial costs in distress with largest ownership share in the company. ADS ExecuComp CEO holding but these are unavailable in Orbis.

The second stage multinomial logit estimates show that larger cash-holding increase the probability of issuing debt. The results hold in all specifications, whether we use three debt outcomes, or two debt outcomes. It holds for all debt instruments, bank loan only, bond only, both bank loan and bond. The results are consistent with ADS who find that bond yields are positively affected by cash-holding, but turn negative after endogenization of cash.

The results have a number of implications. First, cash-holding and debt issuance may be indeed determined by a common set of risk factors which need to be disentangle to appreciate the impact of financial ratios. Such methodology is likely applicable in other research based on firm accounting ratios. Moreover, firms are enabled to behave strategically and cumulate cash so to access debt markets. This is giving new insights into the understanding of financial constraints. In particular in a context of economic crisis where firms may further struggle to accumulate cash, some firms may be excluded. Likely it is especially in this context that accumulating cash signals the creditworthiness

of the borrowing firm.[8]

4.3 Exogenous Shocks on Cash-Holding

In their recent studies, Cardella et al. (2015) and Duchin et al. (2015) report hand-collected data on the composition of cash & cash-equivalent of US listed firms. Cash & cash-equivalent (Compustat code *che*) is the standard literature on cash-holding, and is the variable we use in our analysis. They report that most of the corporate cash-holding is composed of bank deposits and public agencies securities (Treasuries and Municipal bonds). Therefore we suspect that an exogenous shock on the value of cash is likely to have an impact on access to debt. In this purpose we design a new model where we control for two factors exogenously affect the value of cash in an exogenous fashion.

We identify two natural experiments. First in 2007-2008, banking sectors were asymmetrically affected by the subprime crisis. We define a country banking sector risk with the ratio of regulatory capital to risk weighted assets. We construct the variable Banking sector risk so that it takes the value one if the country is in the bottom quartile after 2008, zero otherwise. Also, we define a dummy variable that captures the sovereign risk after the 2009. Sovereign risk variable takes the value one if the firm is incorporated in a country whose sovereign bond yields lie in the top quartile. Firms with incorporated in countries with risky sovereigns are constitute the treated group, other firms constitute the control group. In both the banking sector and sovereign risk models, we control for all other determinants described in Model 1.

Table 5 reports multinomial logit estimates of the debt issuance with endogenous cash-holding which controls for banking sector and sovereign risks shocks on the value of cash-holdings. Panel A controls for banking sector shocks, while Pane B controls for sovereign risk shocks. We find that there is a strong and significant drop in access to bank loans in times of bank crisis. Nevertheless firms that add on savings increase their chance to access bank loans. We observe a similar impact on bond issuance but at insignificant levels. The dummy variable risky sovereign shows that overall there is a substantial drop in bank loan among corporate instruments. Interestingly bond issuance hardly seems affected. Moreover, companies need larger amounts of cash in order to access bank loan at fairly significant levels (10% levels). We suspect further investigation is required in particular splitting among investment and non-investment companies alike EJKW may help provide further insights into the mechanisms at play.

[8] In a separate set of unreported results we estimate cash-holding in the first stage using a cash-model more aligned with cash-holding models suggested by Opler et al. (1999) and Bates et al. (2009). Therefore in the cash-holding model, we add cash-flow volatility at 2-digit SIC code in our sample. In standard cash-holding literature, industry cash-flow volatility is the main indicator of precautionary cash-holding. The results are unchanged.

5 Concluding Remarks

In this paper we examine the impact of cash-holding on access to debt. Similar to Erel, Julio, Kim and Weisbach (2012, AJKW) in a multilogit estimate model we find that firms issue less debt as they hold more cash. The results hold for all types of debt instruments, namely bank loan and bond. We yet endogenize cash-holding with two instruments and obtain that cash-holding promotes access to debt markets. The methodology is similar to the one suggested by Acharya, Davydenko, and Strabulaev (2013, ADS) on bond pricing. In fact corporate cash-holding and access to debt are determined by a common set of risk factors creating bias in the results (e.g., Opler et al., 1999, and Bates et al., 2009).

Besides we estimate a difference-in-difference model that builds on the European banking and sovereign crises events. The latter provide with a natural experiments where the value of cash-holding is likely exogenously affected. Our argument follows Cardella et al. (20015) and Duchin et al. (2015) who find that about 72% of the cash-holding held by corporations are bank deposits, and Treasury and municipal securities (22%). We design a test whereby the treated sample are the firms incorporated in countries where sovereign risk suddenly jumped upward after 2009. We measure these jumps using sovereign CDS yields. We implement a second natural experiments whereby treated firms are those incorporated in countries of which banking sector was most affected after the Lehman Brothers collapse in 2008. We suspect the effects are most severe after these two time periods. We use the same setup of two-stage estimation models where cash-holding is endogenous. We find that treated companies incorporated in countries affected by banking sector and sovereign risks breaks need more add cash so to issue debt. We interprete the results as follows. Banking sector and sovereign risks affected the value of corporate cash-holding. As a result the impact of cash-holding on debt issuance is mitigated and firms need more cash to reduce further financially constraints.

Our results have several implications. First, by looking at the impact of financial decisions of managers on the debt issuance we are addressing factors affecting financial constraints. In line with Acharya et al. (2013) we argue that cash-holding signals the ability to save and reduce the renegotiation costs so that the larger the default risk, the larger the requested amounts to issue debt. The second implication relates to the exogenous impact of banking sector and sovereign risks on debt issuance through their effects on the value of cash. This aspect of the link between the institutional environment of firms debt issuance remains widely unknown and would require further research. Last, we believe that the results showing a new channel of the impact of the banking sector and sovereign risks on corporate financial constraints suggest further reflection as of the potential policy implications.

APPENDIX A
Definitions of Variables

Variable	Definition	Source
Dependent Variable		
Issuance3	Firm-year level multinomial variable that takes the value – 0 if net debt issuance equals 0 (i.e., *no debt*, base case); – 1 if bank debt issuance is positive *and* larger than 5% of assets; – 2 if bonds were issued; – 3 if both bank debt (> 5% assets) and bonds were issued. Net debt issuance = Total debt - Long-term debt in last period. Bank debt issuance = Net debt issuance - Bond issuance.	Dealogic-Orbis
Issuance2	Firm-year level multinomial variable that takes the value – 0 if net debt issuance equals 0 (i.e., *no debt*, base case); – 1 if max(Bank debt issuance, Bond issuance)=Bank debt issuance ; – 2 if max(Bank debt issuance, Bond issuance)=Bond issuance.	
Firm Information		
Cash-holding	Cash and short-term investments, scaled by total assets.	Orbis
Size	Natural logarithm of the book value of assets in 2015 constant euros	Orbis
Age	Natural logarithm of 1 plus the number of years since incorporation	Orbis
Leverage	Long-term debt plus debt in current liabilities, scaled by the book value of assets	Orbis
Fixed Assets	Net property, plant and equipment scaled by book value of assets	Orbis
Cash Flow	Income before extraordinary items plus depreciation, scaled by total assets	Orbis
Interest Coverage	log(1+(EBIT/Interest Expenses))	Orbis
Growth	Percentage change in sales over the previous year	Orbis
Listed	The firm is a public company.	Orbis
Macroeconomics and Interest Rates		
GDP growth (annual %)	Yearly growth rate of domestic GDP	W-Bank (GFD)
Term Spread	Term spread is the difference between lowest 10 year and 1 year government yields in the euro area	ECB
Sovereign risk	Dummy variable equal 1 if after 2009 a country is above the last quartile of the 10y CDS, 0 otherwise	S&P
Banking sector risk	Dummy variable equal 1 if after 2007 the banking sector of a country is below the first quartile of the solvency ratio, 0 otherwise	Bankscope
Instruments		
Growth Options	Median value of the ratio of intangible assets to total assets in the Fama-French industry of the firm.	Orbis
Largest Shareholding	Largest ownership share in the company in percentage points	Orbis

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TABLE 1
Sample Distribution

This table reports the distribution of the dependent variables in our sample by year (panel A) and country (panel B). Issuance3 is a firm-year level variable that indicates debt issuance instruments. We construct Issuance3 as follows. We first construct the variable debt issuance by subtracting long-term debt in the previous year to total debt. We then construct the variable bank loan issuance by subtracting the amount of bonds issued to the variable debt issuance. Issuance3 takes the value 1 (only loan) if no bonds were issued and debt issuance is at least 5% of total assets. Issuance3 takes the value 2 (only bond) if bonds were issued and bank loan issuance is less than 5%. Issuance3 takes the value 3 if bonds were issued and bank loan issuance is larger than 5% of total assets. Finally Issuance3 takes the value 0 (base case) if no bonds were issued and debt issuance is less than 5% of total assets. The variable Issuance2 takes the value 1 (loan) if the largest amount of issued debt is a loan and is at least 5% of total assets. Issuance2 takes the value 2 (bond issuance) if the largest amount of issued debt is a bond. Finally Issuance2 takes the value 0 (base case) if no bonds were issued and debt issuance is less than 5% of total assets.

PANEL A: Sample Distribution by Year

	Issuance3				Issuance2			Total
Year	0	1	2	3	0	1	2	
2005	1,616	2,210	34	13	1,616	2,228	29	3,873
2006	1,940	2,572	59	25	1,940	2,607	49	4,596
2007	3,360	4,809	65	37	3,360	4,849	62	8,271
2008	3,347	4,951	40	46	3,347	5,003	34	8,384
2009	3,688	4,357	109	30	3,688	4,387	109	8,184
2010	4,193	4,663	104	38	4,193	4,708	97	8,998
2011	4,179	5,073	90	36	4,179	5,118	81	9,378
2012	4,034	5,130	143	43	4,034	5,180	136	9,350
2013	4,312	5,005	170	47	4,312	5,064	158	9,534
2014	3,984	4,703	158	57	3,984	4,769	149	8,902
Total	34,653	43,473	972	372	34,653	43,913	904	79,470

PANEL B: Sample Distribution by Country

Country	Issuance5				Issuance2			
	0	1	2	3	0	1	2	Total
AT	137	254	26	14	137	271	23	431
BE	1,424	1,321	37	15	1,424	1,333	40	2,797
DE	9,586	6,862	141	52	9,586	6,920	135	16,641
ES	3,484	5,367	42	32	3,484	5,400	41	8,925
FI	1,158	876	60	9	1,158	886	59	2,103
FR	4,002	4,805	197	91	4,002	4,932	161	9,095
GB	2,412	1,311	201	45	2,412	1,362	195	3,969
GR	414	1,737	11	4	414	1,740	12	2,166
IE	169	99	18	2	169	102	17	288
IT	6,534	15,248	74	25	6,534	15,279	68	21,881
NL	383	417	37	11	383	433	32	848
PT	401	767	19	28	401	792	22	1,215
SE	2,129	1,344	91	39	2,129	1,390	84	3,603
Other EU countries	2,420	3,065	18	5	2,420	3,073	15	5,508
Total	34,653	43,473	972	372	34,653	43,913	904	79,470

TABLE 2
Summary Statistics

Panel A reports the summary statistics of the independent variables in our model. Cash-holding is the ratio of cash-holding to total assets. Panel B reports the averages of firm characteristics for non-issuing as well as different debt instruments. Size is the natural logarithm of asset size in constant euro. Age is the natural logarithm of one plus the number of years since incorporation as reported in Orbis. Book leverage is the book value of debt to total assets. Fixed assets is property, plants, and equipment to total assets. Cash flow is the operating cash flow on total assets. Interest coverage is the natural logarithm of one plus the ratio of earnings before interest, taxes, and depreciation on interest expenses. Growth is the growth in net sales. Listed is a dummy that takes the value one if the firm is listed. GDP growth is the GDP growth in the country where the firm is incorporated. Term spread is the difference between lowest 10 year and 1 year government yields in the euro area. Sovereign risk is a dummy variable that takes the value one if after 2009 a country is above the last quartile of the 10y CDS. Banking sector risk is a dummy variable that takes the value if after 2007 the banking sector is below the first quartile of the solvency ratio.

PANEL A: Independent Variables

	Mean	St.dev	25%	50%	75%	N
Firm characteristics						
Cash	0.086	0.103	0.016	0.049	0.114	79470
Size deflated	11.892	1.443	10.865	11.477	12.533	79470
Age	3.322	0.842	2.833	3.367	3.892	79470
Book Leverage	0.540	0.216	0.387	0.550	0.698	79470
Fixed assets	0.286	0.229	0.099	0.236	0.419	79470
Cashflow	0.109	0.072	0.059	0.095	0.142	79470
Interest coverage	1.929	1.432	0.960	1.623	2.557	79470
Growth	0.090	0.310	-0.030	0.044	0.141	79470
Listed	0.191	0.393	0.000	0.000	0.000	79470
Country characteristics						
GDP growth (annual %)	0.443	2.719	-1.000	0.707	2.006	79470
Term Spread	23.247	464.006	16.844	39.800	82.407	79470
Bank fragility	0.168	0.374	0.000	0.000	0.000	79470
Sovereign risk	0.037	0.188	0.000	0.000	0.000	79470

PANEL B: Firm Characteristics by Debt Instrument

	Issuance3				Issuance2		
	0	1	2	3	0	1	2
Cash-holding	0.119	0.057	0.084	0.087	0.119	0.057	0.084
Size	11.855	11.725	15.755	15.620	11.855	11.757	15.598
Age	3.351	3.336	3.776	3.752	3.351	3.340	3.748
Book Leverage	0.441	0.610	0.538	0.587	0.441	0.610	0.548
Fixed assets	0.279	0.293	0.314	0.333	0.279	0.294	0.313
Cashflow	0.125	0.096	0.117	0.104	0.125	0.096	0.117
Interest coverage	2.558	1.478	1.531	1.467	2.558	1.482	1.503
Growth	8.065	6.298	10.328	9.492	8.065	7.046	10.073
Listed	0.193	0.167	0.615	0.549	0.193	0.171	0.611

TABLE 3
Cash-Holding and Debt Issuance
Multinomial Logit

This table reports the multinomial logit estimates of our model of debt issuance. Dependent variables is Issuance3 in columns (1)-(3), and Issuance2 in columns (4)-(5). Issuance3 is a firm-year level variable that indicates debt issuance instruments. We construct Issuance3 as follows. We first construct the variable debt issuance by subtracting long-term debt in the previous year to total debt. We then construct the variable bank loan issuance by subtracting the amount of bonds issued to the variable debt issuance. Issuance3 takes the value 1 (only loan) if no bonds were issued and debt issuance is at least 5% of total assets. Issuance3 takes the value 2 (only bond) if bonds were issued and bank loan issuance is less than 5%. Issuance3 takes the value 3 if bonds were issued and bank loan issuance is larger than 5% of total assets. Finally Issuance3 takes the value 0 (base case) if no bonds were issued and debt issuance is less than 5% of total assets. The variable Issuance2 takes the value 1 (loan) if the largest amount of issued debt is a loan and is at least 5% of total assets. Issuance2 takes the value 2 (bond issuance) if the largest amount of issued debt is a bond. Finally Issuance2 takes the value 0 (base case) if no bonds were issued and debt issuance is less than 5% of total assets. Cash-holding is the ratio of cash-holding to total assets. Size is the natural logarithm of asset size in constant euro. Age is the natural logarithm of one plus the number of years since incorporation as reported in Orbis. Book leverage is the book value of debt to total assets. Fixed assets is property, plants, and equipment to total assets. Cash flow is the operating cash flow on total assets. Interest coverage is the natural logarithm of one plus the ratio of earnings before interest, taxes, and depreciation on interest expenses. Growth is the growth in net sales. Listed is a dummy that takes the value one if the firm is listed. GDP growth is the GDP growth in the country where the firm is incorporated. Term spread is the difference between lowest 10 year and 1 year government yields in the euro area. All estimates include country and time fixed effects. Robust standard errors clustered at firm level are reported in brackets. ***, **, * indicate respectively 1%, 5%, and 10% statistical significance levels.

	Issuance3			Issuance2	
Value of the dependent variable:	1	2	3	1	2
Cash-holding	-4.0461***	-2.8579***	-2.1197*	-4.0363***	-2.4797**
	(-24.86)	(-3.49)	(-2.00)	(-24.89)	(-3.28)
Size deflated	-0.0916***	1.3570***	1.3064***	-0.0627***	1.1798***
	(-8.40)	(28.10)	(19.25)	(-5.79)	(30.28)
Age	0.1707***	0.2119**	0.2632**	0.1734***	0.1979**
	(10.02)	(3.11)	(2.83)	(10.19)	(3.13)
Book Leverage	2.7467***	1.4754***	3.6501***	2.7504***	1.7283***
	(33.53)	(3.52)	(7.44)	(33.56)	(4.59)
Fixed assets	-0.0355	-0.1357	0.6498	-0.0346	-0.1462
	(-0.52)	(-0.48)	(1.62)	(-0.51)	(-0.54)
Cashflow	1.7601***	8.9463***	2.9068	1.8049***	8.2612***
	(7.33)	(8.18)	(1.69)	(7.52)	(8.29)
Interest coverage	-0.4334***	-0.7599***	-0.4347***	-0.4330***	-0.7356***
	(-30.94)	(-8.78)	(-3.93)	(-30.96)	(-9.35)
Growth	0.2703***	-0.2264	0.5820***	0.2693***	-0.1752
	(8.09)	(-1.35)	(3.74)	(8.10)	(-1.04)
Listed	0.3904***	0.6851***	0.5364**	0.3834***	0.6867***
	(9.47)	(4.62)	(2.68)	(9.30)	(5.02)
GDP growth(annual%)	0.0078	-0.0175	-0.0048	0.0073	0.0177
	(1.11)	(-0.61)	(-0.09)	(1.05)	(0.62)
Term Spread	0.0000	0.0000	0.0002	0.0000	0.0000
	(0.29)	(0.29)	(0.86)	(0.30)	(0.19)
Constant	0.3840*	-23.7691***	-25.6092***	0.0425	-21.4137***
	(2.50)	(-27.08)	(-20.12)	(0.28)	(-29.50)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	79470			79470	
Pseudo R^2	0.241			0.226	

TABLE 4
Cash-Holding and Debt Issuance
Multinomial Logit with Endogenous Cash-Holding

This table reports the multinomial logit estimates of our model of debt issuance, with endogenized cash-holding. Dependent variables is Issuance3 in columns (1)-(3), and Issuance2 in columns (4)-(5). Issuance3 is a firm-year level variable that indicates debt issuance instruments. We construct Issuance3 as follows. We first construct the variable debt issuance by subtracting long-term debt in the previous year to total debt. We then construct the variable bank loan issuance by subtracting the amount of bonds issued to the variable debt issuance. Issuance3 takes the value 1 (only loan) if no bonds were issued and debt issuance is at least 5% of total assets. Issuance3 takes the value 2 (only bond) if bonds were issued and bank loan issuance is less than 5%. Issuance3 takes the value 3 if bonds were issued and bank loan issuance is larger than 5% of total assets. Finally Issuance3 takes the value 0 (base case) if no bonds were issued and debt issuance is less than 5% of total assets. The variable Issuance2 takes the value 1 (loan) if the largest amount of issued debt is a loan and is at least 5% of total assets. Issuance2 takes the value 2 (bond issuance) if the largest amount of issued debt is a bond. Finally Issuance2 takes the value 0 (base case) if no bonds were issued and debt issuance is less than 5% of total assets. Cash-holding is the ratio of cash-holding to total assets. Size is the natural logarithm of asset size in constant euro. Age is the natural logarithm of one plus the number of years since incorporation as reported in Orbis. Book leverage is the book value of debt to total assets. Fixed assets is property, plants, and equipment to total assets. Cash flow is the operating cash flow on total assets. Interest coverage is the natural logarithm of one plus the ratio of earnings before interest, taxes, and depreciation on interest expenses. Growth is the growth in net sales. Listed is a dummy that takes the value one if the firm is listed. GDP growth is the GDP growth in the country where the firm is incorporated. Term spread is the difference between lowest 10 year and 1 year government yields in the euro area. First stage estimates (unreported) include the ratio of intangible assets to total assets, the largest shareholding, and the industry cash flow risk as instruments. Robust standard errors clustered at firm level are reported in brackets. ***, **, * indicate respectively 1%, 5%, and 10% statistical significance levels.

	Issuance3			Issuance2	
Value of the dependent variable:	1	2	3	1	2
Cash-holding	13.1368***	54.7439***	52.7024***	-1.5386***	0.9953
	(5.13)	(4.88)	(3.69)	(-3.78)	(1.00)
Size deflated	-0.0572***	1.4189***	1.3821***	-0.0556***	1.2362***
	(-4.62)	(26.55)	(17.30)	(-5.02)	(25.04)
Age	0.1355***	0.2378**	0.2914**	0.1167***	0.2372**
	(6.97)	(3.22)	(2.80)	(5.31)	(3.24)
Book Leverage	3.2058***	4.2771***	6.4923***	1.9787***	2.2851***
	(19.80)	(5.97)	(6.83)	(7.37)	(3.49)
Fixed assets	1.2733***	5.1837***	5.8245***	0.1780*	0.0772
	(5.35)	(4.99)	(4.13)	(2.46)	(0.29)
Cashflow	0.4995	4.4670***	-2.2382	1.1051***	8.7279***
	(1.69)	(3.30)	(-1.09)	(4.09)	(7.81)
Interest coverage	-0.6900***	-1.7747***	-1.3878***	-0.3435***	-0.9004***
	(-13.42)	(-7.62)	(-4.80)	(-8.20)	(-6.56)
Growth	0.3722***	-0.2393	0.6425***	0.1839***	-0.1631
	(9.10)	(-1.32)	(3.98)	(4.80)	(-0.95)
Listed	0.0171	-0.3546	-0.3928	0.2085***	0.7240***
	(0.26)	(-1.45)	(-1.29)	(4.25)	(4.95)
GDP growth (annual%)	-0.0059	-0.0421	-0.0452	0.0034	0.0263
	(-0.79)	(-1.37)	(-0.85)	(0.48)	(0.91)
Term Spread	0.0000	0.0002	0.0003	0.0000	0.0000
	(1.95)	(0.99)	(1.25)	(0.42)	(0.20)
Constant	-1.0715***	-29.1067***	-30.9783***	0.7554*	-23.0288***
	(-3.74)	(-21.16)	(-15.70)	(2.45)	(-17.53)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	52538			79685	
Pseudo R^2	0.203			0.212	

TABLE 5
Cash-Holding and Debt Issuance
Exogenous Shocks on Cash-Holding

This table reports the multinomial logit estimates of our model of debt issuance, with endogenized cash-holding. Dependent variables is Issuance3 in columns (1)-(3), and Issuance2 in columns (4)-(5). Issuance3 is a firm-year level variable that indicates debt issuance instruments. We construct Issuance3 as follows. We first construct the variable debt issuance by subtracting long-term debt in the previous year to total debt. We then construct the variable bank loan issuance by subtracting the amount of bonds issued to the variable debt issuance. Issuance3 takes the value 1 (only loan) if no bonds were issued and debt issuance is at least 5% of total assets. Issuance3 takes the value 2 (only bond) if bonds were issued and bank loan issuance is less than 5%. Issuance3 takes the value 3 if bonds were issued and bank loan issuance is larger than 5% of total assets. Finally Issuance3 takes the value 0 (base case) if no bonds were issued and debt issuance is less than 5% of total assets. The variable Issuance2 takes the value 1 (loan) if the largest amount of issued debt is a loan and is at least 5% of total assets. Issuance2 takes the value 2 (bond issuance) if the largest amount of issued debt is a bond. Finally Issuance2 takes the value 0 (base case) if no bonds were issued and debt issuance is less than 5% of total assets. Cash-holding is the ratio of cash-holding to total assets. Size is the natural logarithm of asset size in constant euro. Age is the natural logarithm of one plus the number of years since incorporation as reported in Orbis. Book leverage is the book value of debt to total assets. Fixed assets is property, plants, and equipment to total assets. Cash flow is the operating cash flow on total assets. Interest coverage is the natural logarithm of one plus the ratio of earnings before interest, taxes, and depreciation on interest expenses. Growth is the growth in net sales. Listed is a dummy that takes the value one if the firm is listed. GDP growth is the GDP growth in the country where the firm is incorporated. Term spread is the difference between lowest 10 year and 1 year government yields in the euro area. All estimates include country and time fixed effects. First stage estimates (unreported) include the ratio of intangible assets to total assets, the largest shareholding, and the industry cash flow risk as instruments. Robust standard errors clustered at firm level are reported in brackets. ***, **, * indicate respectively 1%, 5%, and 10% statistical significance levels.

PANEL A: Impact of cash-holding on debt issuance after an exogenous shock on the value of Treasury securities. Sovereign risk is a dummy variable equal 1 if after 2009 a country is above the last quartile of the 10y CDS.

PANEL B: Impact of cash-holding on debt issuance after an exogenous shock on the value of bank deposits. Banking sector risk is a dummy variable that takes the value if after 2007 the banking sector is below the first quartile of the solvency ratio. All estimates include country and time fixed effects.

PANEL A: Exogenous Shock on Bank Deposits

	Issuance3			Issuance2	
Value of the dependent variable:	1	2	3	1	2
Cash-holding	12.5118***	54.1907***	54.2220***	13.7741***	37.3618***
	(4.88)	(4.76)	(3.76)	(5.38)	(3.62)
Size deflated	-0.0578***	1.4194***	1.3838***	-0.0220	1.2152***
	(-4.67)	(26.56)	(17.34)	(-1.80)	(29.29)
Age	0.1364***	0.2390**	0.2911**	0.1392***	0.2287***
	(7.00)	(3.24)	(2.81)	(7.17)	(3.35)
Book Leverage	3.1995***	4.2858***	6.5525***	3.2704***	3.5785***
	(19.78)	(5.97)	(6.85)	(20.21)	(5.61)
Fixed assets	1.2505***	5.1656***	5.9341***	1.3625***	3.5861***
	(5.27)	(4.95)	(4.18)	(5.75)	(3.77)
Cashflow	0.5465	4.5201***	-2.3500	0.5134	5.2531***
	(1.84)	(3.33)	(-1.14)	(1.73)	(4.16)
Interest coverage	-0.6916***	-1.7785***	-1.4068***	-0.7150***	-1.4437***
	(-13.46)	(-7.63)	(-4.88)	(-13.92)	(-6.94)
Growth	0.3758***	-0.2286	0.6609***	0.3718***	-0.1593
	(9.18)	(-1.27)	(4.12)	(9.14)	(-0.86)
Listed	0.0194	-0.3582	-0.4155	-0.0131	-0.0719
	(0.30)	(-1.47)	(-1.36)	(-0.20)	(-0.33)
GDP growth(annual%)	-0.0063	-0.0144	-0.0027	-0.0068	0.0288
	(-0.79)	(-0.44)	(-0.05)	(-0.85)	(0.89)
Term Spread	0.0000*	0.0002	0.0002	0.0000*	0.0002
	(1.98)	(1.00)	(1.27)	(2.06)	(0.84)
Bank fragility	-0.1474	0.2607	0.6840	-0.1392	0.2343
	(-1.80)	(0.70)	(1.49)	(-1.70)	(0.66)
CASH*Bank fragility	2.2669**	2.4722	-1.4520	2.2317**	2.4119
	(3.03)	(0.78)	(-0.34)	(2.99)	(0.76)
Constant	-1.0199***	-29.3081***	-31.4629***	-1.5401***	-25.1785***
	(-3.47)	(-20.42)	(-15.37)	(-5.25)	(-21.61)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	52538			52538	
Pseudo R^2	0.203			0.183	

PANEL B: Exogenous Shock on Treasury Securities

	Issuance3			Issuance2	
Value of the dependent variable:	1	2	3	1	2
Cash-holding	13.0683***	54.9629***	52.7771***	14.3212***	37.9380***
	(5.11)	(4.91)	(3.69)	(5.60)	(3.71)
Size deflated	-0.0577***	1.4190***	1.3817***	-0.0219	1.2147***
	(-4.65)	(26.56)	(17.26)	(-1.79)	(29.29)
Age	0.1358***	0.2372**	0.2914**	0.1386***	0.2271***
	(6.98)	(3.22)	(2.80)	(7.15)	(3.33)
Book Leverage	3.2082***	4.2785***	6.4913***	3.2787***	3.5645***
	(19.83)	(5.98)	(6.82)	(20.25)	(5.60)
Fixed assets	1.2771***	5.2033***	5.8412***	1.3888***	3.6078***
	(5.37)	(5.01)	(4.14)	(5.84)	(3.80)
Cashflow	0.4978	4.4736***	-2.2455	0.4656	5.2180***
	(1.69)	(3.31)	(-1.09)	(1.58)	(4.14)
Interest coverage	-0.6907***	-1.7763***	-1.3884***	-0.7140***	-1.4406***
	(-13.45)	(-7.64)	(-4.81)	(-13.91)	(-6.93)
Growth	0.3730***	-0.2370	0.6461***	0.3691***	-0.1686
	(9.12)	(-1.31)	(3.99)	(9.08)	(-0.90)
Listed	0.0190	-0.3538	-0.3903	-0.0133	-0.0671
	(0.29)	(-1.46)	(-1.29)	(-0.20)	(-0.31)
GDP growth(annual%)	-0.0115	-0.0539	-0.0587	-0.0128	-0.0039
	(-1.46)	(-1.60)	(-1.02)	(-1.64)	(-0.12)
Term Spread	0.0000	0.0002	0.0003	0.0000	0.0002
	(1.67)	(0.94)	(1.15)	(1.72)	(0.82)
Sovereign risk	-0.2939	0.1390	-0.3210	-0.3008	0.0943
	(-1.92)	(0.22)	(-0.51)	(-1.96)	(0.15)
CASH*Sovereign risk	2.2202	-4.9914	-0.2767	2.1155	-2.5466
	(1.31)	(-0.96)	(-0.04)	(1.25)	(-0.50)
Constant	-1.0260***	-29.0988***	-30.8974***	-1.5383***	-24.9855***
	(-3.64)	(-20.98)	(-15.83)	(-5.46)	(-22.23)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	52538			52538	
Pseudo R^2	0.203			0.183	