

Real Effects of the Sovereign Debt Crisis in Europe: Evidence from Syndicated Loans[☆]

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Abstract

This paper shows that the sovereign debt crisis and the resulting credit crunch in the periphery of the Eurozone lead to negative real effects for borrowing firms. Using a hand matched sample of loan information from Dealscan and accounting information from Amadeus, we show that firms with a higher exposure to banks affected by the sovereign debt crisis become financially constrained during the crisis. As a result, these firms have significantly lower employment growth, capital expenditures, and sales growth rates. We show that our results are not driven by country or industry-specific macroeconomic shocks or a change in the demand for credit of borrowing firms. Thus, the high interdependence of bank and sovereign health and the resulting credit crunch is one important contributor to the severe economic downturn in the southern European countries during the sovereign debt crisis.

Keywords: European sovereign debt crisis, financing constraints, real effects, credit contraction

JEL: G21, E44, G28

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1. Introduction

In recent years, countries in the periphery of the Eurozone drifted into a severe sovereign debt crisis. Starting with Greece in 2009, the crisis quickly spilled over to Ireland, Italy, Portugal, and Spain (the so-called GIIPS countries). These countries faced severe economic downturns which resulted in lower tax revenues, high fiscal deficits, and ultimately an increase in the sovereign credit risk.

This deterioration in the sovereigns' creditworthiness feeds back into the financial sector (Acharya *et al.* (forthcoming)) because of two factors: First, banks have large domestic government bond holdings. For example, in mid-2011 the holdings of domestic sovereign bonds of two major Italian banks (UniCredit and Intesa) amounted to 121 percent and 175 of their core capital, respectively. Similarly striking numbers can be found for Spanish banks where the holdings amounted to 193 percent and 76 percent of core capital for BBVA and Santander.¹ Second, banks suffer from a collateral damage due to the weakening of implicit bailout guarantees.

As a result of the sovereign debt crisis, bank lending contracted substantially in the GIIPS countries. In the cases of Ireland, Spain, and Portugal the overall lending volume of newly issued loans fell by 82%, 66%, and 45% over the period 2008-2013, respectively.² This credit crunch leads to a sharp increase in the uncertainty of borrowing firms as to whether they will be able to access bank funding in the future. As Pietro Fattorini, the owner and manager of a 23-year old Italian company puts it:

“It’s like starting to drive on the motorway without knowing if you’ll find gas stations on the way.”³

In this paper, we document that the sovereign debt crisis impacts real economic activity through the bank lending channel. Our empirical tests make use of a diff-in-diff framework which exploits the heterogeneity of how the sovereign debt crisis affects banks in Europe. The main results imply that firms with a higher dependence on banks affected by the sovereign debt crisis have a higher

¹“Europe’s Banks Struggle With Weak Bonds” by Landon Thomas Jr., NYTimes.com, August 3, 2011.

²“SMEs in peripheral eurozone face far steeper borrowing rates” by Patrick Jenkins, Financial Times, October 10, 2013

³“Italian Banks’ Woes Hurt Small Firms” by Giovanni Legorano, Wall Street Journal, December 1, 2013

cash flow sensitivity of cash, suggesting that these borrowers are financially constrained during the crisis and thus increase the precautionary holdings of cash. These financing problems then result in lower employment growth rates, lower investment, and lower sales growth rates for these firms.

Our sample is based on loan information data obtained from Thomson Reuters LPC's Dealscan, which we hand match to firm specific information from Bureau Van Dijk's Amadeus database. The sample includes firms from France, Germany, Greece, Italy, Ireland, Portugal, Spain, and the UK.

In a first step, we document that the credit crunch observed as an economy wide phenomenon is also present in our sample. Using all syndicated loans originated by European banks in the period 2006 to 2011, we show that banks headquartered in GIIPS countries significantly reduce their lending volume during the sovereign debt crisis. While also non-GIIPS banks reduce lending volume, the reduction is significantly smaller than for GIIPS banks. Moreover, we show that GIIPS banks charge significantly higher loan spreads during the sovereign debt crisis. We use panel regressions to confirm that this result is not driven by time-varying country-specific macroeconomic shocks, time trends, time-varying bank characteristics or time-constant unobserved heterogeneity between banks. This effect is also robust to controlling for the quality of borrowers.

While it has also been documented by previous work that a contraction in the lending volume occurred during the sovereign debt crisis (e.g., Popov and Van Horen (2013)), it remains unclear whether this credit crunch in the syndicated loan market has real effects for the borrowing firms in Europe since firms facing a withdrawal of credit from one financing source may be able to get funding from a different source (Becker and Ivashina (2014a); Adrian *et al.* (2013)). Therefore, potentially there is no overall real effect that can be attributed to the lending behavior of banks. This study to the best of our knowledge, is the first to document for a cross-country sample of European firms that the contraction in the lending volume of affected banks during the sovereign debt crisis is transmitted into the real sector and leads to significant financial and real effects for the borrowing firms.

In the core of the paper, we use a bank's country of incorporation as proxy for how affected a bank was by the crisis. This is motivated by the banks' large direct holdings of domestic government debt as well as the weakening of implicit bailout guarantees for these banks. Using balance sheet information obtained from Amadeus, we show that first, firms significantly decrease their net debt if they are more exposed to GIIPS banks. Furthermore, firms with a high dependence

on GIIPS banks have a significantly positive cash flow sensitivity of cash. This result is in line with the predictions of Almeida *et al.* (2004), who show that firms that expect to be financially constrained in the future respond by saving more cash out of their cash flow today, whereas financially unconstrained firms should have no significant link between their cash flow and the change in cash holdings. Our results thus show that GIIPS bank dependent firms are financially constrained during the sovereign debt crisis.

Second, we document that higher GIIPS bank dependence of firms leads to negative real effects. That is, financially constrained firms have lower levels of investment, lower sales growth and lower employment growth compared to firms with lower GIIPS bank dependence, i.e., compared to less financially constrained firms. These results are robust to controlling for unobserved, time-constant firm heterogeneity, time trends, and time-varying firm characteristics. Results continue to hold if we interact year and country dummies to capture unobserved heterogeneity in country specific macroeconomic shocks.

We then show that this negative effect of a high dependence on GIIPS banks is present for both GIIPS and non-GIIPS firms. While for firms incorporated in GIIPS countries effects are strongly significant for all measures of GIIPS bank dependence, we find that the impact on the corporate policy of non-GIIPS borrowers crucially depends on the lead arranger's exposure to sovereign credit risk. That is, if GIIPS banks only act as participant in the loan of a non-GIIPS firm, we do not find significant effects. If, however, the lead arranger is incorporated in a GIIPS country, we do find significant real effects suggesting that also firms that were less affected by the macroeconomic shock of the sovereign debt crisis face financial constraints and negative real effects if they are dependent on GIIPS banks. Hence, there exist significant spillover effects from the sovereign debt crisis in GIIPS countries to firms in non-GIIPS countries that are transmitted through the bank lending channel.

Our paper is thus the first that is able to document significant cross-country spillover effects of bank lending behavior in the European sovereign debt crisis. For our analysis it is thus crucial to focus on large firms with access to the syndicated loan market since for small and medium sized firms most lending occurs domestically. Focusing on these large companies should if anything work against finding an effect of bank lending on borrowers' corporate policies since these firms should be best able to substitute bank financing with other funding sources. Our estimates thus serve as

a lower bound on the real effects of the bank lending behavior during the sovereign debt crisis. Moreover the syndicated loan market plays an important role as source of funding in Europe. As can be seen from Figure 1, syndicated lending makes up between 10-20% of total bank lending in Europe.

Overall, our results document that financial and real effects of the sovereign debt crisis were transmitted through the bank lending channel, that is, firms with a high dependence on GIIPS banks were more financially constrained and thus also show significant negative real effects. Hence, the high interdependence of bank and sovereign health is one important contributor to the severe economic downturn in the southern European countries during the sovereign debt crisis.

We run a number of robustness tests to provide further evidence for the bank lending channel effect and rule out alternative stories. It has been established in previous studies that bank-firm relations are sticky, implying that firms that borrowed heavily from GIIPS banks before the crisis would also be highly dependent on these banks during the crisis (e.g., Chodorow-Reich (2014)). Still it could be the case that firms with bad performance during the crisis lose the opportunity to get funding from non-GIIPS banks and are only able to borrow from GIIPS banks. This would bias our results since badly performing firms then have a higher GIIPS exposure due to the lack of alternative funding sources, and we could not attribute the effects we find to the credit crunch. To alleviate this concern, we restrict our sample to firms with a constant GIIPS bank dependence throughout our sample period and confirm that all results continue to hold. As an additional robustness test, we split our sample according to the median net worth of all firms in our sample and show that both high as well as low net worth firms experience negative real effects associated with their exposure to banks in the periphery of the Eurozone. Finally, we also find significant results if we use the pre-crisis GIIPS bank dependence as explanatory variable.

Perhaps the biggest challenge in our empirical analysis is the concern that GIIPS countries went through a severe recession during the sovereign debt crisis. As a result of this crisis, firms do not only face a financing shock resulting from the contraction in bank lending volume but are also exposed directly to the macroeconomic downturn in their respective countries. This makes it difficult to disentangle the effect of bank lending behavior on corporate policies from the overall macroeconomic conditions. Ideally, we want firms to be affected by the sovereign debt crisis only through the bank lending channel, but not through the overall macroeconomic environment.

To address this concern, we collect information on all foreign and domestic subsidiaries of the borrowing firms in our sample and confirm that our results continue to hold if we restrict the sample to GIIPS firms that have a substantial part of their revenues generated by non-GIIPS subsidiaries. For these firms it is plausible to assume that they have a larger part of their business in non-GIIPS countries and as a result face a lower overall macroeconomic shock compared to firms that operate primarily in affected countries. Similarly, we show that for our sample of non-GIIPS firms all results continue to hold if we restrict the analysis to firms without GIIPS subsidiaries. Second, we show that our results are also robust to the inclusion of industry-country-year fixed effects. This allows us to rule out that our effects are driven by industry-specific demand shocks within a country that could bias our results if the GIIPS bank dependence is correlated with the crisis resistance of an industry.

Furthermore, to identify the link between financial constraints and negative real effects more precisely, we split our sample according to the firms ability to find substitutes for a decline in bank lending. In particular, we split our sample into listed and non-listed firms given that publicly listed firms have more opportunities to tap alternative funding sources (Becker and Ivashina (2014b)). We show that all our results are driven by the subsample of non-listed firms, whereas listed firms do not face negative real effects. Results are qualitatively similar if we split the sample into rated and unrated firms. These findings confirm that indeed the financing bottleneck due to the cutback in bank lending is one of the main drivers that caused the downturn in the European real economy after the outbreak of the sovereign crisis.

As a last step, we provide evidence on the channels through which banks are affected by the sovereign debt crisis. In principle, banks could be affected by at least four different channels. First, due to the large holdings of domestic sovereign debt, the increase in the sovereign credit risk of GIIPS countries weakened the asset side of GIIPS banks' balance sheet and as a result made these banks riskier (hit on balance sheet). Second, affected banks have an incentive to engage in risk-shifting behavior and therefore increase the holdings of risky domestic sovereign debt. Third, governments may turn to their domestic banks and force them to purchase sovereign debt (financial repression). Finally, the increase in sovereign credit risk could reduce the value of implicit as well as explicit government guarantees. We provide evidence that for our sample period the hit on balance sheet channel seems to be the main source of the negative real effects of corporate borrowers in the

syndicated loan market. While we also find evidence that weakly-capitalized GIIPS banks show risk-shifting like behavior, and that this negatively affects corporate lending, there is no evidence that this risk-shifting is also transmitted to the real economy. The reason for this can be found in the structure of the syndicated loan market. Weakly-capitalized GIIPS banks play only a minor role in the European syndicated loan market, that is, they are lead arrangers for a very limited number of deals, and as such do not cause significant negative real effects for the cross-section of firms considered in this paper. This, however, does not rule out that risk-shifting has negative real effects outside the syndicated loan market.

The rest of the paper is organized as follows. Section 2 provides an overview of the related literature. Section 3 describes the methodology, our dataset, and presents descriptive statistics. The results of the paper are presented in Section 4. Section 5 discusses the channel through which banks are affected by the sovereign debt crisis. Section 6 concludes.

2. Related Literature

Our paper contributes to the literature that studies how shocks on banks' liquidity or solvency are transmitted to the real economy. Starting with Bernanke (1983) several papers have taken on this theme.⁴

In particular, our paper adds to the literature that investigates the impact of financial crises on bank behavior by using data from syndicated loans. Evidence from the 2007-09 financial crisis shows that the resulting decline in bank health lead to a significant reduction in bank lending and that banks that incurred larger losses reduced their loan supply more than banks that were less affected by the crisis (e.g., Ivashina and Scharfstein (2010)). Furthermore, Santos (2011) and Bord and Santos (2014) find that, during the financial crisis, loan spreads of credits to corporations increased and that firms had to pay more to be guaranteed access to liquidity. Chodorow-Reich (2014) verifies that less healthy banks reduced lending more than healthy banks during the 2007-09 financial crisis. Furthermore, by combining the Dealscan database and employment data from the U.S. BLS Longitudinal Database, the study documents that firms that had pre-crisis relationships with banks that struggled during the crisis reduced employment by more than firms that had

⁴For a comprehensive overview over the “natural experiment” literature that studies shocks that induce variation in the cross section of credit availability see Chodorow-Reich (2014).

relationships to healthier lenders. To proxy bank health, Chodorow-Reich (2014) uses the quantity of lending at each bank to measure the unobserved internal cost of funds. Since the identification relies on the strong condition that the cross sectional variation in bank lending reflects only supply factors or observed borrower characteristics, Chodorow-Reich (2014) also instruments for this measure using three different proxies for bank health: the fraction of loans where Lehman Brothers had a lead role (see Ivashina and Scharfstein (2010)), the exposure to toxic mortgage-backed securities, and balance sheet and income statement information.

The funding shocks caused by the financial crisis did not only affect domestic borrowers, but were also transmitted across borders through the bank lending channel. Giannetti and Laeven (2012) show that the collapse of the syndicated loans market during the financial crisis was at least partly caused by global banks rebalancing their loan portfolios in favor of domestic borrowers. Similarly, De Haas and Van Horen (2013) find that banks reduced their lending less in regions that were geographically close and in regions where they had more business activity prior to the crisis.

Furthermore, our paper also adds to the literature that analyzes the effect of sovereign debt crisis on bank lending to the real sector. By aggregating micro-level data of foreign bond issuance and foreign syndicated bank loan contracts on the sector-country-month level, Arteta and Hale (2008) analyze emerging markets' private sector access to international debt financing during several sovereign debt crises between 1980 and 2002. This study shows that sovereign debt crises lead to a decline in foreign credit to private firms in the affected countries.

Regarding the consequences of the European sovereign debt crisis, Popov and Van Horen (2013) find that after the outbreak of the European sovereign crisis, non-GIIPS European banks that had significant exposures to GIIPS sovereign bonds reduced lending to the real economy more than non-exposed banks. Similar to our study, Popov and Van Horen (2013) also use data on syndicated lending. In line with Giannetti and Laeven (2012) and De Haas and Van Horen (2013), Popov and Van Horen (2013) show that the decline in lending is accompanied by rebalancing the credit supply from foreign regions to core European ones.

In addition to the bank distress caused by impaired European sovereign debt, Correa *et al.* (2012) document that European banks also suffered from a severe decline in their access to dollar funding from U.S. money market funds in 2011. The study finds that this liquidity shock was proportional with the increase in the sovereign risk of the bank's country of origin and that branches

of affected European banks reduced their lending to U.S. entities. Another channel through which the lending of European banks to the U.S is negatively affected is highlighted by Ivashina *et al.* (2012). The study shows that the fact that U.S. money-market funds reduced funding for European banks after the start of the European sovereign crisis, lead to violations of the covered interest parity, which, in turn, incentivized banks to cut their dollar lending. Furthermore, the study finds that European banks that were more reliant on money funds experienced bigger declines in dollar lending. Finally, Becker and Ivashina (2014b) indicate that the cutback in bank lending to the real economy is aggravated by financial repression of European governments that induces European banks to take on more sovereign debt, which crowds out corporate lending.

By using loan-level data and the resulting bank-firm matches from the Bank of Italy's Credit Register data, several Bank of Italy working papers investigate the negative effects of the financial and sovereign debt crisis on bank lending in Italy. Albertazzi and Marchetti (2010) document a contraction of credit supply for banks with a weak capitalization after Lehman's collapse and a rebalancing of lending to less risky borrower. Gambacorta and Mistrulli (2011) show that, during the financial crisis that followed Lehman's collapse, spreads increased by less for borrowers of well-capitalized, liquid banks. Bofondi *et al.* (2013) exploit the lower impact of sovereign risk on foreign banks operating in Italy than on domestic banks and show that Italian banks tightened credit supply more than foreign banks. Bonaccorsi di Patti and Sette (2012) add the finding that banks that were more depending on wholesale funding and that made more use of securitization reduced their loan supply more and increased the loan spreads stronger. In contemporaneous work, Cingano *et al.* (2013) use the Bank of Italy's Credit Register database to identify the effect of a cutback in bank lending, caused by the liquidity drought on the interbank market in the aftermath of the 2007-09 financial crisis, on the investments of non-financial firms. Cingano *et al.* (2013) find that borrowers, which were more dependent on banks that mainly relied on wholesale funding, reduced their investments more than firms that were less exposed to these banks. Similar to Bonaccorsi di Patti and Sette (2012), Cingano *et al.* (2013) instrument credit growth by a bank's interbank liabilities to total assets ratio. The results of Balduzzi *et al.* (2014), which exploit the shock caused by the financial crisis and the European sovereign debt crisis to Italian banks' CDS spreads and equity valuations, point in the same direction. Using a survey on micro and small Italian firms that provides data on firm-bank relationships, Balduzzi *et al.* (2014) find evidence

that firms that are connected to banks with a higher CDS spread invest less, hire fewer workers, and reduce the growth of bank borrowing.

In another contemporaneous work, Bentolila *et al.* (2013) also find negative real effects of the contraction in bank lending for Spain. By matching employment data from the Iberian Balance sheet Analysis System and loan information obtained from the Bank of Spain's Central Credit Register, the study analyzes employment changes from 2006 to 2010 that are caused by weak banks reducing their lending activity. Bentolila *et al.* (2013) document that firms' that had relationships to weak banks recorded a 18% to 35% (depending on the estimation method) larger job destruction than firms that only were exposed to healthy banks. Contrary to the other studies, Bentolila *et al.* (2013) defines a weak bank as a bank that obtained government assistance to remain alive. Notably, the study finds that firms that had only a single connection to one weak bank obtained more credit than similar firms working with several banks, which Bentolila *et al.* (2013) interpret as a sign of "zombie lending".

Therefore, to the best of our knowledge, this paper is the first that uses a pan-European dataset to study the adverse effects of the sovereign debt crisis on the real economy, that are transmitted through the bank lending channel. Our approach has three key advantages. First, it enables us to better disentangle the adverse effects on the real economy caused, on the one hand, by the macroeconomic demand shock and, on the other hand, by the bank credit supply shock. The reason is that by using a pan-European dataset, we can exploit the fact that we have information for firms that are adversely affected by a bank credit supply shock but less exposed to a macroeconomic demand shock (e.g., a German firms with bank relationships to GIIPS-banks but no significant business in these countries). Second, we can rule out the possibility that a reduction in bank lending by domestic banks is substituted by bank credit from foreign financial institutions and thus point out the real effects of a reduction in bank lending more robustly. Finally, since we use data from syndicated loans, which is mainly used by large corporations, our estimates serve as a lower bound for the adverse effects of a bank credit supply shock, since this effect is supposedly even more pronounced for smaller firms given their inability to substitute bank financing with other funding sources.

3. Methodology, Data, and Descriptive Statistics

3.1. Methodology

In the recent sovereign debt crisis, the funding costs of banks headquartered in countries that are strongly affected rose significantly. Allied Irish Bank (AIB), an Ireland based bank active in the syndicated loan market, states in its 2010 annual report that "AIB, in common with other banks, continues to face funding and liquidity issues. [...] The result of this situation is that [...] our profitability is severely curtailed by what we pay to secure our funding."⁵

Our empirical strategy is thus to examine the association between a bank's exposure to the sovereign debt crisis and the resulting corporate policy of its borrowers. We expect that firms with stronger lending relationships to banks affected by the sovereign debt crisis are more financially constrained and thus behave differently both in terms of financial and real decisions compared to less affected firms. In the core of the paper, we use a bank's country of incorporation as a proxy for its exposure to sovereign default risk since it captures all channels through which banks are affected by the sovereign debt crisis. First, banks' bond portfolios are generally biased towards domestic sovereign bond holdings implying that there exists a strong positive relation between a bank's country of incorporation and its exposure to the sovereign debt of that country (which proxies for hit on balance sheet, financial repression, and risk shifting). Second, GIIPS banks also suffered from a stronger weakening of the value of their implicit bailout guarantees compared to non-GIIPS banks. In addition, the country of incorporation is available for every bank, whereas the sovereign bond holdings are only observable for a subsample of our banks and only at very few points in time. In the main part of the analysis, we thus construct two groups of banks: the first group consists of banks headquartered in GIIPS countries (Greece, Ireland, Portugal, Spain, and Italy) given that these countries are most affected by the European sovereign debt crisis. As a control group, we choose banks from France, Germany, and the UK since these countries were less affected by the sovereign debt crisis. We provide more detailed evidence on the exact channel how banks that are active in the syndicated loan market are affected by the sovereign debt crisis in Section 5.

⁵Allied Irish Banks, Annual Financial Report 2010, p. 5 f.

We construct two measures of GIIPS bank dependence of a firm in a given year. The first variable exploits the different contributions of the lenders to a syndicated loan. That is, for each firm-year, we construct the GIIPS exposure as the fraction of total syndicated loans outstanding that is provided by banks incorporated in a GIIPS country. Hence, the GIIPS exposure of firm i in year t is given by:

$$GIIPS\ Exposure_{it} = \frac{\sum_{loans_j} \%GIIPS\ Banks\ in\ Syndicate_{jit} * Loan\ Amount_{jit}}{Total\ Loan\ Amount_{it}}$$

Dealscan does not always report the exact contribution of each lender to a syndicated loan. If this information is missing, we infer the fraction of the loan provided by each bank from syndicated loans where Dealscan reports the contribution of the individual lenders. Our criteria are based on existing research on syndicated loans (Sufi (2007)). More specifically, we impute missing values as the median that is calculated conditional on (1) whether the lender acts as a lead arranger and (2) the number and roles of lenders in the deal.

This variable definition takes into account all lenders of a firm, i.e., it includes also banks that only act as participants in a given syndicate. The second measure only considers banks that act as lead arranger because of the special role that these institutions play in originating and monitoring a syndicated loan (Ivashina (2009)). We construct a variable GIIPS Lead as the fraction of total outstanding syndicated loans of a firm in a given year provided by lead arrangers incorporated in a GIIPS country:

$$GIIPS\ Lead_{it} = \frac{\sum_{loans_j} \%Lead\ Arranger\ GIIPS\ Banks\ in\ Syndicate_{jit} * Loan\ Amount_{jit}}{Total\ Loan\ Amount_{it}}$$

We identify lead arranger from the Standard & Poor’s Guide to the European loan market (2010) and classify a bank as lead arranger if its role is either “mandated lead arranger” or “bookrunner”. Note that it is not possible to unambiguously identify lead arrangers for all loans in our sample, implying that the sample size will be smaller for the regressions that include the exposure to GIIPS lead arrangers as main explanatory variable.

We divide our sample into two periods, that is, before and during the sovereign debt crisis. The pre-crisis period covers the years 2006 until 2009. The crisis period starts in 2010 when, fueled by a series of negative news from Greece, investors started to lose confidence in other Eurozone countries

that were in similar trouble as Greece. This negative sentiment resulted in increasing funding costs and, ultimately, temporary shut outs of the GIIPS countries from sovereign bond markets. Indeed, over the 2010 to 2012 period all GIIPS countries had to request some sort of official funding by the EU (Lane (2012)). Hence, the crisis period starts in 2010 and continues until 2012, which is the last year with accounting data available. We construct an indicator variable equal to one if the financial information reported in Amadeus falls in the crisis period. This variable is called *Crisis*.

3.2. Data

Our analysis makes use of a novel hand-collected data set of bank firm relationships in Europe. The data used in this paper stems from two main sources. Information about syndicated loans to European firms are taken from Dealscan. This database contains a comprehensive coverage of the European syndicated loan market. In contrast to the U.S., bank financing is the key funding source for firms in our sample since almost no bonds are issued in Europe (Standard&Poors (2010)). To measure GIIPS bank dependence, we collect information on syndicated loans to non-financial borrowers located in the following countries: Greece, Italy, Portugal, Spain, Ireland, France, U.K., and Germany. Consistent with the existing literature (Sufi (2007)), all loans are aggregated to the bank's parent company.

Firm level financial data are taken from Bureau Van Dijk's Amadeus database. This database contains information about 19 million public and private companies from 34 countries, including all EU countries. Dealscan and Amadeus do not share a common identifier. To merge the information in these databases we hand-match firms to the Dealscan database.

Amadeus groups firms into different size categories ranging from "Very Large" to "Small". Perhaps not surprisingly firms in the intersection of Amadeus and Dealscan are either classified as "Very Large" or "Large". For firms to be classified as very large, they have to satisfy at least one of the following criteria: Operating Revenue of at least 100 million EUR, Total assets of at least 200 million EUR, at least 1000 Employees, or the firm has to be publicly listed. The respective criteria for large companies are: at least 10 million EUR operating revenue, at least 20 million EUR total assets, or at least 150 employees.

3.3. Descriptive Statistics

In Table 1, Panel A we provide evidence on the differences in evolution of firms across groups of high (above sample median) and low (below sample median) GIIPS bank dependence. We report mean, median, and standard deviation of high GIIPS exposure firms in columns 3-5 and for low GIIPS exposure firms in Columns (6)-(8). We show pre-crisis summary statistics in the top half of the table and sovereign debt crisis values in the bottom half of the table. The general picture that emerges from the table is that the evolution of the sample of firms with high GIIPS exposure during the crisis is more negative than for less GIIPS bank dependent firms. High GIIPS firms have significantly less employment growth, invest less, experience lower sales growth, and reduce their net debt ratios more compared to the sample of firms with low GIIPS exposure. These results are consistent with the notion that the sovereign debt crisis is transmitted into the real sector through the bank lending channel.

Panel B of Table 1 presents descriptive statistics for our set of firm-level control variables, split into firms with high and low GIIPS bank dependence and into crisis and pre-crisis period. Firms with high GIIPS bank dependence tend to be larger, have lower net worth, higher leverage, and lower interest coverage ratios. We follow Imbens and Wooldridge (2009) and report the difference in averages by treatment status, scaled by the square root of the sum of the variances, as a scale-free measure of the difference in distributions. This measure avoids the mechanical increase in sample size, that one typically observes when reporting t-statistics. The authors suggest as a rule of thumb that the normalized difference should not exceed one quarter. As can be seen from the reported values in Panel B of Table 1 only the difference in the leverage ratio reaches this threshold, all other values are well below one quarter.

In Table 2, we compare the time series properties of our main explanatory variables (GIIPS Exposure and GIIPS Lead) for borrowing firms located in GIIPS (Panel A) and non-GIIPS (Panel B) countries. The main observation that emerges from the table is that GIIPS bank dependence differs significantly by the country of incorporation of the borrowing firm. While the mean GIIPS exposure for borrowing firms incorporated in a GIIPS country ranges between 59.3% and 69.1% of the outstanding loan amount the mean GIIPS exposure for borrowers from non-GIIPS countries is roughly 7% throughout our sample period. The same conclusion can be drawn if we focus on the evolution of banks acting as lead arranger.

Table 2 also shows that GIIPS borrowers increasingly depend on lending from domestic banks. While 59.3% of GIIPS lending is from domestic banks in 2006 this percentage increases to 64% in 2011. These results are consistent with the flight home effect during times of crises reported in Giannetti and Laeven (2012). Note that for the GIIPS exposure, most of the increase occurred during the time of the general financial crisis in 2008-09, that is, before the sovereign debt crisis. Conversely, for GIIPS borrowers the fraction of GIIPS lead arrangers remains relatively stable over time.

Table 2 Panel C and D compare GIIPS exposure across groups of high net worth and low net worth borrowing firms where low (high) net worth firms are those below (above) median net worth in the entire sample. The main difference between the two samples is the higher level of GIIPS exposure for low net worth firms. For example, the mean GIIPS exposure in 2009 is 33.5% for low net worth firms and 23.5% for high net worth firms. Note that the evolution of the mean GIIPS exposure over time is very similar across the two samples of firms. This result suggests that low net worth firms do not shift towards GIIPS banks over time, especially not during the sovereign debt crisis period.

4. Results

4.1. Lending behavior of banks

As a consequence of the sovereign debt crisis in the Euro area, bank lending in the GIIPS countries contracted significantly (e.g., Popov and Van Horen (2013)). We show in this section that a significant decrease in the lending volume of banks can also be observed in our sample. Figure 2 plots the evolution of the lending volume in the syndicated loan market in GIIPS and non-GIIPS countries. While one can observe a decline for both GIIPS and non-GIIPS countries, the decline in GIIPS countries is higher with a total contraction of 58% compared to non-GIIPS countries where loan volume only decreased by 33% relative to the pre-crisis peak in 2007. The result compares well to Ivashina and Scharfstein (2010) who document that new loans to large borrowers fell by 47% during the peak period of the financial crisis and to De Haas and Van Horen (2011) who show that syndicated cross-border lending declined on average by 53% compared to pre-crisis levels.

We run panel regressions where we use the bank-year as unit of observation. The dependent variable in Table 3, Columns (1)-(3) is the annual log change in a bank's lending volume. The results confirm that GIIPS banks cut lending to the real sector significantly more than non-GIIPS banks during the sovereign debt crisis. We use various alternative specifications to show the robustness of this result. In Column 1 we include year and country fixed effects to capture systematic shocks that affect all banks in a given year or in a given country, respectively. In Column 2, we add country-year interaction fixed effects to capture time-specific macroeconomic shocks that affect banks in each country differently. Finally, Column (3) adds bank fixed effects to capture unobserved time-invariant bank heterogeneity. Results remain qualitatively unchanged using either specification.

In addition, Table 3, Columns (4)-(7) present results for regressions of loan spreads of newly issued loans during the sovereign debt crisis. Throughout all specifications we find that GIIPS banks charge significantly higher loan spreads during the sovereign debt crisis. To rule out that this effect is driven by a deterioration in the quality of new borrowers, we first include country-year fixed effects to control for an overall decline in the firm quality in a given country. Second, we show that this result is also robust to including the average borrower quality of all firms that receive a new loan (Column 7). The evidence in this section is consistent with banks not only cutting bank their lending volume but also charging higher loan spreads from their borrowers, implying that it becomes increasingly difficult for corporate borrowers to have access to bank financing.

4.2. Financial and real effects of the sovereign debt crisis

We begin by exploring the effect of the sovereign debt crisis on several firm outcomes graphically in this section. Figures 3-6 plot the time series of the average employment growth rates, investment, sales growth rate, and net debt, respectively, for firms with a high and low GIIPS bank exposure. The evidence suggests a clear change in firm outcome during the sovereign debt crisis (that is, starting in 2010). For example, employment growth rates for GIIPS dependent borrowers decrease while employment growth for less GIIPS bank dependent firms show an increase. Similar results can be found for our other dependent variables.

The univariate results in Panel A of Table 1 suggest that a higher GIIPS exposure of firms leads to larger real (negative) effects. To provide multivariate evidence for these results, we estimate

the following panel regression for a firm’s employment growth rate, sales growth rate, investment, and net debt, respectively:

$$\begin{aligned}
y_{it+1} &= \alpha + \beta_1 * Crisis + \beta_2 * GIIPS\ Bank\ Dependence_{it} \\
&+ \beta_3 * GIIPS\ Bank\ Dependence_{it} * Crisis \\
&+ \gamma * X_{it} + Firm_i + Year_{t+1} + u_{it+1}
\end{aligned} \tag{1}$$

For the cash flow sensitivity of cash (Almeida *et al.* (2004)) we employ the following specification

$$\begin{aligned}
\Delta Cash &= \alpha + \beta_1 * Crisis + \beta_2 * GIIPS\ Bank\ Dependence_{it} \\
&+ \beta_3 * GIIPS\ Bank\ Dependence_{it} * Crisis \\
&+ \beta_4 * GIIPS\ Bank\ Dependence_{it} * CashFlow_{it} \\
&+ \beta_5 * GIIPS\ Bank\ Dependence_{it} * CashFlow_{it} * Crisis \\
&+ \gamma * X_{it} + Firm_i + Year_{t+1} + u_{it+1}
\end{aligned} \tag{2}$$

Our key variables of interest are the interaction term between our various measures of firms’ GIIPS bank dependence with the Crisis dummy (β_3 in Eq. 1) and the triple interaction term (β_5 in Eq. 2), respectively. If firms are adversely affected by the sovereign debt crisis through the bank lending channel, then we expect β_3 in Eq. 1 to be negative. Moreover, if firms with a high dependence on GIIPS banks are financially constrained during the sovereign debt crisis, we expect that they will save more cash out of their generated cash flows to build up a liquidity buffer against the possibility to not be able to obtain additional funding in the future, that is, we expect β_5 in Eq. 2 to be positive. We use two different measures of GIIPS bank dependence, both based on a bank’s country of incorporation. First, the variable GIIPS Exposure captures the importance of GIIPS banks for the entire syndicate structure. Second, GIIPS Lead uses the fraction of GIIPS banks that act as lead arrangers in the respective deals.

We consider several control variables to capture confounding factors. In the baseline specification, we include firm fixed effects to capture unobserved time-invariant firm heterogeneity and year fixed effects to control for systematic shocks that affect all firms in a given year. Moreover, we include firm-level control variables to capture other determinants of firms’ corporate policies. These include whether a firm has access to the bond market, firm size, leverage, net worth, the

fraction of tangible assets, the interest coverage ratio, and the ratio of EBITDA to total assets (see the Appendix for exact definitions of these variables).

GIIPS countries went through a severe recession starting in 2010 while non-GIIPS countries were significantly less affected by economic downturns. To address concerns that our results are driven by different aggregate demand fluctuations in the two subsets of our sample, we consider an alternative specification where we additionally add interactions between year and country fixed effects to capture any unobserved country specific macroeconomic shocks. This also allows to capture time-varying country specific shocks to the credit demand of borrowing firms. We thus estimate the following regression model:

$$\begin{aligned}
y_{it+1} &= \alpha + \beta_1 * Crisis + \beta_2 * GIIPSBankDependence_{it} \\
&+ \beta_3 * GIIPS Bank Dependence_{it} * Crisis \\
&+ \gamma * X_{it} + Firm_i + Year_{t+1} + Country_j * Year_{t+1} + u_{it+1}
\end{aligned} \tag{3}$$

where y_{it+1} again represents a firm's employment growth rate, sales growth rate, investment, and net debt. For the cash flow sensitivity of cash we estimate:

$$\begin{aligned}
\Delta Cash &= \alpha + \beta_1 * Crisis + \beta_2 * GIIPS Bank Dependence_{it} \\
&+ \beta_3 * GIIPS Bank Dependence_{it} * Crisis \\
&+ \beta_4 * GIIPS Bank Dependence_{it} * CashFlow_{it} \\
&+ \beta_5 * GIIPS Bank Dependence_{it} * CashFlow_{it} * Crisis \\
&+ \gamma * X_{it} + Firm_i + Year_{t+1} + Country_j * Year_{t+1} + u_{it+1}
\end{aligned} \tag{4}$$

In the following, we report results for both specifications for the entire sample of firms. We start by analyzing how exposure to GIIPS banks affects firms' financial decisions. Results are presented in Table 4. Note that firm level controls are included in all regressions but not reported. Column (1) provides results for Net Debt (Current + Non-Current Liabilities - Cash/Total Assets). The coefficient of the interaction of the GIIPS exposure with the Crisis dummy (β_3 in Eq. 1) is negative indicating that during the sovereign debt crisis firms with higher exposure to affected banks reduce external debt financing more than less affected firms. A one standard deviation increase in the

GIIPS exposure during the financial crisis leads to a reduction in net debt of between 1.3 and 2.1 percentage points.⁶

Column (2) of Table 4 presents results for the degree to which firms save cash out of their cash flow. The coefficient of the triple interaction of GIIPS exposure with cash flow and the Crisis dummy (β_5 in Eq. 2) is statistically significant at the 1% level. This positive coefficient implies that a higher GIIPS exposure induces firms to save more cash out of its cash flow for precautionary reasons, suggesting that GIIPS bank dependent firms are financially constrained during the crisis. Based on the estimates in Column (2), a one standard deviation increase in the GIIPS exposure of borrowing firms during the crisis implies that these firms save 3.5 cents more per Euro of cash flow. This compares well to the magnitudes found by Almeida *et al.* (2004), who show that financially constrained firms save on average 5-6 cents per dollar of cash flow, while financially unconstrained firms have no significant relation between cash flow and the change in cash holdings.

An alternative explanation for this effect could be that firms have worse investment opportunities during a crisis period and as a result save more of their cash flow. To address this concern, we include country-year fixed effects to absorb both aggregate macroeconomic shocks at the country level and related to that shocks to the profitability of new investment projects. Results for this alternative specification are presented in Columns (3) and (4) of Table 4. All results continue to hold. Lastly, Columns (5)-(8) of Table 4 show that our results are also robust to constructing the GIIPS bank dependence measure based on the lead arrangers of a syndicate.

We next turn to an analysis of how the sovereign debt crisis impacts corporate policies of borrowers. The previous results on the financial policy of borrowing firms suggest that firms with a high GIIPS bank dependence show the typical pattern of financially constrained firms during the sovereign debt crisis. Note that the results in Table 4 show no significant relation between cash flow and the propensity to save cash out of these cash flows in the pre-crisis period. Hence, if firms become financially constrained during the sovereign debt crisis due to the lending behavior of their main banks, then firms with a high GIIPS bank dependence should also respond by adjusting their real activities.

⁶Results are qualitatively similar if we use the leverage ratio instead of net debt as dependent variable.

We estimate panel regression (see Eq. 1) where y_{it+1} measures employment growth ($\Delta \log$ Employment), investment (CAPX/Tangible Assets)⁷, or sales growth ($\Delta \log$ Sales), respectively. Table 5 presents the results. Columns (1)-(3) reveal that GIIPS bank dependent firms have significantly lower employment growth rates, cut investment by more, and experience larger sales growth reduction than firms which are less dependent on GIIPS banks. Table 5, Columns (4)-(6) show that these results are robust to including interactions of country and year fixed effects. Based on the specifications in Columns (4)-(6), a one standard deviation increase in the GIIPS bank dependence of borrowing firms during the sovereign debt crisis leads to a 3.0 percentage point reduction in employment growth, a 4.9 percentage point decrease in capital expenditures, and a 3.6 percentage point decrease in sales growth. Lastly, the results reported in Columns (7)-(12) of Table 5 confirm the robustness of our results with respect to a measure of GIIPS bank dependence constructed from banks that act as lead arranger in the syndicated loans.

In a next step, we split our sample into GIIPS and non-GIIPS borrowers and analyze whether firms are affected irrespective of their country of incorporation. Table 6 report results for the financial policy variables. For firms incorporated in a GIIPS country the results in Column (1) and (2) show that a one standard deviation increase in their GIIPS bank dependence leads to a 2.5 percentage point reduction in net debt and induces them to save 5 cent more per Euro of cash flow generated. Results do not change if we measure GIIPS bank dependence from banks that act as lead arranger in the syndicated loans.

Considering the sample of non-GIIPS borrowers, we only find significant effects on the corporate policies of firms when using the fraction of GIIPS lead arrangers as key explanatory variable. Given the lower overall exposure of these firms to GIIPS banks it seems plausible that they are only affected by the sovereign debt crisis in the periphery of the Eurozone if banks play an important role in the loan syndicate. From the results in Column (8) of Table 6 one can see that non-GIIPS firms with higher GIIPS bank dependence in the sense that they have GIIPS lead arrangers in their deals have a significantly higher propensity to save cash out of their cash flow. A one standard deviation increase in their GIIPS lead arranger dependence induces them to save 3 cent more per

⁷Amadeus does not report capital expenditures. We construct a proxy for investments by the following procedure: $\frac{Fixed\ Assets_{t+1} - Fixed\ Assets_t + Depreciation}{Fixed\ Assets_t}$. We set CAPX to 0 if negative.

Euro of cash flow. Hence, also non-GIIPS firms appear to be financially constrained if they have a higher GIIPS bank dependence.

Table 7 presents results for the real effects. Columns (1)-(3) of Table 7 show that firms headquartered in GIIPS countries have significant negative real effects resulting from the reduced availability of bank financing. A one standard deviation increase in the GIIPS exposure of a borrower leads to 3 percentage points less employment growth, a 4.7 percentage point reduction in investments, and a 4 percentage point reduction in sales growth. All coefficients remain statistically and economically significant after controlling for country-year fixed effects. The results in Columns (10)-(12) of Table 7 reveal that non-GIIPS firms also experience significant negative real effects, that is, they also have lower employment growth rates, lower capital expenditures, and lower sales growth rates when these firms depend on syndicated loans where GIIPS banks act as lead arranger. An important question in this respect is how GIIPS banks issue these loans to non-GIIPS borrowers, that is, whether these loans are issued directly from the parent company or via foreign subsidiaries. If the deal is conducted by a foreign subsidiary which could potentially be capitalized separately and backed by the implicit bailout guarantees of a non-GIIPS government, we should not see real effects that are as strong as if the bank's parent which is domiciled in a GIIPS country issues the loan directly. To check this we rely on the distinction between lender and lender-parent in Dealscan. If the parent company is named as both lender and lender-parent, we assume that the loan is issued by the lender-parent. This holds true for 90% of the loans issued by GIIPS banks to non-GIIPS borrowers. As a robustness check we drop firms with loans that are not issued directly by the GIIPS lender-parent and all results continue to hold.

4.3. Controlling for borrower quality

Our interpretation of the results presented above relies on the assumption that no unobservable variable is able to explain both the GIIPS exposure of borrowers and its financial and real performance over time. One potential alternative story could be that high-quality firms which are potentially more crisis resistant are better able to borrow from non-GIIPS banks while low-quality firms may only be able to get funding from GIIPS banks. If this is true then our results presented above could be driven by a selection of firms into GIIPS and non-GIIPS lenders and not by a causal effect which runs from the bank lending channel to the firm. To address this possible concern, we provide additional evidence in this section.

First, firms with negative expectations about their future outcomes at the onset of the crisis in 2010 might not obtain credit from non-GIIPS banks and have to switch to GIIPS banks. This might imply that we find a correlation between financial and real effects and GIIPS bank dependence which stems from a change in treatment and control group over time. To address this possible concern, we estimate the panel regression in Eq. 3 on a sample of borrowers that have constant GIIPS bank dependence over time. The results in Table 8 show that higher GIIPS exposure is associated with a reduction in leverage, a higher propensity to save cash out of cash flow, and significant negative real effects for borrowers in the crisis period.

As a second test, we split our sample into high and low net worth firms and estimate panel regressions separately for each subsample. Table 9, Panel A presents the results for the GIIPS bank dependence measure constructed from all lenders and Table 9, Panel B reports results for the GIIPS exposure measure constructed from lead arrangers. The coefficients of the interaction of GIIPS exposure and the Crisis dummy (Panel A) is negative and statistically significant for all financial and real variables in both subsamples. The results in Table 9, Panel B confirm these results for GIIPS bank dependence based on the lead arranger. We conclude that both high as well as low net worth borrowers of exposed banks are adversely affected by the sovereign debt crisis.

As a further robustness check, we use the pre-crisis GIIPS bank dependence of our borrowing firms as explanatory variable for their performance during the crisis. Results are presented in Table 10. All results continue to hold using this alternative specification.

4.4. Controlling for macroeconomic exposure

During the sovereign debt crisis, firms were of course also directly affected by the macroeconomic downturn in the periphery of the Eurozone. While the inclusion of country-year fixed effects absorbs macroeconomic shocks that affect all firms in a given country in the same way, it of course does not rule out completely that our effects are at least partly driven by the overall recession in these countries. Ideally, we would want the sovereign debt crisis to not affect firms' performance other than through the contraction in bank lending volume.

To address this issue, we use information about the revenues of foreign subsidiaries of our GIIPS firms to proxy for a firm's business activities abroad. Ideally, we would like to control for precise export/import dependence of our firms to specific countries. This data is, however,

only collected for a very small subsample of our firms in Amadeus, making it impossible to use export/import dependence at the firm level to control for the exposure to macroeconomic shocks. Therefore, we focus on revenues generated by non-GIIPS subsidiaries. Firms with a larger fraction of their revenue generated by non-GIIPS subsidiaries should face a lower macroeconomic shock than firms with a larger fraction of their business in the affected countries. In Panel A of Table 11 we thus restrict our sample to GIIPS firms with an above median fraction of their revenue generated by non-GIIPS subsidiaries.⁸ For these firms it is plausible to assume that they have a relatively smaller macroeconomic shock compared to firms with more business in the periphery countries. This lower exposure to the overall crisis in the affected countries allows us to at least partially disentangle the shock that comes from the lending behavior of banks and the resulting funding uncertainty of borrowers from the overall macroeconomic shock. As can be seen in Panel A of Table 11 all results continue to hold for this subsample of GIIPS firms with an above median fraction of their revenue generated by foreign non-GIIPS subsidiaries. Looking at Panel B, we find weaker effects for GIIPS firms with a majority of their business in GIIPS countries, although the difference is in most cases not statistically significant. For these firms it seems plausible that both the crisis indicator as well as the country-year fixed effects absorb the dominating macro shock and that the bank lending channel is only a second order effect if firms are hit very hard by the crisis.

Considering the sample of non-GIIPS firms a similar concern arises. Here, an alternative story would suggest that non-GIIPS firms with GIIPS lead arrangers also have significant business in GIIPS countries and are therefore more affected by the macroeconomic downturn abroad than other borrowers without GIIPS lead arranger. Hence, our GIIPS bank dependence measure would in fact capture exposure to the macroeconomic shock in the affected countries and not the lending behavior of banks. We use the available data on firms' subsidiaries to address this issue. Table 11, Panel C restricts the sample to non-GIIPS firms without subsidiaries in a GIIPS country. All results continue to hold using this subsample, providing additional evidence for our main mechanism, that is, the lending behavior of banks has negative real effects for the borrowing firms. Similarly, we again find weaker effects for non-GIIPS firms with GIIPS subsidiaries (Panel D). Again it seems plausible that for them the crisis dummy picks up the macro shock that they are facing and that

⁸Focusing on firms with an above sample median fraction of their revenues generated by subsidiaries in countries with an above EU average GDP growth yields qualitatively similar results. Results are available upon request.

this effect is potentially stronger if they have a lot business in the GIIPS countries, compared to the bank lending channel effect.

4.5. Controlling for unobserved industry shocks

To further isolate the effect of the bank lending channel and distinguish it from potential industry specific shocks, we run additional regressions where we include industry-country-year fixed effects. This allows us to rule out that our effects are driven by the fact that certain industries were simply more affected by the sovereign debt crisis in a given country. A potential problem for our results could arise if firms in these more affected industries also have less possibilities to attract funding from non-GIIPS banks (e.g., because firms in more affected industries operate more domestically and have less ability to do business in other countries) and would thus have a higher GIIPS exposure. Then it would be possible that all our effects are driven by industry specific shocks and not by the lending behavior of banks. Results are presented in Table 12. Again all results remain qualitatively unchanged implying that our effect is not driven by unobserved time-variant heterogeneity between firms in a given industry and country.

4.6. Access to alternative funding sources

Given our sample construction process, we focus on the largest firms in each country and investigate their reaction to the credit contraction. This raises the concern of whether we are able to appropriately proxy for the change in the demand for credit since if anything these firms should be the ones with the smallest financing constraint in any given country. Moreover, these firms should be the ones which are best able to substitute their bank funding with other sources of funding. On the one hand, we might thus wrongly attribute changes in the demand for bank debt as a credit contraction. On the other hand, if this is not the case, our results would serve as lower bound for the bank lending effect in the entire economy, since smaller firms should be more severely affected given their lack of other alternative funding sources and the higher degree of opacity.

To rule out that our results are driven by a change in the demand for credit, we follow Sufi (2007) and split our sample into listed and non-listed firms. The assumption here is that non-listed firms have fewer alternative sources of funding, since they are not able to raise additional

public equity or issue bonds implying that these firms are more bank dependent. Moreover, there is less publicly available information for these firms, requiring more monitoring and information collection on the banks' side. Overall, non-listed firms should thus be much more affected than listed firms which have potentially other sources of funding available. Indeed Becker and Ivashina (2014b) show that very large firms with access to alternative funding sources (e.g., bonds) are able to substitute the lack of funding from banks with these alternative funding sources.

Panel A of Table 13 presents the results for our subsample of non-listed firms, whereas results for the listed firms are presented in Panel B of Table 13. As can be seen from the Table our results continue to hold for the non-listed firms. For the listed firms, however, we do not find any evidence that these firms show the typical behavior of a financially constrained firm or that they have significantly negative real effects during the sovereign debt crisis. As a further robustness check we split our sample into rated and unrated firms. Results are presented in Table 14. As can be seen, all our results are driven by firms without access to the public bond market. Only for unrated firms we find significant real effects that can be attributed to banks' lending behavior. In line with the argument of Becker and Ivashina (2014b) these firms thus seem to be able to substitute the lack of bank financing with other funding sources, whereas non-listed/unrated firms cannot easily alter their funding sources. These results also help to rule out that our effects are driven by the fact that we are unable to capture the demand for debt financing appropriately.

4.7. Liquidity management of borrowing firms

In a recent paper Acharya *et al.* (2013) study whether a firms liquidity risk impacts its use of cash rather than credit lines for liquidity management. They show that firms with higher liquidity risk are more likely to use cash rather than credit lines for liquidity management because the cost of credit lines increases with liquidity risk. This is due to the fact that banks retain the right to revoke access to liquidity precisely in states where the firms need liquidity due to e.g., a liquidity shortfall because of negative cash flows.

Since banks themselves face a substantial liquidity shock during the sovereign debt crisis, we would expect that firms that are highly dependent on affected banks could lose access to their credit lines either because the credit lines are not prolonged or cut off by their banks. Firms with

a high GIIPS bank dependence should thus increasingly rely on cash rather than on lines of credit in their liquidity management.

To test this implication we follow Acharya *et al.* (2013) and hand match our sample to CapIQ. This enables us to obtain data on the debt structure for a subsample of our firms including detailed information on total outstanding and undrawn credit lines. We construct two measures for the liquidity composition of borrowing firms from these data. First we consider the fraction of the total amount of outstanding credit lines over the sum of the amount of total outstanding credit line and cash. Second we construct a measure that captures the fraction of undrawn credit lines (i.e., the amount of a firm's credit line that is still available and can be drawn in case of liquidity needs) over undrawn credit lines and cash. Figures 7 and 8 plot the time series of the average total and undrawn credit lines. The evidence suggests a clear change in firm outcome during the sovereign debt crisis (that is, starting in 2010). Table 15 Columns (1) and (2) report panel regressions for a firm's overall credit line whereas Columns (3) and (4) report results for the undrawn credit lines. Across all four specifications we find more GIIPS bank dependent borrower increase the fraction of their cash holdings in their liquidity management during the sovereign debt crisis and are less able to rely on secure funding from lines of credit.

5. Channel

Throughout the previous analysis, our measure of GIIPS bank dependence was determined by a bank's country of incorporation, which, broadly defined, captures a bank's exposure to sovereign risk. In this section, we shed more light on how exactly sovereign credit risk is associated with the contraction of lending by banks incorporated in GIIPS countries and the resulting financial and real effects of borrowing firms during the sovereign debt crisis.

There are at least four channels through which banks might be affected by the sovereign debt crisis. First, credit risk of GIIPS sovereign debt increased dramatically during the sovereign debt crisis, whereas non-GIIPS sovereign credit risk remained relatively stable over this period. Recent data published by the EBA shows that banks generally have large direct holdings of domestic government debt. Therefore, the increase in risk of GIIPS sovereign debt directly translates into losses which weakened the asset side of GIIPS banks' balance sheet and as a result made these

banks riskier. To cope with these losses, GIIPS banks might have reduced lending to the private sector. We call this the hit on balance sheet channel.

Second, Crosignani (2014) shows that as default risk of GIIPS countries increases, highly levered banks have an incentive to increase their domestic sovereign debt holdings. The reason is that these bonds are correlated with the banks' other sources of revenue and offer a comparatively high return in the good state of the world (when the sovereign is not in default), while the banks are protected by limited liability in case of a sovereign default. This risk-shifting mechanism might lead to a crowding-out of lending to the private sector.

Third, an increase in domestic sovereign debt holdings may be also caused by financial repression (see Becker and Ivashina (2014b)). As the crisis peaked, governments from GIIPS countries faced severe problems in refinancing their debt. In these cases, governments may turn to their domestic banks and force them to purchase domestic sovereign debt. Note that the risk-shifting channel and the financial repression channel are both consistent with an increase in domestic sovereign debt holdings over the crisis period, which makes disentangling these two channels particularly challenging.

Lastly, an increase in sovereign credit risk reduces the value of implicit as well as explicit government guarantees. Indeed, CGFS (2011) document that banks incorporated in countries with severely impaired public finance conditions tend to have issued more government-guaranteed bonds compared to banks in other countries. An increase in sovereign credit risk thus erodes the value of these guarantees, ultimately leading to higher funding costs. Moreover, Acharya *et al.* (forthcoming) present a model where a financial sector bailout leads to an increase in sovereign credit risk which in turn reduces the value of future government bailout guarantees. They empirically show that a feedback loop between sovereign and bank credit risk exists in the period after 2008.

In this section, we aim at providing more direct evidence for which of these channels is at work in our sample period. Since the first three channels are directly related to the sovereign bond holdings of banks and/or the risk of these holdings, we use the data disclosed by the EBA in its various stress tests and capital exercises. As discussed in Acharya and Steffen (2013), the EBA, after taking over responsibilities from the Committee of European Banking Supervisors (CEBS), conducted stress tests to “ensure the orderly functioning and integrity of financial markets and the

stability of the financial system in the EU.” The results from these stress tests include a precise breakdown of banks’ holdings of sovereign debt.⁹.

To get a first idea about which of the channels are more important in our sample period, Figure 9 plots the evolution of domestic sovereign debt exposure over time. The blue solid line shows the domestic sovereign debt holdings for banks in GIIPS countries (right graph) and non-GIIPS countries (left graph), scaled by total assets at the end of the respective year. More precisely, we consider the aggregate domestic sovereign debt holdings scaled by aggregate total assets for GIIPS and non-GIIPS banks, respectively. The red dashed line shows domestic sovereign debt holdings multiplied by the sovereign’s CDS spread as a fraction of total assets, which is a measure of the domestic sovereign portfolio risk of banks. The graphs clearly illustrate that, over our sample period, the risk unadjusted holdings have not increased, meaning that neither GIIPS nor non-GIIPS banks have significantly increased their holdings of domestic sovereign debt. However, risk associated with domestic holdings significantly increases for GIIPS banks, which follows from the considerable increase in the country-CDS weighted domestic sovereign debt holdings.

Therefore, GIIPS banks incurred significant losses, but, on average, did not significantly alter their domestic sovereign bond holdings. This observation suggests that the balance sheet channel seems to be an important driver for our results, whereas the financial repression channel seems not to be active in our sample period. However, we still cannot rule out the risk shifting channel. The fact that, in aggregate, the domestic sovereign debt holdings of GIIPS banks do not change is also consistent with banks in distress (i.e., those with high risk-shifting incentives) increasing their holdings, while other banks decrease their domestic sovereign debt holdings.

Next, we provide multivariate evidence for the observation that the balance sheet hit channel is an important driver for our results. We start by checking whether the risk of domestic sovereign debt holdings also drives the lending behavior of banks when using the EBA stress test data. To determine how much a bank is affected by the risk of its domestic sovereign portfolio, we use a

⁹The data is publicly available on the website of the EBA (<http://www.eba.europa.eu/Home.aspx>)

similar measure as in Popov and Van Horen (2013), and measure the dependency on domestic sovereign risk as follows:

$$\text{Domestic Sovereign Debt Risk} = \frac{\text{Domestic Sov. Debt Holdings}_{j,t} * \text{Domestic Sov. CDS}_t}{\text{Total Assets}_{j,t}}$$

Given that the sovereign debt holdings are multiplied with the respective CDS spreads, this measure does not only account for the amount of domestic sovereign debt holdings of the respective bank, but also for the risk associated with these holdings. We use this measure to define an indicator variable (Affected Bank) that equals one if a bank's domestic sovereign portfolio credit risk exposure is above the sample median.

Table 16, Column (1) presents the results of a panel regression of this affected bank measure on the change in lending volume. Note, that the unit of observation in the regression is a bank-year. The coefficient of the affected banks variable interacted with the crisis dummy variable is negative and significant indicating that affected banks reduced lending in the crisis period by a larger fraction than non-affected banks. This result demonstrates that the risk associated with the domestic sovereign debt holdings indeed plays an important role for the lending behavior of banks¹⁰.

If this contraction in lending is also driven by a risk-shifting or financial repression motive, the change in holdings should have an influence on the lending behavior.

To disentangle these channels, we thus rerun the regression in Column (1) of Table 16 and test whether the change in domestic sovereign holdings is associated with the reduction in bank lending of GIIPS banks. In Table 16, Column (2) a bank is defined as affected if the bank's change in domestic sovereign portfolio holdings is above the sample median. As can be seen from Table 16, the interaction of this measure of bank affectedness and the crisis dummy is negative but not significant. Only after again adjusting for the risk of the change in domestic sovereign debt holdings, we find a significant effect (see Column (3)). Therefore, the results of Figure 9 and Table 16, Columns (1) to (3) are consistent with the notion that banks, which experienced a hit on their

¹⁰Using the original measure of Popov and van Horen (2014) that includes all GIIPS sovereign debt holdings yields qualitatively similar results, since GIIPS banks hold predominantly domestic sovereign debt during the crisis.

balance sheet during the sovereign crisis period, significantly decreased lending to the real sector, whereas they are not consistent with risk-shifting or financial repression.

It is however possible that well-capitalized GIIPS banks do not change (or even decrease) their domestic sovereign bond exposure, while weakly-capitalized GIIPS banks engage in risk-shifting by increasing their domestic holdings. To analyze this possibility, we first check whether indeed weakly-capitalized GIIPS banks have increased their domestic exposure during the sovereign crisis. Following Drechsler *et al.* (2013), we use the median long-term unsecured credit ratings as of 2007 to measure a bank's financial strength. This measure has the advantage that it is available for a broad cross-section of banks and, in contrast to accounting-based measures, it is based on assessments by market participants. The identifying assumption here is that banks that had a lower capital buffer before the crisis have larger risk shifting incentives during the crisis. We follow the definition of Drechsler *et al.* (2013), and split our sample at the credit rating cutoff of AA-.

Figure 10 plots the evolution in the change of domestic sovereign debt exposure over time. The blue solid line shows the domestic sovereign debt holdings scaled by total assets. The red dashed line shows domestic sovereign debt holdings multiplied by the sovereign's CDS spread as a fraction of total assets, which is a measure of the domestic sovereign portfolio risk of banks. The left panel restricts the analysis to GIIPS banks with a rating of AA- or better (well-capitalized), while the right panel restricts the analysis to GIIPS banks with a rating of A+ or worse (weakly-capitalized). As can be seen from Figure 10, well-capitalized GIIPS banks did not change their holdings of domestic sovereign debt during the crisis, while weakly-capitalized GIIPS banks indeed increased their holdings of domestic sovereign debt.

Therefore, weakly-capitalized GIIPS banks indeed engage in risk-shifting by increasing their domestic holdings. However, it is still unclear whether this has an influence on their lending to the real sector. Hence, we again rerun the regression in Column (1) of Table 16 and define a bank as affected if it is incorporated in a GIIPS country and is weakly-capitalized. By looking at the results in Column (4) we see that indeed weakly-capitalized GIIPS banks cut their lending to the real sector more than non-affected banks. Our results thus suggest, that for weakly-capitalized GIIPS banks the risk-shifting motive is present.

Finally, we analyze whether a reduction in the value of implicit government guarantees leads to a decrease in bank lending of GIIPS banks. We rely on the support ratings by Fitch compiled

from Bankscope as a proxy for government support of individual banks. This rating reflects the opinion of Fitch that a bank will receive support in case of financial difficulties. Support ratings use a 5 point scale with 1 (5) indicating the highest (lowest) possible probability of support. We follow previous literature and convert support ratings into bailout probabilities. Figure 11 plots the evolution of bailout probabilities based on Fitch support ratings over time for non-GIIPS (left panel) and GIIPS banks (right panel). For both subsamples the bailout probability remains constant over our sample period. The results in Table 16, Columns (5) indicate that the support ratings did not affect the lending behavior of GIIPS banks.

Table 16, Columns (6) to (10) present results for panel regressions where the dependent variable is the spread instead of the change in volume of newly issued loans. All results continue to hold.

To conclude, our results suggest that the balance sheet hit caused by the increase in sovereign risk is the most important channel through which the sovereign crisis affects bank lending although there is also evidence for the presence of risk-shifting behavior. Our findings are inconsistent with the predictions of the financial repression and the loss in government guarantees theories. But, we also note that our sample period ends in 2011 where the sovereign debt crisis was still amplifying. Therefore, GIIPS banks might have engaged in even greater risk-shifting and/or might have been forced by their governments to buy domestic debt after this period. This interpretation is consistent with the findings in Crosignani (2014). He shows that the domestic sovereign debt holdings of banks in GIIPS countries remained relatively stable during the 2010 to 2011 period but started to pick up at the beginning of 2012. Similarly, government guarantees might have decreased as a result of a continued weakening of the financial health of GIIPS countries and it is plausible to assume that there is a certain time lag until Fitch adjusts its support ratings.

Next, to analyze which of the above channels contributed to financial and real effects of borrowing firms, we rerun our main panel regressions. We construct several variables at the firm-year level reflecting how much credit comes from affected banks in a given year where affected bank is constructed as in Table 16.

This leads to the following proxy for firm i in year t :

$$GIIPS\ Affected_{it} = \frac{\sum_{loans_j} \%Affected\ Banks\ in\ Syndicate * Loan_{jit} * Loan\ Amount_{jit}}{Total\ Loan\ Amount_{it}}$$

Results are presented in Table 17. Note that we can only derive this measure for the respective lead arrangers since we are not able to get data about the sovereign debt holdings of all participating banks, given the limited number of banks included in the stress test.

We start our analysis by constructing an affected bank indicator variable equal to 1 if a bank's domestic sovereign portfolio credit risk exposure is above the sample median. This variable serves as a proxy for the hit on balance sheet channel. The results are presented in Panel A of Table 17. The interaction term of affected bank and Crisis is negative and significant for all dependent variables indicating that the weakening of the affected banks balance sheet results in financial and real effects of firms that have a credit outstanding from affected banks.

Next, we turn to test for the financial repression/risk shifting channel by focusing on the change in the domestic sovereign debt holdings. Panel B and C of Table 17 presents the results if we construct our affected variable from the change in domestic sovereign debt holdings (Panel B) or the change in the riskiness of the sovereign debt holdings (Panel C), respectively. As can be seen from the results, we only get a significant effect once we adjust for the risk of the sovereign debt holdings. The change in the fraction as such does not seem to be crucial for how affected a bank and its borrowers are. Lastly, Panel D of Table 17 reports the results if we classify a GIIPS bank as affected if it is weakly-capitalized as suggested by Drechsler *et al.* (2013). We find no evidence, that the risk-shifting behavior of weakly-capitalized GIIPS banks is transmitted into the real sector. One reason for this results is that the weakly-capitalized GIIPS banks are less active in the syndicated loan market than the well-capitalized GIIPS banks (only one weakly-capitalized GIIPS bank ranges in the top 40 lead arrangers considered in this paper). Given the smaller role they play in this market it is not surprising that their lending behavior does not lead to significant adjustments in the corporate policy of borrowing firms.

We thus conclude that for our sample period, which marks the beginning of the sovereign debt crisis, the hit on the banks' balance sheets, resulting from the increased risk of sovereign debt holdings, seems to be the key driver of the significant negative financial and real effects that are transmitted from banks to the corporate sector through the lending channel.

6. Conclusion

This paper shows that the sovereign debt crisis and the resulting credit crunch in the periphery of the Eurozone have significant negative real effects for borrowing firms in Europe. We show that the sharp contraction in lending volume implies that firms with a high GIIPS bank dependence are financially constrained during the crisis and as a result have lower employment growth rates, lower levels of investment, and lower sales growth rates. This holds true for both GIIPS and non-GIIPS borrowers. We show that our results are not driven by country or industry-specific macroeconomic shocks or a change in the demand for credit of borrowing firms.

This paper is thus the first to provide cross-country evidence that negative spillovers from the sovereign to the banking sector were also transmitted into the real economy throughout Europe. Hence, the high interdependence of bank and sovereign health is one important contributor to the severe economic downturn in the southern European countries during the sovereign debt crisis.

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Appendix

Definition of Variables:

Dependent Variables:

- (Net Debt: Current + Non-Current Liabilities - Cash)/Total Assets, Source: Amadeus
- $\Delta Cash$: Change in firm's cash holdings, Source: Amadeus
- Employment Growth: Δ Log Employment, Source: Amadeus
- CAPX/Tangible Assets: $\frac{Fixed\ Assets_{t+1} - Fixed\ Assets_t + Depreciation}{Fixed\ Assets_t}$, set to 0 if negative, Source: Amadeus
- Sales Growth: Δ Log Sales, Source: Amadeus

Key Explanatory Variables:

- $GIIPS\ Exposure_{it} = \sum_{loans_j} \frac{\%GIIPS\ Banks\ in\ Syndicate_{jit} * Loan\ Amount_{jit}}{Loan\ Amount_{jit}}$
- $GIIPS\ Lead_{it} = \sum_{loans_j} \frac{\%Lead\ Arranger\ GIIPS\ Banks\ in\ Syndicate_{jit} * Loan\ Amount_{jit}}{Loan\ Amount_{jit}}$

Control Variables (all winsorized at the 5% level):

- Bond outstanding: Indicator variable equal to one if firm has bonds outstanding, zero else, Source: CapIQ
- ln(Assets): Natural logarithm of total assets, Source: Amadeus
- Leverage: (Total Assets - Total Equity)/Total Assets, Source: Amadeus
- Net Worth: (Total shareholder funds & Liabilities - Current & Non-Current Liabilities - Cash)/Total Assets, Source: Amadeus
- Tangibility: Fixed Assets/Total Assets, Source: Amadeus
- Interest Coverage Ratio: EBIT/Interest Expense, Source: Amadeus
- EBITDA/Assets: EBITDA scaled by Total Assets, Source: Amadeus
- Cash Flow: Cash flow/Total Assets, Source: Amadeus

Figure 1 shows the fraction of syndicated lending relative to total bank lending in Europe.

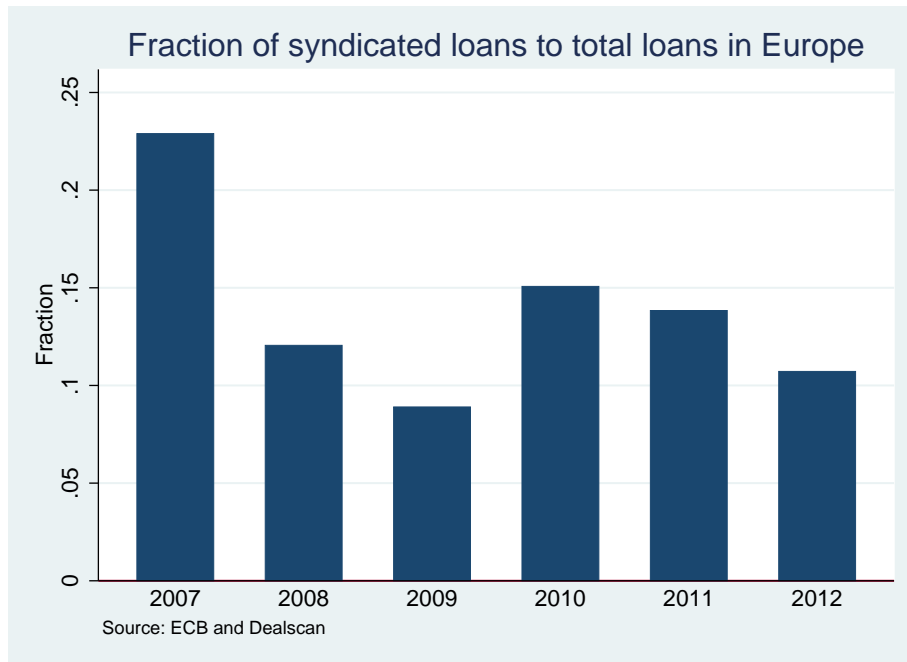


Figure 2 shows the evolution of aggregate lending volume in the syndicated loan market for GIIPS and non-GIIPS countries

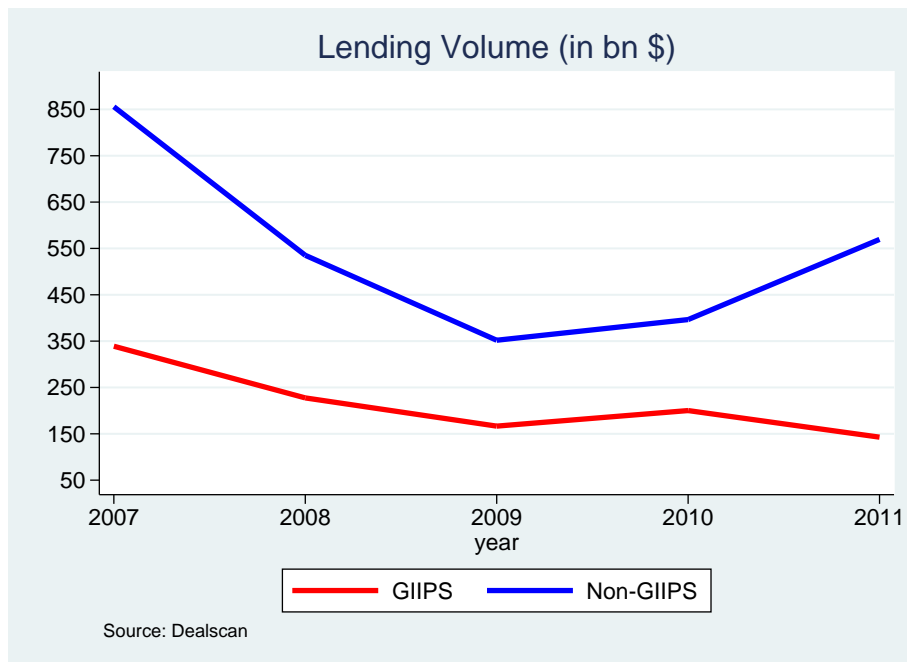


Figure 3 shows employment growth rates for firms with high and low GIIPS exposure. We consider all loans in Dealscan to borrowers located in the following countries: Greece, Italy, Portugal, Spain, Ireland, France, U.K., and Germany. We restrict the sample to borrowers with financial information available in Amadeus.

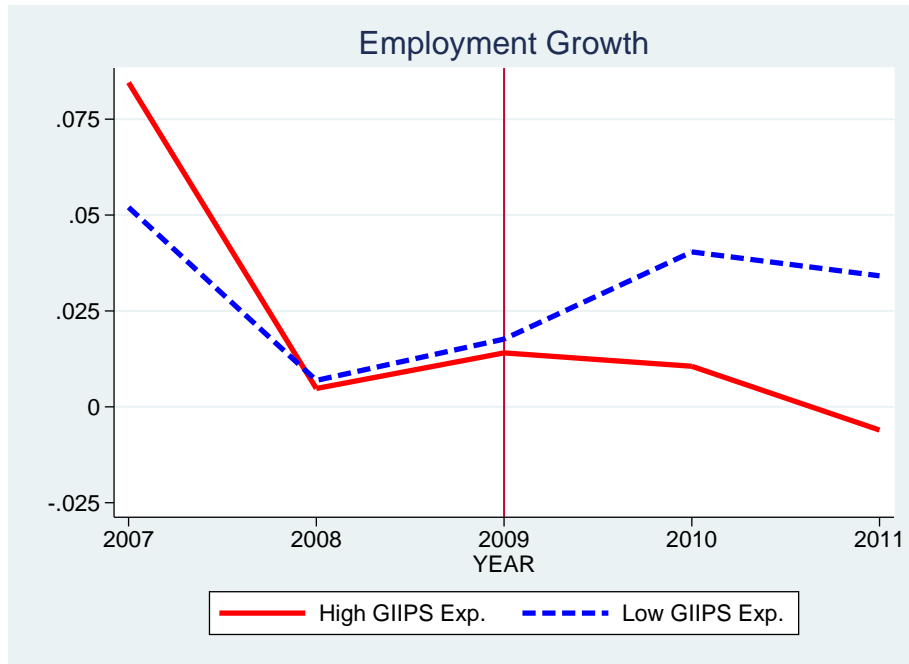


Figure 4 shows capital expenditures as a fraction of tangible assets for firms with high and low GIIPS exposure. We consider all loans in Dealscan to borrowers located in the following countries: Greece, Italy, Portugal, Spain, Ireland, France, U.K., and Germany. We restrict the sample to borrowers with financial information available in Amadeus.

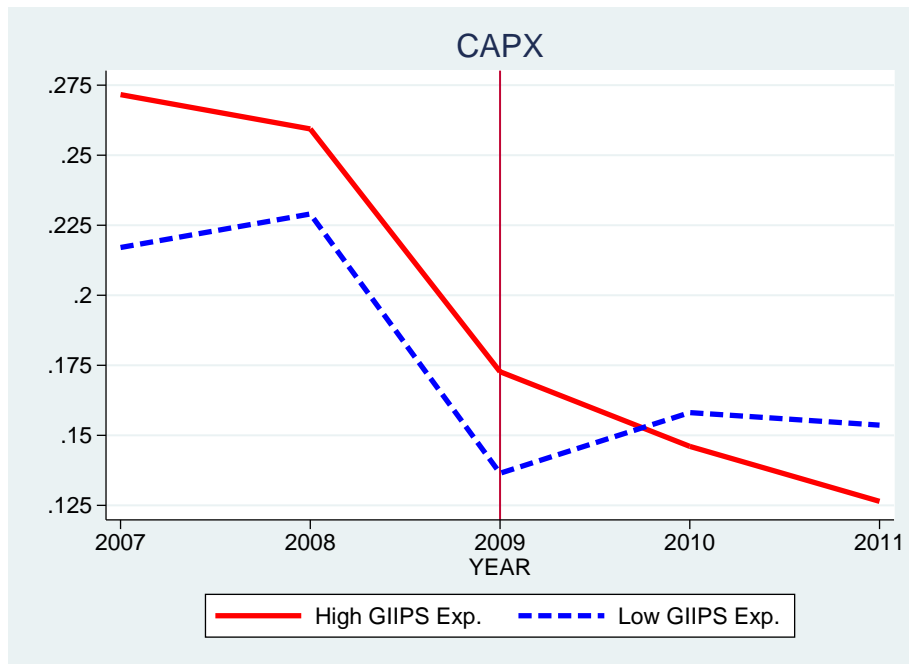


Figure 5 shows sales growth for firms with high and low GIIPS exposure. We consider all loans in Dealscan to borrowers located in the following countries: Greece, Italy, Portugal, Spain, Ireland, France, U.K., and Germany. We restrict the sample to borrowers with financial information available in Amadeus.

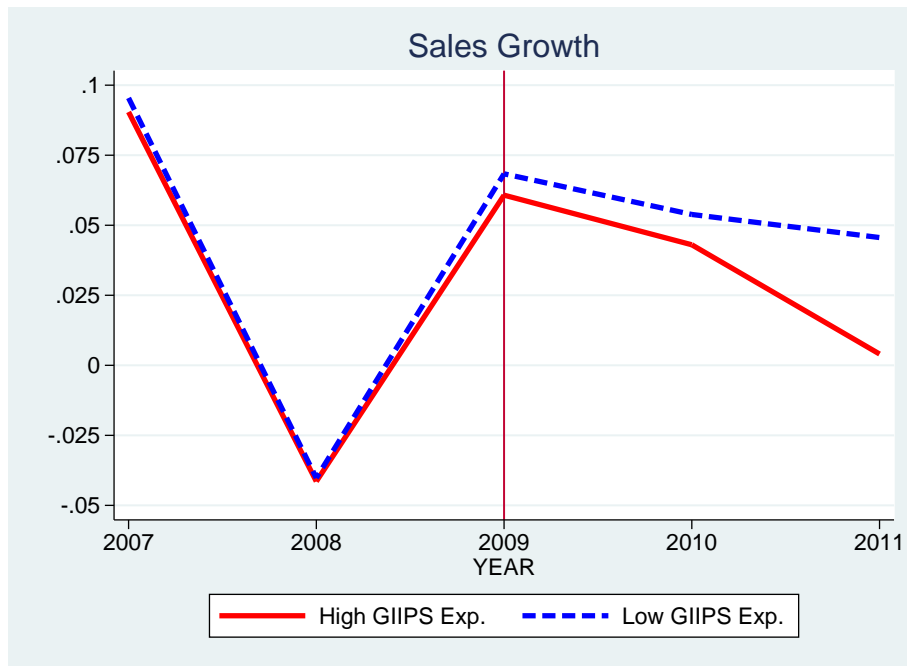


Figure 6 shows net debt for firms with high and low GIIPS exposure. We consider all loans in Dealscan to borrowers located in the following countries: Greece, Italy, Portugal, Spain, Ireland, France, U.K., and Germany. We restrict the sample to borrowers with financial information available in Amadeus.

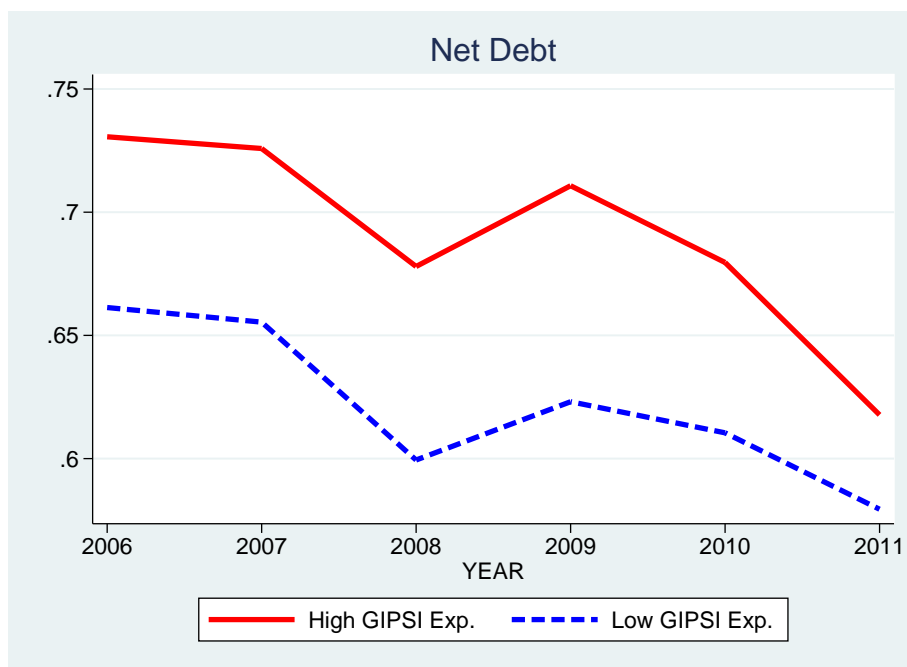


Figure 7 shows a firms total outstanding credit lines as a fraction of credit lines plus cash holdings. We consider all loans in the intersection of Dealscan, Amadeus and CapIQ to borrowers located in the following countries: Greece, Italy, Portugal, Spain, Ireland, France, U.K., and Germany. We restrict the sample to borrowers with financial information available in Amadeus.

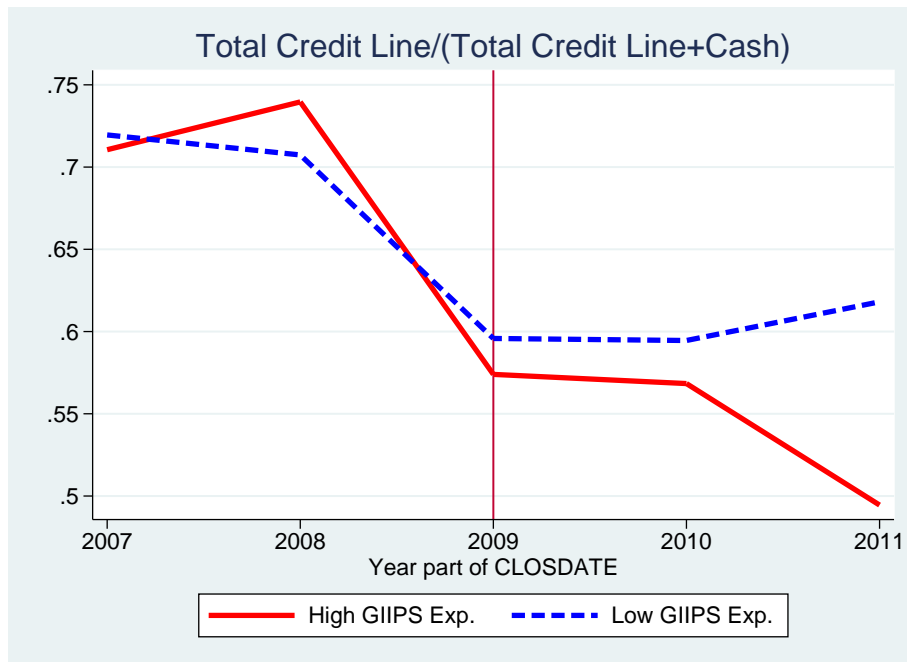


Figure 8 shows a firms undrawn credit lines as a fraction of undrawn credit lines plus cash holdings. We consider all loans in the intersection of Dealscan, Amadeus and CapIQ to borrowers located in the following countries: Greece, Italy, Portugal, Spain, Ireland, France, U.K., and Germany. We restrict the sample to borrowers with financial information available in Amadeus.

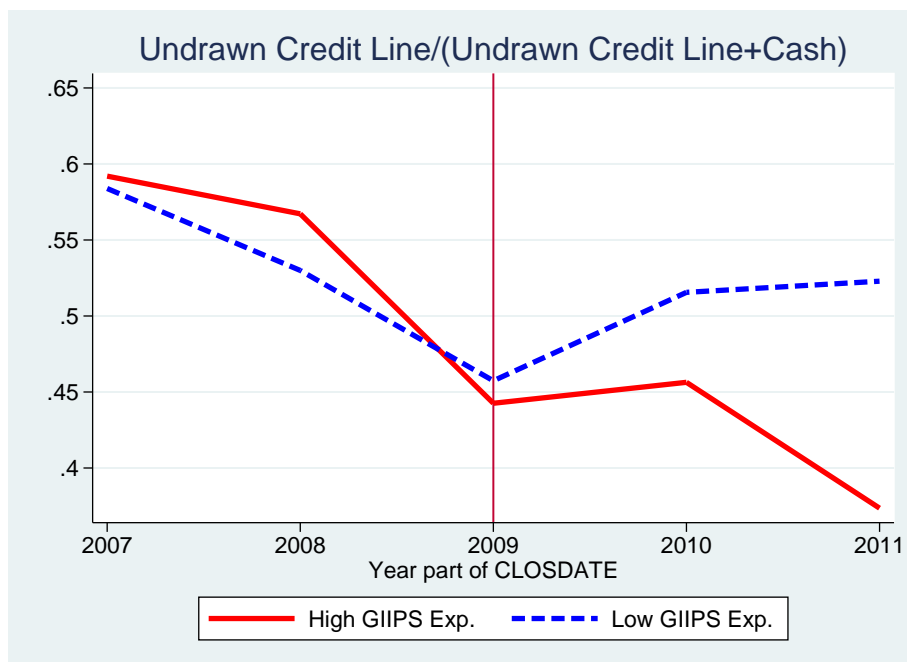


Figure 9 plots the aggregated domestic sovereign debt holdings by domestic banks (solid blue line, left axis, as a fraction of total assets) and the aggregated domestic sovereign debt holdings by domestic banks multiplied by the CDS spread of the banks home country (dashed red line, right axis, as a fraction of total assets). GIIPS banks comprise all banks headquartered in Greece, Ireland, Portugal, Spain, and Italy. Non-GIIPS banks consists of banks headquartered in France, Germany, and UK. Sovereign debt holdings are from EBA. We compile total assets from SNL Financial and CDS spreads from Datastream. CDS spreads are measured at the end of the preceding year.

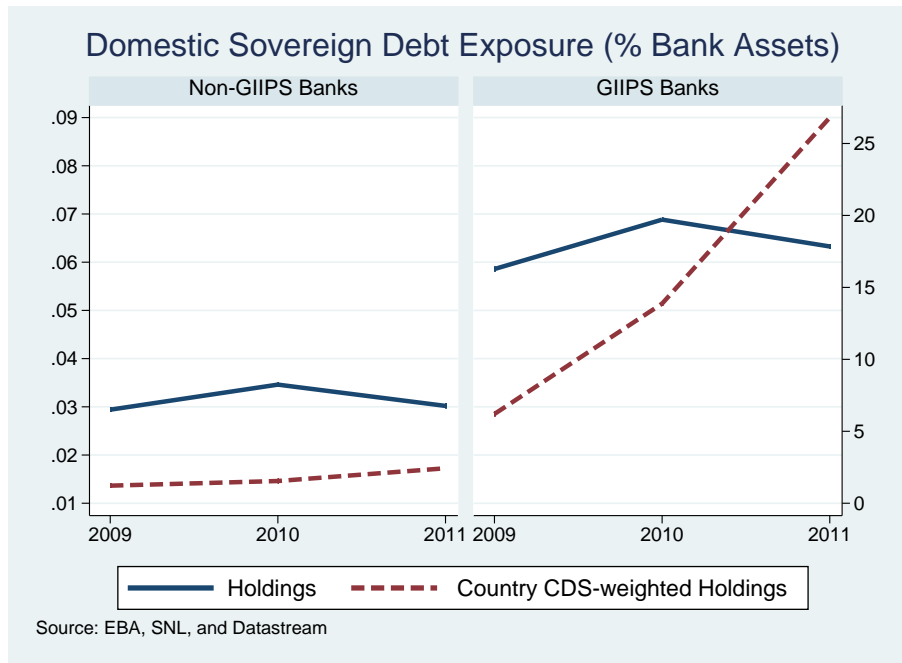


Figure 10 plots the aggregated domestic sovereign debt holdings by domestic banks (solid blue line, left axis, as a fraction of total assets) and the aggregated domestic sovereign debt holdings by domestic banks multiplied by the CDS spread of the banks home country (dashed red line, right axis, as a fraction of total assets) for GIIPS banks. GIIPS banks comprise all banks headquartered in Greece, Ireland, Portugal, Spain, and Italy. Sovereign debt holdings are from EBA. We compile total assets from SNL Financial and CDS spreads from Datastream. CDS spreads are measured at the end of the preceding year. The left panel shows GIIPS banks with a long term issuer default rating of AA- or better, while the right panel shows GIIPS banks with long term issuer default rating below AA-.

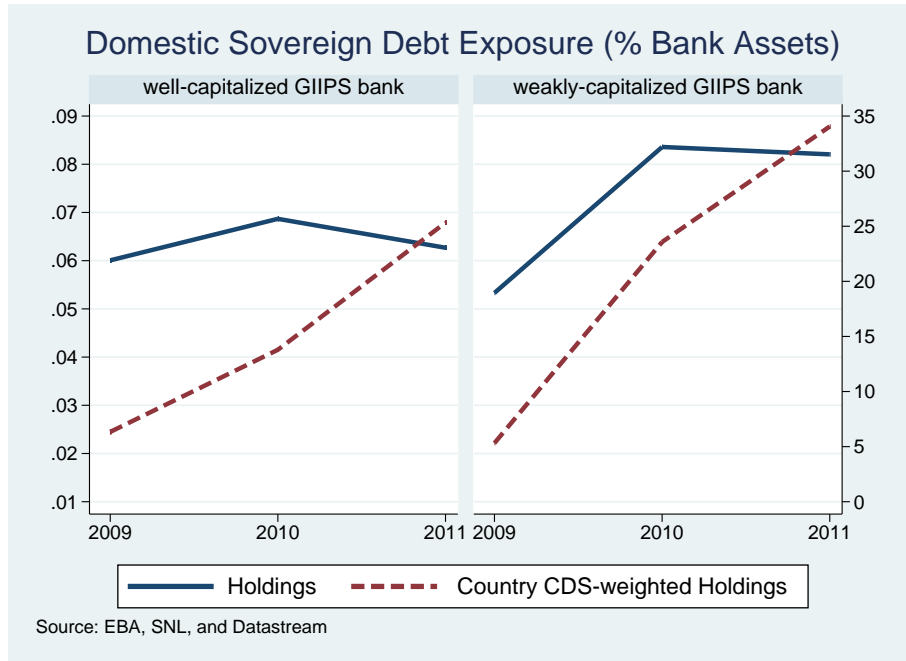


Figure 11 plots the median bailout probability estimated from Fitch support ratings. GIIPS banks comprise all banks headquartered in Greece, Ireland, Portugal, Spain, and Italy. Non-GIIPS banks consists of banks headquartered in France, Germany, and UK. Support rating data are compiled from Bankscope. Fitch support ratings reflect the opinion of Fitch that a bank will receive support in case of financial difficulties. Support ratings use a 5 point scale with 1 (5) indicating the highest (lowest) possible probability of support. We follow previous literature and convert support ratings into bailout probabilities.

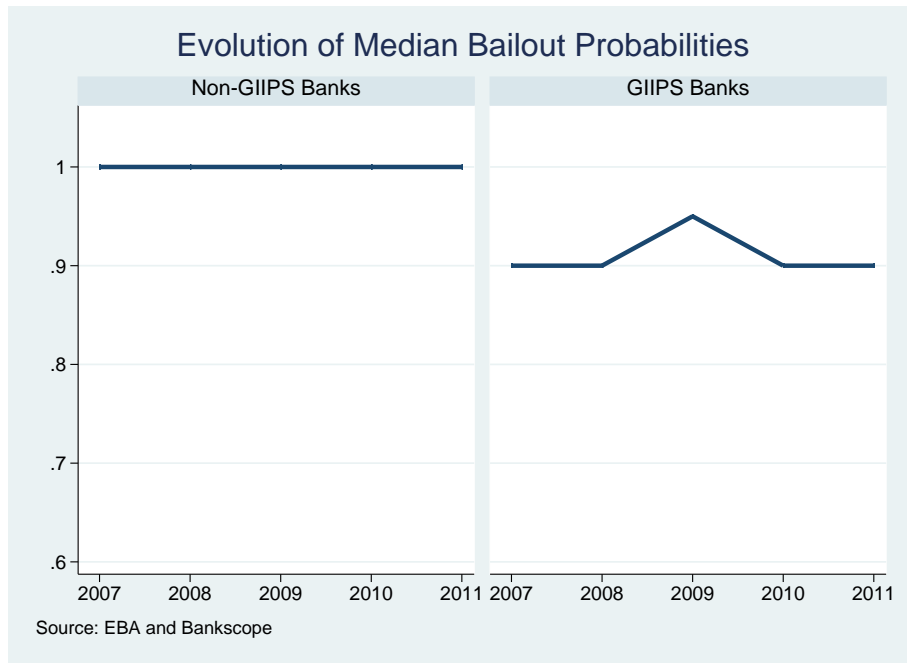


Table 1: Descriptive Statistics

		High GIIPS Exposure				Low GIIPS Exposure			
		Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	Diff-in-Diff.	
Panel A: Dependent Variables	Empl. Growth	0.053	0.02	0.167	0.037	0.021	0.150		
	Before Crisis	0.243	0.106	0.369	0.245	0.11	0.373		
	Sales Growth	0.058	0.048	0.258	0.056	0.055	0.221		
	Net Debt	0.745	0.718	0.289	0.643	0.620	0.305		
Crisis	Empl. Growth	0.010	0	0.146	0.021	0.014	0.146	-0.027 (4.28)	
	CAPX/Assets	0.156	0.072	0.274	0.177	0.09	0.281	-0.019 (2.01)	
	Sales Growth	0.056	0.041	0.233	0.062	0.055	0.210	-0.010 (3.32)	
	Net Debt	0.696	0.683	0.282	0.615	0.591	0.292	-0.021 (2.07)	
Panel B: Explanatory Variables		High GIIPS Exposure				Low GIIPS Exposure			
		Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	Normalized Difference	
Before Crisis	Total Assets	5210	478	17700	4950	543	16700	0.02	
	Tangibility	0.569	0.612	0.267	0.543	0.562	0.266	0.06	
	Int. Cov.	2.87	1.40	4.27	3.76	1.80	5.00	0.11	
	Net Worth	0.200	0.179	0.190	0.247	0.247	0.220	0.16	
Crisis	EBITDA/Assets	0.095	0.092	0.074	0.111	0.103	0.082	0.12	
	Leverage	0.652	0.673	0.204	0.570	0.570	0.214	0.25	
	Total Assets	4940	348	19700	4210	407	17300		
	Tangibility	0.587	0.626	0.269	0.552	0.575	0.271		
Crisis	Int. Cov.	2.65	1.18	4.32	4.00	1.82	5.25		
	Net Worth	0.200	0.189	0.210	0.249	0.247	0.233		
	EBITDA/Assets	0.082	0.079	0.074	0.100	0.097	0.080		
	Leverage	0.655	0.663	0.217	0.570	0.558	0.222		

Table 2: Descriptive Statistics: GIIPS Exposure

Panel A: GIIPS Borrowers		2006	2007	2008	2009	2010	2011
GIIPS Exposure	Mean	0.593	0.594	0.630	0.677	0.691	0.640
	Median	0.514	0.631	0.640	0.706	0.719	0.650
	Std. Deviation	0.287	0.290	0.273	0.274	0.274	0.279
GIIPS Lead	Mean	0.486	0.470	0.501	0.487	0.507	0.519
	Median	0.5	0.5	0.5	0.5	0.5	0.445
	Std. Deviation	0.421	0.426	0.434	0.438	0.432	0.418
Panel B: Non-GIIPS Borrowers		2006	2007	2008	2009	2010	2011
GIIPS Exposure	Mean	0.069	0.070	0.071	0.071	0.073	0.071
	Median	0	0	0	0	0	0
	Std. Deviation	0.118	0.123	0.118	0.118	0.122	0.115
GIIPS Lead	Mean	0.023	0.026	0.033	0.037	0.044	0.059
	Median	0	0	0	0	0	0
	Std. Deviation	0.132	0.136	0.142	0.153	0.156	0.156
Panel C: Low Net Worth Firms		2006	2007	2008	2009	2010	2011
GIIPS Exposure	Mean	0.257	0.269	0.284	0.335	0.351	0.373
	Median	0.108	0.119	0.120	0.166	0.171	0.233
	Std. Deviation	0.314	0.317	0.330	0.363	0.374	0.376
GIIPS Lead	Mean	0.175	0.174	0.183	0.216	0.221	0.271
	Median	0	0	0	0	0	0
	Std. Deviation	0.339	0.340	0.348	0.373	0.367	0.383
Panel D: High Net Worth Firms		2006	2007	2008	2009	2010	2011
GIIPS Exposure	Mean	0.161	0.184	0.201	0.235	0.253	0.255
	Median	0.023	0.037	0.046	0.070	0.094	0.080
	Std. Deviation	0.256	0.281	0.298	0.325	0.328	0.339
GIIPS Lead	Mean	0.116	0.141	0.154	0.153	0.177	0.199
	Median	0	0	0	0	0	0
	Std. Deviation	0.294	0.314	0.324	0.326	0.342	0.344

Table 3: Lending Volume and Spread

Table (3) presents bank level regressions. The dependent variable is the change in a bank's volume of new loans issued (Columns 1-3) or the value weighted loan spread of all newly issued loans in a given year (Columns 4-7). GIIPS Bank is an indicator variable for banks incorporated in a GIIPS country. Crisis is an indicator variable equal to one starting in 2010 (beginning of sovereign debt crisis). Log(Assets) is the logarithm of a bank's total assets. Capital Ratio is the ratio of a bank's equity to total assets. Standard errors are adjusted for heteroskedasticity and clustered at the bank level.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Δ Volume	Δ Volume	Δ Volume	Spread	Spread	Spread	Spread
GIIPS Bank	0.106				7.981		
	(1.32)				(0.32)		
GIIPS Bank*Crisis	-0.594***	-0.830***	-0.758**	61.757***	57.224**	163.738***	289.115***
	(-3.72)	(-4.53)	(-2.05)	(2.63)	(2.30)	(4.97)	(10.02)
Crisis	-0.293*	-0.420*	0.587	99.530***	63.655***	-100.253**	-248.249***
	(-1.73)	(-1.74)	(1.47)	(5.64)	(3.20)	(-2.55)	(-10.59)
Log(Assets)		0.169	0.359		-64.000		-16.039
		(0.53)	(1.40)		(-1.33)		(-0.33)
Capital Ratio		-0.028	0.038		-1533.471**		-776.214
		(-0.41)	(0.51)		(-2.31)		(-1.22)
Avg. Borrower Quality							-1.253
							(-0.56)
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Country Fixed Effects	YES	NO	NO	NO	NO	NO	NO
Bank Fixed Effects	NO	YES	YES	YES	YES	YES	YES
Country*Year Fixed Effects	NO	NO	NO	YES	NO	NO	NO
R2	0.082	0.126	0.285	0.294	0.326	0.530	0.576
N	739	491	491	281	228	228	212

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Main Results: Financials

Table (4) presents firm level regressions. The dependent variables are net debt and the change in cash holdings, respectively. The sample consists of all firms in the intersection of Dealscan and Amadeus and located in the following countries: Greece, Italy, Portugal, Spain, and Ireland (GIIPS countries) and Germany, France, and U.K. (non-GIIPS countries). GIIPS exposure measures the fraction of syndicated loans provided by banks incorporated in a GIIPS country. GIIPS Lead is defined as fraction of total outstanding loans with GIIPS lead arrangers. Crisis is an indicator variable equal to one starting in 2010 (beginning of the sovereign debt crisis) and zero before. Zero Exp is an indicator variable that equals one for firms with zero GIIPS exposure. Zero Lead is an indicator variables that equals one if a firm has zero GIIPS lead arrangers. Firm control variables include the logarithm of total assets, tangibility, interest coverage ratio, EBITDA as a fraction of total assets, and for the cash regressions, a firm's cash flow, leverage and capital expenditures. Standard errors are adjusted for heteroskedasticity and clustered at the firm level.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Net Debt	Δ Cash	Net Debt	Δ Cash	Net Debt	Δ Cash	Net Debt	Δ Cash
GIIPS Exposure	0.032 (0.48)	0.016 (0.73)	0.039 (0.57)	0.005 (0.23)				
GIIPS Exposure*Crisis	-0.047** (-2.33)	-0.004 (-0.69)	-0.074* (-1.91)	-0.003 (-0.29)				
GIIPS Lead					0.064 (1.28)	0.012 (0.55)	0.079 (1.51)	0.006 (0.26)
GIIPS Lead*Crisis					-0.076*** (-2.80)	-0.007 (-0.80)	-0.098*** (-2.83)	-0.007 (-0.81)
Cash Flow*GIIPS Exposure		-0.010 (-0.36)		-0.013 (-0.46)				
Cash Flow*GIIPS Exposure*Crisis		0.110*** (3.67)		0.111*** (3.71)				
Cash Flow*GIIPS Lead						-0.050 (-1.39)		-0.050 (-1.39)
Cash Flow*GIIPS Lead*Crisis						0.094*** (2.61)		0.095*** (2.59)
Cash Flow*Crisis		-0.010* (-1.85)		-0.010* (-1.84)		-0.002 (-0.31)		-0.002 (-0.32)
Crisis	-0.004 (-0.20)	0.006* (1.66)	0.207*** (3.53)	-0.023 (-0.40)	-0.005 (-0.18)	0.010* (1.87)	0.069* (1.74)	0.148** (2.34)
Crisis*Zero Exp.	0.007 (0.48)	-0.001 (-0.28)	0.009 (0.63)	-0.001 (-0.34)				
Crisis*Zero Lead					-0.021 (-1.13)	-0.003 (-0.68)	-0.018 (-0.92)	-0.004 (-0.93)
Bond outstanding	-0.000 (-0.01)	-0.006 (-1.54)	-0.001 (-0.05)	-0.007* (-1.71)	-0.000 (-0.01)	-0.007 (-1.37)	0.001 (0.04)	-0.007 (-1.56)
Bond outstanding*Crisis	0.004 (0.23)	0.004 (1.01)	0.005 (0.26)	0.004 (1.09)	-0.001 (-0.08)	0.002 (0.45)	-0.003 (-0.14)	0.003 (0.64)
Firm Controls	YES	YES	YES	YES	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Country*Year Fixed Effects	NO	NO	YES	YES	NO	NO	YES	YES
R2	0.228	0.098	0.238	0.111	0.252	0.100	0.267	0.112
N	5629	4668	5629	4668	4280	3593	4280	3593

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Main Results: Real Effects

Table (5) presents firm level regressions. The dependent variables are employment growth, capital expenditures, and sales growth, respectively. The sample consists of all firms in the intersection of Dealscan and Amadeus and located in the following countries: Greece, Italy, Portugal, Spain, and Ireland (GIPS countries) and Germany, France, and U.K. (non-GIPS countries). GIPS exposure measures the fraction of syndicated loans provided by banks incorporated in a GIPS country. GIPS Lead is defined as fraction of total outstanding loans with GIPS lead arrangers. Crisis is an indicator variable equal to one starting in 2010 (beginning of the sovereign debt crisis) and zero before. Zero Exp is an indicator variable that equals one for firms with zero GIPS exposure. Zero Lead is an indicator variable that equals one if a firm has zero GIPS lead arrangers. Firm control variables include the logarithm of total assets, leverage, net worth, tangibility, interest coverage ratio, and EBITDA as a fraction of total assets. All regressions include firm and year fixed effect, Columns (4)-(6) and (10)-(12) additionally include country*year fixed effects. Standard errors are adjusted for heteroskedasticity and clustered at the firm level.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Emp. Growth	CAPX	Sales Growth	Emp. Growth	CAPX	Sales Growth	Emp. Growth	CAPX	Sales Growth	Emp. Growth	CAPX	Sales Growth
GIPS Exposure	0.080 (1.18)	0.119 (0.97)	-0.038 (-0.49)	0.082 (1.19)	0.123 (0.96)	-0.012 (-0.15)						
GIPS Exposure*Crisis	-0.081*** (-4.48)	-0.136*** (-4.14)	-0.069** (-2.51)	-0.095*** (-2.82)	-0.154** (-2.53)	-0.117** (-2.23)						
GIPS Lead							0.052 (1.32)	0.112 (1.37)	-0.015 (-0.24)	0.043 (1.02)	0.096 (1.13)	0.007 (0.11)
GIPS Lead*Crisis							-0.082*** (-3.98)	-0.142*** (-3.53)	-0.091*** (-2.83)	-0.073*** (-2.86)	-0.147*** (-2.98)	-0.117*** (-3.04)
Crisis	-0.014 (-0.99)	0.025 (0.99)	-0.049*** (-2.67)	0.163* (1.92)	0.305** (2.26)	0.363** (2.29)	-0.005 (-0.31)	0.022 (0.61)	-0.061** (-2.56)	0.220*** (4.78)	0.266 (0.96)	-0.552*** (-5.92)
Crisis*Zero Exp.	-0.009 (-0.80)	-0.025 (-1.36)	-0.010 (-0.64)	-0.008 (-0.66)	-0.022 (-1.13)	0.000 (0.01)						
Crisis*Zero Lead							-0.015 (-1.11)	-0.040 (-1.55)	-0.022 (-1.18)	-0.008 (-0.61)	-0.039 (-1.48)	-0.012 (-0.65)
Bond outstanding	0.010 (0.79)	0.008 (0.23)	0.022 (1.02)	0.006 (0.44)	0.005 (0.14)	0.022 (1.10)	0.006 (0.42)	0.020 (0.49)	-0.006 (-0.27)	0.003 (0.19)	0.020 (0.49)	0.000 (0.00)
Bond outstanding*Crisis	0.014 (1.10)	0.008 (0.30)	0.017 (0.95)	0.013 (1.06)	0.009 (0.30)	0.018 (1.04)	0.020 (1.58)	0.007 (0.22)	0.029 (1.51)	0.018 (1.39)	0.003 (0.10)	0.028 (1.45)
Firm Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country*Year Fixed Effects	NO	NO	NO	YES	YES	YES	NO	NO	NO	YES	YES	YES
R2	0.069	0.312	0.165	0.084	0.321	0.185	0.083	0.300	0.175	0.101	0.309	0.198
N	4778	5461	5281	4778	5461	5281	3637	4164	4061	3637	4164	4061

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Financials: GIIPS vs. non-GIIPS Borrower

Table 6 presents firm level regressions. The dependent variables are net debt and the change in cash holdings, respectively. The sample consists of all firms in the intersection of Dealscan and Amadeus and located in the following countries: Greece, Italy, Portugal, Spain, and Ireland (GIIPS countries) (Columns 1-4) and Germany, France, and U.K. (non-GIIPS countries) (Columns 5-8). GIIPS exposure measures the fraction of syndicated loans provided by banks incorporated in a GIIPS country. GIIPS Lead is defined as fraction of total outstanding loans with GIIPS lead arrangers. Crisis is an indicator variable equal to one starting in 2010 (beginning of the sovereign debt crisis) and zero before. Firm control variables include the logarithm of total assets, tangibility, interest coverage ratio, EBITDA as a fraction of total assets, and for the cash regressions, a firm's cash flow, leverage and capital expenditures. All regressions include firm, year, and country*year fixed effects. Standard errors are adjusted for heteroskedasticity and clustered at the firm level.

	GIIPS Borrowers				non-GIIPS Borrowers			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Net Debt	Δ Cash	Net Debt	Δ Cash	Net Debt	Δ Cash	Net Debt	Δ Cash
GIIPS Exposure	-0.024 (-0.24)	0.019 (0.60)			0.116 (1.29)	0.011 (0.43)		
GIIPS Exposure*Crisis	-0.088** (-2.04)	-0.019 (-1.25)			-0.081 (-1.06)	-0.008 (-0.32)		
GIIPS Lead			0.074 (1.04)				0.151** (1.98)	0.074 (1.59)
GIIPS Lead*Crisis			-0.084*** (-2.85)				-0.055 (-0.59)	-0.040* (-1.74)
Cash Flow*GIIPS Exposure		-0.173* (-1.95)				0.037 (0.99)		
Cash Flow*GIIPS Exposure*Crisis		0.291*** (3.25)				0.095** (2.08)		
Cash Flow*GIIPS Lead								-0.129 (-1.25)
Cash Flow*GIIPS Lead*Crisis								0.296*** (4.47)
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Country*Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
R2	0.309	0.123	0.341	0.125	0.212	0.116	0.241	0.117
N	1804	1453	1296	1066	3825	3215	2984	2527

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Real Effects: GIIPS vs. non-GIIPS Borrower

Table 7 presents firm level regressions. The dependent variables are employment growth, capital expenditures, and sales growth, respectively. The sample consists of all firms in the intersection of DealScan and Amadeus and located in the following countries: Greece, Italy, Portugal, Spain, and Ireland (GIIPS countries) (Columns 1-5) and Germany, France, and U.K. (non-GIIPS countries) (Columns 6-10). GIIPS exposure measures the fraction of syndicated loans provided by banks incorporated in a GIIPS country. GIIPS Lead is defined as fraction of total outstanding loans with GIIPS lead arrangers. Crisis is an indicator variable equal to one starting in 2010 (beginning of the sovereign debt crisis) and zero before. Firm Control Variables include the logarithm of total assets, leverage, net worth, tangibility, interest coverage ratio, and EBITDA as a fraction of total assets. All regressions include firm, year, and country*year fixed effects. Standard errors are adjusted for heteroskedasticity and clustered at the firm level.

	non-GIIPS Borrowers											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Emp. Growth	CAPX	Sales Growth	Emp. Growth	CAPX	Sales Growth	Emp. Growth	CAPX	Sales Growth	Emp. Growth	CAPX	Sales Growth
GIIPS Exposure	-0.054 (-0.55)	0.058 (0.37)	0.008 (0.08)				0.241*** (2.69)	0.202 (0.92)	0.024 (0.22)			
GIIPS Exposure*Crisis	-0.106*** (-2.92)	-0.167** (-2.49)	-0.147** (-2.48)				-0.084 (-1.23)	-0.087 (-0.70)	-0.118 (-1.32)			
GIIPS Lead				0.020 (0.36)	0.085 (0.79)	-0.064 (-0.90)				0.109 (1.49)	0.147 (1.29)	0.176 (1.23)
GIIPS Lead*Crisis				-0.059** (-2.48)	-0.106** (-2.40)	-0.085** (-2.31)				-0.138** (-2.24)	-0.182** (-2.04)	-0.224*** (-3.39)
Crisis	0.186* (1.90)	0.138 (1.07)	0.318* (1.68)	0.155 (1.39)	0.290 (1.05)	0.431*** (3.03)	0.007 (0.27)	0.056 (1.27)	-0.075*** (-2.68)	-0.003 (-0.10)	0.050 (0.99)	-0.071** (-2.14)
Crisis*Zero Exp.							-0.005 (-0.32)	-0.016 (-0.65)	-0.009 (-0.49)			
Crisis*Zero Lead										-0.006 (-0.42)	-0.038 (-1.19)	-0.013 (-0.56)
Bond outstanding	-0.034 (-1.23)	-0.031 (-0.27)	0.050 (0.85)	-0.066** (-1.99)	-0.043 (-0.34)	0.028 (0.41)	0.013 (0.86)	0.014 (0.44)	0.013 (0.67)	0.018 (1.18)	0.037 (0.99)	-0.007 (-0.33)
Bond outstanding*Crisis	0.007 (0.31)	-0.003 (-0.04)	-0.016 (-0.40)	0.023 (1.00)	0.004 (0.06)	-0.001 (-0.02)	0.014 (0.99)	0.009 (0.31)	0.025 (1.33)	0.015 (1.00)	-0.001 (-0.05)	0.035* (1.67)
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country*Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
R2	0.120	0.334	0.224	0.150	0.295	0.260	0.071	0.315	0.176	0.085	0.317	0.181
N	1517	1769	1651	1125	1271	1211	3261	3692	3630	2512	2893	2850

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Firms with constant GIIPS Bank dependence

Table 8 presents firm level regressions. The dependent variables are employment growth, capital expenditures, sales growth, net debt, and change in cash holdings, respectively. The sample consists of all firms in the intersection of Dealscan and Amadeus and located in the following countries: Germany, France, and U.K. (non-GIIPS countries) and Italy, Spain, Greece, Portugal, and Ireland (GIIPS countries) which have either a constant overall exposure to GIIPS banks (Columns 1-5) or a constant fraction of GIIPS lead arrangers (Columns 6-10). GIIPS exposure measures the fraction of syndicated loans provided by banks incorporated in a GIIPS country. Crisis is an indicator variable equal to one starting in 2010 (beginning of the sovereign debt crisis) and zero before. All regressions include firm, year, and country*year fixed effects. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All firm level control variables are included, but not reported.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash
GIIPS Exposure*Crisis	-0.136*** (-3.20)	-0.151** (-2.19)	-0.128* (-1.86)	-0.068* (-1.65)	-0.014 (-0.93)					
GIIPS Lead*Crisis						-0.075*** (-2.97)	-0.119** (-2.48)	-0.113*** (-2.81)	-0.085*** (-2.59)	0.004 (0.45)
Cash Flow*GIIPS Exposure					-0.045 (-1.34)					
Cash Flow*GIIPS Exposure*Crisis					0.147*** (3.85)					
Cash Flow*GIIPS Lead										
Cash Flow*GIIPS Lead*Crisis										-0.033 (-0.83)
Cash Flow*Crisis										0.091** (2.17)
Crisis	0.203*** (4.32)	-0.287*** (-6.54)	0.199 (1.46)	-0.204*** (-6.63)	0.157*** (5.38)	0.135*** (2.63)	1.256*** (8.58)	-0.376** (-2.47)	0.167 (1.57)	-0.085*** (-35.58)
Bond outstanding	-0.052 (-1.50)	0.010 (0.16)	-0.036 (-0.79)	-0.010 (-0.20)	-0.014 (-1.39)	-0.010 (-0.48)	0.036 (0.62)	-0.002 (-0.04)	-0.042 (-1.46)	-0.025*** (-2.98)
Bond outstanding*Crisis	0.043 (1.23)	-0.026 (-0.46)	0.025 (0.70)	0.017 (0.42)	0.008 (0.82)	0.032 (1.40)	-0.025 (-0.51)	0.024 (0.60)	0.024 (0.82)	0.014* (1.81)
Firm Level Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country*Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
R2	0.084	0.326	0.198	0.227	0.135	0.112	0.311	0.196	0.285	0.123
N	2623	3130	3019	3246	2623	2538	3002	2928	3093	2578

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9: High vs. Low Net Worth

Table 9 presents firm level regressions. The dependent variables are employment growth, capital expenditures, sales growth, net debt, and change in cash holdings, respectively. The sample consists of all firms in the intersection of Dealscan and Amadeus and located in the following countries: Germany, France, and U.K. (non-GIIPS countries) and Italy, Spain, Greece, Portugal, and Ireland (GIIPS countries). GIIPS exposure measures the fraction of syndicated loans provided by banks incorporated in a GIIPS country. Crisis is an indicator variable equal to one starting in 2010 (beginning of the sovereign debt crisis) and zero before. All regressions include firm and year fixed effects. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. Columns (1)-(5) include firms with an above median net worth (threshold measured before beginning of crisis). Columns (6)-(10) consider firms with a below median net worth. All firm level control variables are included, but not reported.

	High Net Worth					Low Net Worth				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash
GIIPS Exposure	0.223* (1.75)	0.262 (0.98)	0.051 (0.32)	0.186 (1.46)	0.059 (1.34)	0.068 (0.76)	0.203 (1.44)	0.129 (1.21)	0.139 (1.46)	-0.019 (-0.79)
GIIPS Exposure*Crisis	-0.100* (-1.84)	-0.171* (-1.67)	-0.153** (-2.01)	-0.113** (-1.99)	-0.039* (-1.77)	-0.129*** (-3.14)	-0.114* (-1.88)	-0.161*** (-2.60)	-0.084** (-1.98)	0.017 (1.26)
Cash Flow*GIIPS Exposure*Crisis					0.138* (1.92)					0.115*** (3.22)
R2	0.113	0.335	0.180	0.256	0.103	0.095	0.347	0.204	0.223	0.147
N	2464	2746	2669	2804	2372	2314	2715	2612	2750	2270
	High Net Worth					Low Net Worth				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash
GIIPS Lead	0.013 (0.17)	-0.231 (-1.53)	-0.231 (-1.50)	-0.076 (-0.61)	0.024 (0.43)	0.125** (2.31)	0.273*** (3.23)	0.143* (1.72)	0.133** (2.00)	-0.013 (-0.81)
GIIPS Lead*Crisis	-0.081* (-1.83)	-0.196** (-2.41)	-0.104* (-1.85)	-0.106** (-2.12)	-0.032 (-1.57)	-0.085** (-2.28)	-0.174*** (-2.95)	-0.119** (-2.03)	-0.082* (-1.80)	-0.008 (-0.70)
Cash Flow*GIIPS Lead*Crisis					0.199** (2.05)					0.080* (1.89)
R2	0.111	0.337	0.196	0.291	0.116	0.133	0.351	0.223	0.248	0.135
N	1819	2053	2006	2090	1781	1818	2111	2055	2135	1793
Firm Level Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country*Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10: Ex-Ante GIIPS Exposure & GIIPS Lead

Panel A: Ex-Ante GIIPS Exposure

Panel A shows annual firm level regressions for the years 2010-2012 (sovereign debt crisis). GIIPS exposure measures the fraction of syndicated loans provided by banks incorporated in a GIIPS country as of 2008 (before sovereign debt crisis). All other control variables are lagged by one period. All regressions include country, year, industry, and country*year fixed effects. Standard errors are adjusted for heteroskedasticity and clustered at the firm level.

	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash
GIIPS Exposure	-0.044*** (-2.71)	-0.117*** (-4.83)	-0.059*** (-2.76)	-0.087*** (-4.25)	-0.009** (-2.24)
Cash Flow*GIIPS Exposure					0.045*** (3.18)
Bond outstanding	0.009 (1.06)	0.016 (1.19)	0.033*** (3.02)	0.003 (0.29)	0.006** (2.32)
Cash Flow					-0.002 (-0.59)
Firm Level Controls	YES	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES	YES
Country Fixed Effects	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES
R2	0.064	0.172	0.066	0.451	0.056
N	2524	2863	2766	2910	2663

Panel B: Ex-Ante GIIPS Lead Arranger

Panel B shows annual firm level regressions for the years 2010-2012 (sovereign debt crisis). GIIPS Lead is defined as fraction of total outstanding loans with GIIPS lead arrangers as of 2008 (before sovereign debt crisis). All other control variables are lagged by one period. All regressions include country, year, industry, and country*year fixed effects. Standard errors are adjusted for heteroskedasticity and clustered at the firm level.

	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash
GIIPS Lead	-0.023* (-1.70)	-0.086*** (-4.15)	-0.092** (-2.37)	-0.063*** (-3.28)	-0.008** (-2.15)
Cash Flow*GIIPS Lead					0.031** (2.27)
Bond outstanding	-0.002 (-0.17)	0.003 (0.19)	0.022 (1.61)	-0.004 (-0.29)	0.005* (1.65)
Cash Flow					-0.001 (-0.14)
Firm Level Controls	YES	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES	YES
Country Fixed Effects	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES
R2	0.077	0.172	0.081	0.441	0.057
N	1900	2148	1447	2179	2021

Table 11: Subsidiaries

Table 11 presents firm level regressions. The dependent variables are employment growth, capital expenditures, sales growth, net debt, and change in cash holdings, respectively. The sample consists of all firms in the intersection of Dealscan and Amadeus and located in the following countries: Italy, Spain, Greece, Portugal, and Ireland (GIIPS countries) which have an above sample median fraction of their revenues generated by non-GIIPS subsidiaries (Panel A), and which have a below median fraction of their revenue generated by non-GIIPS subsidiaries (Panel B) as well as Germany, France, and U.K. (non-GIIPS countries) that do not have any foreign subsidiary in a GIIPS country (Panel C) and which have a foreign GIIPS subsidiary (Panel D). GIIPS exposure measures the fraction of syndicated loans provided by banks incorporated in a GIIPS country. GIIPS Lead is defined as fraction of total outstanding loans with GIIPS lead arrangers. Crisis is an indicator variable equal to one starting in 2010 (beginning of the sovereign debt crisis) and zero before. All regressions include firm, year, and country*year fixed effects. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All firm level control variables are included, but not reported.

Panel A: GIIPS Firms with high fraction of revenue generated by non-GIIPS subsidiaries										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash
GIIPS Exposure*Crisis	-0.225*** (-2.63)	-0.334*** (-1.99)	-0.216*** (-2.38)	-0.175 (-1.55)	-0.030 (-1.21)					
GIIPS Lead*Crisis						-0.127** (-2.14)	-0.283*** (-2.78)	-0.133** (-2.23)	-0.163** (-2.38)	-0.003 (-0.22)
Cash Flow*GIIPS Exposure*Crisis					0.310** (2.34)					
Cash Flow*GIIPS Lead*Crisis										0.137** (2.33)
R ²	0.238 380	0.252 422	0.332 422	0.314 430	0.192 380	0.202 318	0.283 356	0.372 355	0.310 363	0.272 322
Panel B: GIIPS Firms with low fraction of revenue generated by non-GIIPS subsidiaries										
GIIPS Exposure*After	-0.077* (-1.71)	-0.088 (-1.31)	-0.127 (-1.58)	-0.054 (-1.13)	-0.014 (-0.76)					
GIIPS Lead*After						-0.047 (-1.65)	-0.050 (-0.98)	-0.082* (-1.72)	-0.066* (-1.96)	-0.009 (-0.79)
Cash Flow*GIIPS Exposure*After					0.287** (2.54)					
Cash Flow*GIIPS Lead*After										0.158** (2.54)
R ²	0.117 100	0.387 309	0.218 192	0.308 336	0.147 103	0.177 70	0.378 89	0.272 816	0.372 89	0.150 70
T-Test for Diff. Interaction	1.54	1.35	0.79	0.99	0.13	1.52	2.07	0.66	1.26	0.24
Panel C: non-GIIPS firms without GIIPS subsidiaries										
GIIPS Exposure*Crisis	-0.072 (-1.07)	-0.084 (-0.68)	-0.048 (-0.53)	-0.115 (-1.44)	-0.001 (-0.05)					
GIIPS Lead*Crisis						-0.469*** (-4.94)	-0.522*** (-4.07)	-0.566*** (-2.95)	-0.542** (-2.01)	-0.053 (-0.69)
Cash Flow*GIIPS Exposure*Crisis					0.095* (1.82)					
Cash Flow*GIIPS Lead*Crisis										0.339*** (9.17)
R ²	0.085 147	0.321 205	0.185 193	0.205 216	0.141 161	0.109 127	0.311 153	0.190 149	0.250 163	0.136 138
Panel D: non-GIIPS firms with GIIPS subsidiaries										
GIIPS Exposure*After	-0.110 (-1.05)	0.112 (0.70)	-0.127 (-1.07)	-0.194* (-1.91)	-0.040 (-1.26)					
GIIPS Lead*After						-0.163*** (-2.88)	-0.040 (-0.42)	-0.113 (-1.08)	-0.030 (-0.44)	-0.087** (-2.01)
Cash Flow*GIIPS Exposure*After					0.131 (1.51)					
Cash Flow*GIIPS Lead*After										0.867** (2.47)
R ²	0.074 469	0.339 594	0.189 592	0.283 615	0.114 424	0.090 119	0.366 317	0.191 131	0.301 132	0.124 190
T-Test for Diff. Interaction	0.30	0.95	0.53	0.61	0.36	2.75	3.02	2.07	1.84	1.50
Firm Level Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country*Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Table 12: Unobserved Industry Shocks

Table (12) presents firm level regressions. The dependent variables are employment growth, capital expenditures, sales growth, net debt, and change in cash holdings, respectively. The sample consists of all firms in the intersection of Dealscan and Amadeus and located in the following countries: Germany, France, and U.K. (non-GIIPS countries) and Italy, Spain, Greece, Portugal, and Ireland (GIIPS countries). GIIPS exposure measures the fraction of syndicated loans provided by banks incorporated in a GIIPS country. GIIPS Lead is defined as fraction of total outstanding loans with GIIPS lead arrangers. Crisis is an indicator variable equal to one starting in 2010 (beginning of the sovereign debt crisis) and zero before. All regressions include firm, year, and industry*country*year fixed effects where industries are defined as one-digit SIC codes. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All firm level control variables are included, but not reported.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash	Emp Growth	CAPX	Sales Growth	Net Debt
GIIPS Exposure	0.115 (1.51)	0.176 (1.35)	0.014 (0.16)	0.072 (1.05)	0.003 (0.15)				
GIIPS Exposure*Crisis	-0.104*** (-3.07)	-0.149** (-2.56)	-0.124** (-2.37)	-0.059* (-1.69)	-0.006 (-0.53)				
GIIPS Lead						0.076 (1.21)	0.082 (0.67)	0.015 (0.19)	0.067 (1.15)
GIIPS Lead*Crisis						-0.054** (-2.00)	-0.162*** (-3.10)	-0.096** (-2.47)	-0.092*** (-2.60)
Cash Flow*GIIPS Exposure					-0.013 (-0.48)				
Cash Flow*GIIPS Exposure*Crisis					0.103*** (3.51)				
Cash Flow*GIIPS Lead									-0.038 (-1.00)
Cash Flow*GIIPS Lead*Crisis									0.074* (1.94)
Cash Flow*Crisis									-0.001 (-0.23)
Crisis	-0.356*** (-2.79)	0.956*** (11.79)	1.180*** (3.79)	-0.328* (-1.71)	-0.017 (-0.59)	0.204*** (4.56)	-0.179* (-1.76)	-0.333*** (-6.64)	-0.267 (-0.83)
Bond outstanding	0.005 (0.39)	-0.005 (-0.15)	0.023 (1.23)	-0.001 (-0.08)	-0.006 (-1.41)	0.006 (0.41)	0.007 (0.20)	0.004 (0.17)	-0.000 (-0.02)
Bond outstanding*Crisis	0.013 (1.02)	0.020 (0.78)	0.021 (1.23)	0.008 (0.45)	0.003 (0.80)	0.014 (1.00)	0.023 (0.78)	0.030 (1.63)	0.009 (0.46)
Firm Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry*Country*Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
R2	0.165	0.387	0.250	0.315	0.184	0.194	0.402	0.285	0.375
N	4778	5461	5281	5629	4668	3637	4164	4061	4280

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 13: Listed vs. Non-Listed Firms

Table 13 presents firm level regressions. The dependent variables are employment growth, capital expenditures, sales growth, net debt, and change in cash holdings, respectively. The sample consists of all firms in the intersection of Dealscan and Amadeus and located in the following countries: Italy, Spain, Greece, Portugal, and Ireland (GIIPS countries) and Germany, France, and U.K. (non-GIIPS countries) that are not publicly listed (Panel A) and that are publicly listed (Panel B). GIIPS exposure measures the fraction of syndicated loans provided by banks incorporated in a GIIPS country. GIIPS Lead is defined as fraction of total outstanding loans with GIIPS lead arrangers. Crisis is an indicator variable equal to one starting in 2010 (beginning of the sovereign debt crisis) and zero before. All regressions include firm, year, and country*year fixed effects. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All firm level control variables are included, but not reported.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash
Panel A: Non-Listed Firms										
GIIPS Exposure	0.206* (1.89)	-0.104 (-0.56)	-0.152 (-1.16)	-0.067 (-0.69)	0.017 (0.55)					
GIIPS Exposure*Crisis	-0.086** (-2.51)	-0.115** (-1.98)	-0.144** (-2.53)	-0.090** (-2.32)	0.000 (0.03)					
GIIPS Lead						0.114 (1.12)	-0.041 (-0.24)	-0.023 (-0.17)	0.082 (0.86)	0.034 (1.12)
GIIPS Lead*Crisis						-0.064** (-2.39)	-0.120** (-2.43)	-0.105** (-2.45)	-0.076** (-2.25)	0.000 (0.03)
Cash Flow*GIIPS Exposure*Crisis					0.104*** (2.80)					
Cash Flow*GIIPS Lead*Crisis										0.090* (1.84)
R2	0.196	0.403	0.279	0.326	0.241	0.240	0.434	0.320	0.390	0.232
N	2620	3239	3100	3375	2640	1973	2454	2370	2547	2022
Panel B: Listed Firms										
GIIPS Exposure	0.144 (1.25)	0.462** (2.26)	0.087 (0.81)	0.282*** (2.81)	-0.022 (-0.63)					
GIIPS Exposure*Crisis	-0.098 (-1.26)	-0.198 (-1.42)	-0.084 (-0.85)	-0.068 (-1.05)	-0.002 (-0.07)					
GIIPS Lead						0.158* (1.86)	0.245 (1.29)	0.082 (0.78)	0.090 (1.06)	-0.006 (-0.18)
GIIPS Lead*Crisis						-0.062 (-1.38)	-0.107 (-1.52)	-0.107 (-1.58)	-0.067 (-1.63)	-0.001 (-0.06)
Cash Flow*GIIPS Exposure*Crisis					0.084 (1.37)					
Cash Flow*GIIPS Lead*Crisis										0.007 (0.20)
R2	0.272	0.473	0.330	0.421	0.245	0.336	0.490	0.399	0.474	0.286
N	2158	2222	2181	2254	2028	1664	1710	1691	1733	1571
Firm Level Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry*Country*Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 14: Rated vs. Unrated Firms

Table 14 presents firm level regressions. The dependent variables are employment growth, capital expenditures, sales growth, net debt, and change in cash holdings, respectively. The sample consists of all firms in the intersection of Dealscan and Amadeus and located in the following countries: Italy, Spain, Greece, Portugal, and Ireland (GIIPS countries) and Germany, France, and U.K. (non-GIIPS countries) that have no credit rating (Panel A) and that have a credit rating (Panel B). GIIPS exposure measures the fraction of syndicated loans provided by banks incorporated in a GIIPS country. GIIPS Lead is defined as fraction of total outstanding loans with GIIPS lead arrangers. Crisis is an indicator variable equal to one starting in 2010 (beginning of the sovereign debt crisis) and zero before. All regressions include firm, year, and country*year fixed effects. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All firm level control variables are included, but not reported.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash
Panel A: Unrated Firms										
GIIPS Exposure	0.076 (0.92)	-0.063 (-0.69)	0.132 (0.94)	0.043 (0.58)	-0.009 (-0.39)					
GIIPS Exposure*Crisis	-0.096*** (-3.03)	-0.126** (-2.46)	-0.135** (-2.49)	-0.080** (-2.33)	-0.004 (-0.35)					
GIIPS Lead						0.113 (1.53)	0.197 (1.37)	0.004 (0.04)	0.091 (1.27)	-0.013 (-0.45)
GIIPS Lead*Crisis						-0.058** (-2.40)	-0.121*** (-2.88)	-0.077** (-2.14)	-0.069** (-2.40)	0.001 (0.17)
Cash Flow*GIIPS Exposure*Crisis					0.104*** (3.56)					
Cash Flow*GIIPS Lead*Crisis										0.066* (1.72)
R2	0.176	0.255	0.395	0.312	0.187	0.210	0.411	0.289	0.371	0.191
N	4192	4692	4850	5011	4123	3140	3642	3561	3752	3123
Panel B: Rated Firms										
GIIPS Exposure	0.515*** (2.94)	0.329 (1.22)	-0.029 (-0.08)	0.457* (1.85)	-0.139* (-1.97)					
GIIPS Exposure*Crisis	-0.248* (-1.92)	-0.288* (-1.85)	-0.091 (-0.36)	-0.104 (-0.62)	0.098 (1.55)					
GIIPS Lead						0.169 (1.59)	-0.418 (-1.45)	-0.031 (-0.15)	0.068 (0.51)	-0.044 (-0.63)
GIIPS Lead*Crisis						-0.141 (-1.01)	0.103 (0.46)	-0.079 (-0.51)	-0.162 (-1.22)	0.013 (0.18)
Cash Flow*GIIPS Exposure*Crisis					-0.670* (-1.75)					
Cash Flow*GIIPS Lead*Crisis										-0.295 (-0.52)
R2	0.163	0.313	0.391	0.351	0.229	0.189	0.429	0.343	0.376	0.258
N	586	592	611	618	546	497	522	503	528	471
Firm Level Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry*Country*Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 15: Credit Lines: CapIQ Sample

Table 15 presents firm level regressions. The dependent variables are $\frac{CreditLine}{CreditLine+Cash}$ or $\frac{UndrawnCreditLine}{UndrawnCreditLine+Cash}$, respectively. The sample consists of all firms in the intersection of Dealscan, Amadeus, and CapIQ and located in the following countries: Germany, France, and U.K. (non-GIIPS countries) and Italy, Spain, Greece, Portugal, and Ireland (GIIPS countries). Crisis is an indicator variable equal to one starting in 2010 (beginning of the sovereign debt crisis) and zero before. All regressions include firm, year, and country*year fixed effects. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All firm level control variables are included, but not reported.

	(1)	(2)	(3)	(4)
	$\frac{CreditLine}{CreditLine+Cash}$	$\frac{CreditLine}{CreditLine+Cash}$	$\frac{UndrawnCreditLine}{UndrawnCreditLine+Cash}$	$\frac{UndrawnCreditLine}{UndrawnCreditLine+Cash}$
GIIPS Exposure	0.422		0.501	
	(1.27)		(1.09)	
GIIPS Exposure*Crisis	-0.482***		-0.540***	
	(-3.73)		(-3.47)	
GIIPS Lead		0.452		0.147
		(1.38)		(0.36)
GIIPS Lead*Crisis		-0.229*		-0.467***
		(-1.86)		(-2.90)
Crisis	0.255	-0.436***	0.157	-0.555***
	(1.14)	(-6.86)	(1.59)	(-4.45)
Bond outstanding	-0.017	0.019	0.040	0.058
	(-0.53)	(0.55)	(0.89)	(0.98)
Bond outstanding*Crisis	0.000	-0.023	0.003	-0.002
	(0.01)	(-0.62)	(0.05)	(-0.03)
Firm Level Controls	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Country*Year Fixed Effects	YES	YES	YES	YES
R2	0.332	0.325	0.237	0.268
N	597	478	597	478

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 16: Bank Lending

Table 16 presents bank level regressions. The dependent variable is the change in a bank's volume of new loans issued (Columns 1-5) or the value weighted loan spread of all newly issued loans in a given year (Columns 6-10). We classify banks as affected if their CDS weighted holdings of domestic sovereign debt are above the sample median (Columns 1 and 6), if the increase in domestic sovereign debt holdings (2009 to 2011) is above the sample median (Columns 2 and 7), if the CDS weighted change in domestic sovereign debt holdings is above the sample median (Columns 3 and 8), if a GIIPS bank is weakly-capitalized (long term issuer default rating of A+ or lower; Columns 4 and 9), or if its support rating is above the sample median (Columns 5 and 10). Crisis is an indicator variable equal to one starting in 2010 (beginning of sovereign debt crisis). Log(Assets) is the logarithm of a bank's total assets. Capital Ratio is the ratio of a bank's equity to total assets. Standard errors are adjusted for heteroskedasticity and clustered at the bank level.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Δ Volume	Δ Volume	Δ Volume	Δ Volume	Δ Volume	Spread	Spread	Spread	Spread	Spread
Affected:										
Dom. Sov. Bond Holdings*Country CDS Spread*Crisis	-0.485** (-2.30)					54.827** (2.32)				
Δ Dom. Sov. Bond Holdings*Crisis		-0.003 (-0.01)					18.501 (0.79)			
Δ Dom. Sov. Bond Holdings*Country CDS Spread*Crisis			-0.459** (-2.15)					77.701*** (3.26)		
Weakly-Capitalized GIIPS Bank*Crisis				-0.905*** (-3.27)					159.665* (1.68)	
Support Rating*Crisis					-0.069 (-0.59)					13.918 (1.32)
Crisis	-0.533** (-2.46)	-0.691** (-2.21)	-0.466* (-2.03)	-0.745*** (-3.12)	0.667** (2.10)	55.456*** (2.92)	63.199*** (3.62)	39.294** (2.50)	59.351*** (3.81)	53.742** (2.51)
Log(Assets)	-0.689* (-1.87)	-0.723* (-1.82)	-0.651* (-1.83)	0.393 (1.50)	0.325 (0.56)	-34.921 (-1.33)	-33.473 (-1.02)	-45.236 (-1.42)	-12.138 (-0.29)	-4.157 (-0.10)
Capital Ratio	-0.036 (-0.55)	0.050 (0.68)	0.026 (0.36)	-0.010 (-0.17)	0.108 (1.14)	-13.292* (-2.01)	-11.482** (-2.27)	-5.277 (-1.04)	-13.128** (-2.38)	-22.567*** (-2.76)
Bank Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
R2	0.176	0.205	0.217	0.324	0.254	0.407	0.411	0.480	0.362	0.336
N	293	221	221	266	191	163	133	133	148	146

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 17: Domestic Sovereign Debt Holdings

Table 17 presents firm level regressions. The dependent variables are employment growth, capital expenditures, sales growth, net debt, and change in cash holdings, respectively. The sample consists of all firms in the intersection of Dealscan and Amadeus and located in the following countries: Italy, Spain, Greece, Portugal, and Ireland (GIIPS countries) and Germany, France, and U.K. (non-GIIPS countries). Banks are classified as Affected if their CDS weighted holdings of domestic sovereign debt are above the sample median (Panel A), the increase in domestic sovereign debt holdings (2009 to 2011) is above the sample median (Panel B), the CDS weighted change in domestic sovereign debt holdings is above the sample median (Panel C), or if a GIIPS bank is weakly-capitalized (long term issuer default rating of A+ or lower; Panel D). Crisis is an indicator variable equal to one starting in 2010 (beginning of the sovereign debt crisis) and zero before. All regressions include firm, year, and country*year fixed effects. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All firm level control variables are included, but not reported.

Panel A: Level CDS Holdings						
	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash	
Dom. Sov. Bond Holdings*Country CDS Spread*Crisis	-0.048** (-2.13)	-0.064* (-1.68)	-0.073** (-2.15)	-0.069** (-2.41)	-0.007 (-0.68)	
Dom. Sov. Bond Holdings*Country CDS Spread*Crisis*Cash Flow					0.134** (2.46)	
R ²	0.101 3503	0.314 4003	0.199 3901	0.261 4114	0.116 3450	
Panel B: Change Holdings						
	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash	
Δ Dom. Sov. Bond Holdings*Crisis	-0.005 (-0.30)	0.035 (1.48)	-0.005 (-0.20)	0.012 (0.63)	0.005 (0.86)	
Δ Dom. Sov. Bond Holdings*Crisis*Cash Flow					0.000 (0.01)	
R ²	0.098 3482	0.314 3979	0.197 3877	0.259 4090	0.114 3429	
Panel C: Change CDS Holdings						
	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash	
Δ Dom. Sov. Bond Holdings*Country CDS Spread*Crisis	-0.075*** (-3.54)	-0.091** (-2.34)	-0.083** (-2.46)	-0.065** (-2.53)	-0.006 (-0.65)	
Δ Dom. Sov. Bond Holdings*Country CDS Spread*Crisis*CF					0.109** (2.43)	
R ²	0.103 3482	0.315 3979	0.199 3877	0.261 4090	0.116 3429	
Panel D: Weakly-Capitalized GIIPS Banks						
	Emp Growth	CAPX	Sales Growth	Net Debt	Δ Cash	
Weakly-Capitalized GIIPS Bank*Crisis	0.027 (0.81)	0.034 (0.45)	-0.053 (-0.22)	0.009 (0.13)	0.000 (0.01)	
Weakly-Capitalized GIIPS Bank*Cash Flow*Crisis					0.051 (0.24)	
R ²	0.098 3466	0.311 3949	0.198 3852	0.263 4062	0.102 3411	
Firm Controls	YES	YES	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES
Country*Year Fixed Effects	YES	YES	YES	YES	YES	YES

Table 18: This table provides a list of the top 100 lenders in our sample based on the number of loans issued. The sample consists of all firms in the intersection of Dealscan and Amadeus and located in the following countries: Germany, France, and U.K. (non-GIIPS countries) and Italy, Spain, Greece, Portugal, and Ireland (GIIPS countries).

No	lenderparentname	lenderparentcountry
1	Royal Bank of Scotland Plc [RBS]	United Kingdom
2	BNP Paribas SA	France
3	Credit Agricole Corporate & Investment Bank SA [Credit Agricole CIB]	France
4	Barclays	United Kingdom
5	Societe Generale SA	France
6	HSBC Banking Group	United Kingdom
7	Lloyds Banking Group Plc	United Kingdom
8	UniCredit	Italy
9	Natixis SA	France
10	Commerzbank AG	Germany
11	Banco Santander SA	Spain
12	Banco Bilbao Vizcaya Argentaria SA [BBVA]	Spain
13	Deutsche Bank AG	Germany
14	CM-CIC	France
15	Intesa Sanpaolo SpA [ISP]	Italy
16	Portigon AG	Germany
17	Bank of Ireland Group	Ireland
18	BayernLB	Germany
19	Banco Financiero y de Ahorros SA	Spain
20	Landesbank Baden-Wuerttemberg [LBBW]	Germany
21	La Caixa [La Caja de Ahorros I Pensions de Barcelona]	Spain
22	IKB Deutsche Industrie Bank AG	Germany
23	Allied Irish Banks Plc [AIB]	Ireland
24	Banco de Sabadell SA	Spain
25	Landesbank Hessen-Thuringen GZ [Helaba]	Germany
26	DZ Bank AG	Germany
27	Grupo Banco Popular	Spain
28	Mediobanca SpA	Italy
29	Banca Monte dei Paschi di Siena SpA [MPS]	Italy
30	KfW Bankengruppe	Germany
31	Unione di Banche Italiane ScpA [UBI Banca]	Italy
32	Banco Espirito Santo SA [BES]	Portugal
33	Caixa Geral de Depositos SA [CGD]	Portugal
34	Caixa d'Estalvis de Catalunya SA [Caixa Catalunya]	Spain
35	HSB Nordbank AG	Germany
36	ICO [Instituto de Credito Oficial]	Spain

No	lenderparentname	lenderparentcountry
37	Credit du Nord	France
38	Caja de Ahorros del Mediterraneo SA [CAM]	Spain
39	NordLB Group	Germany
40	Bankinter SA	Spain
41	Caja de Ahorros de Valencia Castellon y Alicante	Spain
42	NCG Banco SA [Novagalicia Banco]	Spain
43	Standard Chartered Bank Plc [SCB]	United Kingdom
44	Banco BPI SA	Portugal
45	Banca Popolare di Milano SCaRL [BPM]	Italy
46	Unicaja	Spain
47	Cooperative Bank Plc	United Kingdom
48	Ibercaja	Spain
49	Bilbao Bizkaia Kutxa [BBK]	Spain
50	Banco Pastor SA	Spain
51	Banca Popolare di Vicenza SCaRL	Italy
52	Cajastur	Spain
53	Westdeutsche Genossenschafts-Zentralbank eG [WGZ-Bank]	Germany
54	Banco Popolare Societa Cooperativa Scrl [BP]	Italy
55	Banco de Valencia SA	Spain
56	NM Rothschild & Sons Ltd	United Kingdom
57	Banco Cooperativo Espanol SA	Spain
58	Bankia	Spain
59	Caja de Ahorros de Castilla-La Mancha	Spain
60	Caja de Ahorros de Santander y Cantabria SA	Spain
61	Efibanca SpA	Italy
62	Banque Esprit Santo et de la Venetie [BESV]	France
63	Landesbank Saar GZ	Germany
64	Credit Cooperatif	France
65	Banca March SA	Italy
66	Caja Espana de Inversiones	Spain
67	Banco Guipuzcoano SA	Spain
68	DekaBank Deutsche Girozentrale	Germany
69	Banca Popolare dell'Emilia Romagna SCRL [BPER]	Italy
70	Banca di Cividale SpA	Italy
71	Instituto Catalan de Finanzas [ICF]	Spain
72	National Bank of Greece SA	Greece
73	Caja de Badajoz	Spain
74	Banque de Developpement des Petites et Moyennes Entreprises [BDPME]	France
75	Liberbank SA	Spain
76	Banca Carige SpA	Italy

No	lenderparentname	lenderparentcountry
77	Caja Vital Kuxta	Spain
78	Banco Comercial Portugues SA [BCP]	Portugal
79	Sal Oppenheim jr & Cie KGaA	Germany
80	Ahorro Corporacion Financiera SVB SA [ACF]	Spain
81	Alpha Bank AE	Greece
82	Cassa di Risparmio di Parma e Piacenza	Italy
83	Caja de Ahorros de Galicia	Spain
84	Banca Popolare di Sondrio SCRL [BPS]	Italy
85	La Caja Insular de Ahorros de Canarias	Spain
86	HRE Group [Hypo Real Estate Holding AG]	Germany
87	Caja de Ahorros de Murcia	Spain
88	Caja Laboral	Spain
89	EBN Banco	Spain
90	Caja Rural del Duero	Spain
91	Stadtsparkasse Dusseldorf	Germany
92	Banca Popolare di Novara SCaRL	Italy
93	Deutsche Apotheker-und Arztebank	Germany
94	Caja de Burgos	Spain
95	Landesbank Sachsen GZ	Germany
96	Nationwide Building Society	United Kingdom
97	DVB Bank AG	Germany
98	Cajasol	Spain
99	ICCREA Banca SpA	Italy
100	CajaSur [Caja de Ahorros y Monte de Piedad de Cordoba SA]	Spain