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Determinants of Bank Lending in Europe and the US. Evidence from Crisis and Post Crisis Years

Brunella Bruno[*], Alexandra D'Onofrio[**], Immacolata Marino[***]

Abstract
We investigate bank lending patterns and their determinants in Europe and the US over 2008-2014. Precisely, we relate bank characteristics *prior to* the financial crisis to their lending behaviour *during* and *after* the crisis period. Our analysis confirms the existence of a bank lending channel, that is stronger in Europe than in the US and especially if we look at corporate loans rather than at the whole loan portfolio.

JEL Classification: G21, G18, G01

Keywords: bank loans, corporate loans, bank lending channel, crisis**.**

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Table of contents

1. Introduction

How did global financial crisis impact banks' lending behaviour? Did it affect some banks more than others? Which banks were particularly affected and why? Were European banks more or less resilient in their bank lending than US banks? Were there variations across countries in Europe in terms of bank lending responses to the crisis?

These are critical questions for several reasons. The impact of the financial crisis on the solvency of banks was dramatic. The average capital to asset ratio of both US and European banks declined in response to the crisis and both the US and Europe collapsed into recession (Laeven and Valencia 2010). Subsequently the US recovered much more rapidly than Europe which in 2010 was subject to a further round of adverse shock, the Euro sovereign debt crisis. As a consequence, much of European economies remain in recession to this day. Again, the question that this raises is what was the effect of such a new shock on bank lending and how different types of banks reacted to it.

This work contributes to address these issues by investigating bank lending patterns and their determinants in Europe and the US over 2008-2014. Because banks' balance-sheet weaknesses may affect the economy through a reduction of credit supply (Bernanke 1983, Kashyap and Stein 2000), looking at lending patterns in crisis times sheds important light on the role of banks in propogating contraction of economic activity. In turn, the pro-cyclical attitude of bank lending could exert a disproportionate strain on the economy, making harder for bank dependent borrowers (e.g. SMEs) to keep on relying on external sources of funds (Berger and Udell 1995). Hence, the goal of our analysis is to understand to w*h*at extent bank lending practices contributed to the decline and how much of the difference between Europe and the US can be attributed to differences in the two continents' banking systems.[1]

To investigate the determinants of bank lending propogation mechanisms in crisis years, we exploit the cross-section heterogeneity of banks in Europe and the US in terms of their balance sheets before the crisis. To provide evidence on the narrative that some bank specific characteristics may be relevant during a banking crisis and not during a sovereign crisis, we study the two events separately.

We use data on individual banks to explore the role of macroeconomic disturbances in the context of individual bank lending decisions. Precisely, we relate bank characteristics *prior to* the financial and sovereign crises to their lending behaviour *after* the crisis. Such a strategy enables us to observe both banks' immediate responses and the longer term impact on lending as driven by bank specific factors. Because crisis may impact banks' behavior differently according to their location, we also examine lending strategies of banks grouped by geographical area. Hence, we can compare the effect between US and Europe, as well as across countries within Europe, contrasting for example banks in euro and non-euro zone countries and in core as against peripheral countries.

[1]It is a well-known fact that financial structures of US and Europe differ under several respects (ESRB 2014). For instance firms in Europe are more heavily dependent on bank lending than US firms. In addition, the financial crisis and the Euro sovereign crisis hit banks and spilled over into real economies with a different intensity in the two geographical areas. The reaction of local monetary authorities to the two crises was also different in terms of timing and nature of measures adopted (add references). It is therefore worthy investigating whether and to what extent bank characteristics matter in influencing loan supply during or outside a crisis period, over and above any country specificities.

We look at several potential drivers of banks' balance sheet strength. In line with seminal contributions on the bank lending channel, we first explore the role of size, capital, and liquidity as the main balance sheet characteristics that can affect financial shock transmission to the credit market and therefore real economy (Kashyap and Stein 2000; Kishan and Opelia 2000). We also look at factors that have proven relevant in influencing bank lending in crisis times, i.e. the reliance on wholesale funds as a measure of unstable funding (Gambacorta and Marques-Ibanez 2011; Bonaccorsi and Sette 2012; Kapan and Miniou 2013), the bank ownership structure to assess whether differential lending patterns emerge between domestic versus foreign banks (Popov and Udell 2010; Classens and van Horen 2012; Cull and Pería 2013), and the exposure to sovereign risk to account for potential impact of the Euro sovereign crisis (Popov and van Horen 2013; De Marco 2016; Gennaioli et al. 2014; Altavilla et al. 2016).

We find that a bank lending channel in crisis and post crisis years does exist in both US and Europe. Nevertheless, there are differences across these regions as for the strength and types of bank characteristics affecting the banking lending channel. In particular, we find that the strength of the banking channel is more limited when we refer to total loans, rather than to corporate loans, especially for European banks. This evidence does not surprise since, in the bank lending channel view, the impact of a shock is expected to be stronger on loan supply to bank-dependent borrowers, as most of European companies, compared to US businesses (EIB 2014; ESRB 2014). The main factor affecting US banks' total lending behavior is liquidity. In line with the traditional lending channel view, we find that banks with more cash holdings tend to better shield total lending (as well as, although at a lower extent, corporate lending) in crisis and post crisis years. If we look at the impact on bank asset composition, however, the role played by bank liquidity changes, since more liquid and better capitalized US banks reduce the amount of resources allocated to corporate loans in crisis and post crisis years, compared to less sound and less liquid banks. Consistently with the traditional bank lending channel view, larger size and greater reliance on core deposits are associated to a higher incidence of corporate loans to total assets.

Focusing on European banks, we find that the bank lending channel is more active in the Euro-Periphery regions and for corporate lending. In line with our predictions, several factors play a role in influencing bank lending patterns since the 2008-09 crisis. We find that size is a powerful explanatory variable, since larger banks in the Euro-Periphery shield corporate lending less than smaller institutions. We also find a positive influence of capitalisation and liquidity (measured by the share of cash and due from banks and public bonds over total assets) on corporate lending levels as well as on the share of corporate loans over total assets. Evidence on the role played by traditional funding is mixed. We find some evidence of a positive impact of traditional deposits on total lending and corporate volumes in the Euro area since the sovereign crisis onwards. However, if we focus on the Euro-Periphery, deposit-based banks lend persistently less to corporates (in terms of levels and in percentage of total assets), relative to banks with a deposit-base lower than the median. We also uncover that capitalization mitigate the negative effects of the crisis on lending in banks from stressed country only.

Another factor reinforcing the bank lending channel in Europe and (to a lower extent) in the US is the bank ownership structure. The main result, in this respect, is the negative impact of foreign ownership on corporate lending (in terms of levels and percentage of total assets), during crisis and post crisis years. This findings is stronger for European banks and seem to be driven by banks from the Euro-Periphery. Such an evidence is suggestive of the fact that particularly in banks from stressed countries a foreign ownership may be a weakening factor of banks'ability to shield lending (see Cull and Peria 2013 and Popov and van

Horen 2013 among the others) and points to the effects of banking system fragmentation (Claessens and van Horen 2014).

Our study is mainly related to the vast bank lending channel literature. We contribute to this strand of literature in several ways. First, we focus on both European and US banks. This differs from much of the studies on the bank lending channel, which often adopts a more restricted geographical scope. The first empirical analyses in this field were carried out using US data (see in particular Bernanke and Blinder 1993, Kashyap and Stein 2000). Most contributions on banks outside the US yet use data from a single geographical area, namely Europe (e.g. Popov and van Horen 2013) and the Euro-area (e.g. Altavilla et al. 2016), or even from a single country, such a Spain (Jiménez et al. 2014) or Italy (Bonaccorsi and Sette 2012; Albertazzi et al. 2012).[2] With studies on Europe and the Euro area consensus has been harder to find because country specificities seem to contribute, together with bank specific factors, to the bank-lending channel view (Altunbas and Molyneux 2002).

Second, while there are several works assessing the impact of either the 2008-09 or the Euro sovereign crisis on bank lending, taken individually,we examine how a prolonged downturn period (comprising *both* the banking and the Euro debt crisis) influences lending patterns. The inclusion in our sample period of two post-crisis years clearly widens the perspective of the analysis and enables us to assess the strength of the banking channel *through* the cycle.

Moreover, while most studies on the bank lending channel in crisis years focus on total loans (Popov and van Horen 2013; Gennaioli et al. 2014), we use both total (gross) loans as well as the subcategory of corporate loans. By examining both, we first address the concern that any results for total loans might be influenced by compositional effects (Kashyap and Stein 2000). For example, it may be that real estate industry and residential mortgages move differently than corporate loans over the business cycle. Exploring any differential patterns and determinants of either total or corporate loans also enable us to better understand banks' lending strategies and their potential impact on the real economy.

We also examine a large number of hypotheses together, to take into account that banks' business model has changed over time, leading for instance to a more intensive use of market funding sourcesand to a different role played by bank deposit than traditionally predicted by former analyses.

In considering the impact on lending of bank exposure to sovereigns, our study also contributes to the recent literature that has emerged since the Euro sovereign crisis (see, among the others, Altavilla et al. 2016).

Overall, understanding how adverse financial impulses are transmitted through the banking system in period of stress and immediately after a downturn, has of course relevant policy implications. Our findings may suggest which policy and regulatory responses could be relatively most effective in sustaining credit, e.g. improving liquidity, as opposed to bank recapitisation, and which actions have to prometed, e.g. the creation of a truly single (not fragmented) capitals market to replace bank lending when reduced supply of loans would disrupt the economic growth (EC 2015).

[2]We are aware of a few studies in the bank lending channel stream with a wide international geographical scope. Gennaioli et al. (2014) analyse an international sample of banks from 191 countries. Ongena et al. 2015 focus on Eastern Europe and Turkey. Cull and Peria (2012) look at Latin American and Eastern Europe institutions. As in our analysis, Gambacorta and Marques-Ibanez (2011) focus on European and US banks, although they assess the strength of the bank lending channel only during the global financial crisis.

The structure of the paper is as follows. In section 2 we develop our hypotheses in light of the main related literature. In section 3 we describe the data, highlight the cross-sectional and time series variation present in our bank-level data, and present some stylized aggregate facts. In Section 4 we present the methodology. Section 5 discusses our core results and Section 6 concludes.

2. Related literature and hypothesis development

The main background of our analysis is the bank lending channel framework. First studies in this area emphasized the potential amplification effects that may be generated by the banking sector primarily through the impact that monetary policy imparts on loan supply to bank-dependent borrowers (Bernanke and Blinder 1992). Over time, changes in bank business models and regulation have challenged the validity of the traditional bank lending channel view under several respects (Gambacorta and Marques-Ibanez 2011). On the other hand, recent crises have reinforced the idea that banks can act either as absorbers or amplifiers of financial shocks, depending on the strength of their balance-sheets (Dysiatat 2010). In formulating our hypotheses, we rely on the traditional framework, revisited in light of such institutional changes and the recent crises.

2.1 The traditional bank lending channel

The preconditions for a 'bank lending channel' to be at work are (1) the existence of bank-dependent borrowers, and (2) that monetary policy changes have a direct impact on loans granted by banks whose liabilities are largely made of reservable deposits. In this context, bank size, liquidity, and capital, are the characteristics which are first found to amplify the response of bank loans to monetary shocks. All of them are expected to be positively correlated with bank loans. Size is considered a proxy for banks' ability to raise external funds other than (insured) deposits. The idea is that smaller banks are least likely to be able to frictionlessly raise uninsured deposits. Liquidityserves as a buffer enabling banks to shield lending against shocks in the availability of external finance, by drawing on their stock of liquid assets. Bank capital's role in absorbing shocks makes it an indicator of bank health and, therefore, a measure of bank's ability to raise alternative external finance during contractionary policy periods. The combination of such factors can reinforce the bank lending channel. Kashyap and Stein (2000) show that when a smaller bank is also illiquid the bank lending channel appears to be strengthened. Kishan and Opiela (2000) argue that small and poorly capitalized banks (in terms of leverage ratio) reduce their loan supply more

than larger and well capitalized banks after a monetary contraction, due to their limited ability to tap uninsured sources of funds.

2.2 The bank lending channel revised

Impact of deposits

Crisis episodes that have hit the banking system globally since summer 2007 have either modified or amplified the effect and functioning of the lending channel view. Until the global financial crisis most banks were easily able to complement deposits with alternative forms of financing (Romer and Romer 1990). As banks have become more dependent on market funding a closer connection between wholesale market's conditions and banks' ability to raise funds has emerged. Following Lehman Brothers' default in September 2008, there was a run by short-term bank creditors, making it difficult for banks to roll over their short term debt (Ivashina and Sharfenstein 2010). The 2008-09 financial crisis has emphasized the relevance played by banks' stable funding, since banks more reliant on traditional deposits continued to lend even in crisis times (Cornett et al. 2011).[3] In light of this evidence, we propose the following hypothesis.

> *H1. Contrary to the traditional bank lending channel view, we expect that banks more dependent on customer deposits (in percentage of total assets), are less vulnerable to financial shocks and thus, in bad times expand lending more (reduce lending less) than banks more reliant on short term debt.*

Impact of liquidity

The financial crisis has also reinforced the view of the relevance of asset liquidity, because banks with more illiquid assets on their balance sheets hoarded liquidity and reduced lending in crisis years more than liquid banks (Cornett et al. 2011). This is consistent with the traditional lending channel (Kashyap and Stein 2000), which assumes that banks hold markeatble securities (e.g. Government debt) as a precaution against deposit withdrawals. As a consequence, the greater the cost of external debt financing (or the volatility in the supply of demand deposits), the greater the demand for securities as an inventory of liquidity. In line with the role played by asset liquidity in the lending channel literature and consistently with the evidence emerged from the 2008-09 banking crisis we formulate the following hypothesis:

[3] In the same vein Kishan and Opiela (2012) introduce the risk-pricing channel argument. This implies that a bank that relies heavily on external funding, but whose condition is expected to suffer during contractionary policy, will face high policy-induced externalfinance premia. That is, seemingly healthy banks that are currently able to raisefunds could suddenly face high premia that force them to quickly unwind their loan portfolios.

H2 We expect that banks with a large portion of highly liquid assets (cash and due from banks over total assets; Governemnt bonds to total assets), are better able to preserve lending in crisis times.

In H2 we first use a restrictive measure of liquid assets which only includes cash and due from banks because some securities, that have proven liquid in pre-crisis years, turned into not marketable assets during crisis years.[4] We also measure bank asset liquidity as a share of Government bonds overt total assets. Government securities have been commonly considered by banks as a relevant component of their stock of highly liquid assets, because they can be cheaply and promptly converted into cash through direct sales in secondary markets or being used as collateral in interbank transactions and refinancing operations with central banks.

Impact of exposure to sovereign risk

The Euro crisis that developed since the late 2009, has posed a threat to the liquidity and solvency position of banks with a sizeable stock of sovereign debt on balance-sheet. Specifically, for banks heavily exposed to sovereign risk (i.e. those with large holdings of stressed countries' debt, namely Greece, Italy, Ireland, Portugal, and Spain) it become more costly to raise funds by issuing unsecured debt or equity (due to their increased default risk induced by a greater exposure to sovereign risk) or by using Government bonds as collateral in interbank transactions (due to the drop in value of those securities).[5] There is ample evidence from the Euro sovereign crisis that a large bank exposure to Government debt issued by stressed countries reduces lending supply and/or increase lending rates (Albertazzi et al 2012; Popov and van Horen 2014; De Marco 2016; Altavilla et al. 2016; Acharya et al. 2016). Some authors also find evidence of a crowding out effect of Government bonds when the public debt held by banks is risky (as measured by CDS spreads), at the expense of corporate lending (Becker and Ivashina 2014). This leads to the following hypothesis, in line with the recent evidence on the real effects of the Euro sovereign crisis:

[4]This is what happened during the banking crisis with asset backed securities. See Cornett et al (2011).

[5]There are several channels through which sovereign tensions are transmitted to banks. A drop in value of Government bonds may induce capital losses, which increase the bank's default risk. This in turn decreases the bank's creditworthiness. A further mechanism may operate when a bank's rating is downgraded following a downgrade in sovereign rating. In addition, sovereign tensions can affect entrepreneurial confidence and household wealth, which in turn may influence demand and quality of bank credit, and therefore composition and risk of banks' assets. On the channels of transmission of sovereign risk to the banking sectors see among the others Altavilla et al. 2016 and Albertazzi et al. 2013.

H3 We therefore expect that banks from Euro-Periphery countries with larger exposure to domestic Government bonds (over total asset) reduce their lending more (increase their lending less) during the Euro sovereign crisis years, relative to banks less exposed to sovereign risk.[6]

Impact of capital

Bank capital also matter in the propagation of shocks to the bank credit supply. According to the traditional lending channel view (Kishan and Opiela 2000; Gambacorta and Mistrulli 2004) bank capital increases the capacity to raise uninsured forms of debt and therefore banks' ability to limit the effect of a drop in deposits on lending. Specifically, the level of bank capital influence external ratings and provides investors with a signal about the issuer's creditworthiness. Hence, the cost of debt would be higher for riskier issuers, i.e. low-capitalized banks. For the "bank capital channel" to be at work, it is not necessary that capital requirements are actually binding: even if capital holdings are greater than regulatory capital requirements, it might be still optimal for (relatively) low-capitalized banks to forgo lending opportunities *now* in order to lower the risk of capital inadequacy in the *future* (Gambacorta and Mistrulli 2004). Bank capitalization may also influence the way the loan supply reacts to output shocks if banks' profits, and thus banks' capital accumulation, depend on the business cycle. In this case, output shocks affect banks' capacity to lend if the market for equity is not frictionless and banks have to meet regulatory capital requirements. Other things being equal, well capitalized banks are in a better position, with respect to less-capitalized banks, to absorb output shocks, as it occurs in recession years. Recent evidence from the crisis (Popov and Udell 2010; Jiménez et al. 2011; Kapan and Minoiu 2013) confirms the positive impact of capitalisation on banks' ability to grant lending in crisis years. We therefore elaborate the following hypothesis:

> *H4. We overall expect well capitalized banks to reduce their lending less (increase their lending more) in crisis years, relative to lesscapitalized banks.*

The effectiveness of bank capital in shielding lending in crisis years may depend on the variable used to measure bank capitalisation (Kapan and Minoiu 2013). In principle, with

[6]We are unable to measure banks' exposure to more stressed countries directly, because our main source of data (i.e., BANKSCOPE) does not report the nationality of public bonds. Nevertheless, our measure is a plausible proxy for the domestic public bonds held by banks in our sample, as shown in Gennaioli et al. (2014).

binding capital requirements based on apure leverage ratio, when a capital shock occurs banks may react by selling securities and shrinking their asset base.This introduces a second reason for banks (besides the liquidity motivation) to hold securities,which may also serve as a buffer against capital shocks to preserve minimum capital ratios. In contrast, with binding *risk-based* capital standards (e.g. the Tier 1 ratio), securities can no longer buffer loan growth from capital shocks: since (most) Government securities have a zero risk weight, liquidating securities does not free up capital to fund loans.In the years that preceded the banking crisis many banks increased their actual leverage while maintaining or improving their risk-based capital ratios (Le Leslè and Avranova 2012). This is possible because, for example, banks are able to take on risk by expanding in certain areas where capital charges are lower (Gambacorta and Marques-Ibanez 2011). In crisis years, when issuing new equity is more costly, this may leadbanks to allocate resources by replacing riskier assets which absorbe more regulatory capital (such as loans to corporates) with less risky assets.[7]

Impact of size

Size is a powerful driver in the empirical banking literature and, particularly, in bank lending channel studies. Indeed, size may explain several relevant aspects of bank business model, primarily funding and lending strategies.[8]In the traditional bank lending channel view, bank size is a proxy for banks' ability to access external source of funds. During a monetary policy tightening, smaller banks (particularly those illiquid and poorly capitalised) may find it difficult to bypass a deposit shock and preserve lending by raising new funds (Kashypan and Stein 2000; Kashian and Opiela 2000). Generally, large banks seem to be more insulated from adverse shocks, for example because of greater diversification possibilities or because the "too-big-to-fail" paradigm may apply. Therefore big banks should be less prone to reducing their credit portfolio in the event of a crisis (Gambacorta and Marques-Ibanez 2011; Jiménez et al. 2014; Popov and van Horen 2013). On the other hand, the business model of smaller banks tend to be more relationship based. If ties to clients do matter, smaller banks in crisis years might be less prone to curtail lending to corporates than larger banks (Petersen and Rajan 1994; Berger and Udell 1995). Also, smaller banks tend to adopt the standardized approach, rather than the internal rating based

[7]Therefore, the setting up of risk-based capital requirements can lead to a reallocation from loans to securities (Berger and Udell 1994).

[8]For example, Kashyap and Stein (2000), in assessing the impact of monetary policy on a large 20- year panel of US commercial banks, find that their results are largely driven by smaller banks (those in the bottom 95 percent of the size distribution).

approach (IRB), to measure risk weights and regulatory capital requirements. Such an aspect may affect lending in bad times because internal ratings (which are mainly used by large banks, especially in Europe) are pro-cyclical, i.e. risk weights and capital charges are more sensitive to the cycle and tend to increase in recession (Bruno et al. 2016; Behn et al. 2015). Hence, to reduce their capital burden IRB banks may want to reduce lending in crisis years by more than banks under the traditional approach with fixed risk weights. Consistently with the ambiguous role played by size we formulate the following hypothesis:

> *H6. We expect size (log of Total Assets) to have an impact on bank lending, whose direction is however hard to predict ex ante.*

Impact of ownership structure

The ownership structure, in a globalized banking sector, has prompted questions on whether global banks absorb or propagate financial shocks and, precisely, whether differential lending patterns emerge between domestic versus foreign banks (Popov and Udell 2010; Classens and van Horen 2012; Cull and Pería 2013). Some evidence, in particular, suggest that banks sharply reduce lending to their overseas customer in favor of domestic clients (Peek and Rosengren 1997; Cetorelli and Goldberg 2011). Reliance on non-traditional source of funding and globalization point towards the same narrative, since a source of propagation of the global financial crisis derives from international wholesale funding markets (Cull and Pería 2013; Ongena et al. 2015) and capital constraints (Popov and Udell 2010). On the other hand, findings from the Euro sovereign crisis show that domestic banks in fiscally weak countries tightened credit more than foreign banks operating in the same country (Bofondi et al. 2013).

The banking crisis followed a period in which the globalization of the financial system increased substantially. Many banks expanded their operations in the international wholesale markets and /or increased their presence abroad through foreign branches and subsidiaries. Both the financial and the Euro sovereign crises reignited the debate on the ownership structure of the banking sector and the mechanism of transmission of financial distress in global banking (Cull and Peria 2012; Ongena et al. 2015; Ivashina et al 2015). Popov and Udell (2010), for example, find strong evidence for the international transmission of financial distress in foreign bank dominated markets, in presence of weak (low capitalized) foreign banks. Other contributions suggest that banks sharply reduce lending to their overseas customer in favor of domestic clients (Peek and Rosengren 1997; Cetorelli and Goldberg 2011). Evidence is however mixed, since sound foreign banks from unstressed countries

seem to reduce lending less than domestic banks in countries more affected by the Euro sovereign crisis (Bofondi et al.2013). We then formulate the following hypothesis about bank ownership:

> *H7. We expect that bank ownership (proxied by the dummy foreigned owned) matters in explaining differences in lending behavior in crisis years. The way a foreign owned bank reacts to the crisis (relative to domestic banks) in terms of lending behavior is unclear and may depend on bank specific characteristics of the parent company (e.g. the home country of the foreign owner or the soundness of the parent company).*

1. Data

a. Sources and sample characteristics

We obtain bank-level data from Bureau van Dijks BANKSCOPE which provides balance sheet information on a broad range of bank characteristics. We rely on consolidated data between 2005 and 2014 and we build a dataset that includes bank characteristics and macroeconomic indicators for a sample of 132 large European and US banks. Our original sample is comprised of all banks from Euro countries under the Single Supervisory Mechanism (SSM), European banks from non-Euro area countries that participated in the EBA EU-wide stress test in 2014, and US bank holding companies (BHC) that participated in the 2015 FED stress test. We exclude from our analysis countries that adopted Euro after 2004 (Cyprus, Latvia, Malta and Slovenia).

To filtering out financial institutions that are not technically banks, we excluded from the original sample banks with a gross loans to total assets ratio lower than 10%. To the same purpose, we also excluded manually institutions whose main activity is not making loans to individuals and businesses.[9] Then, to minimize the influence of outliers, we winsorize all variables in the top one percent and bottom one percent of the asset growth series and of our main dependent and explanatory variables (i.e. gross loans, corporate loans, equity/TA).

Next, to address the issue of double counting, we dropped those banks which are subsidiaries of parent companies in the original sample (e.g. we excluded HSBC France and we kept the parent company HSBC holding, UK). The final sample is composed of 132 banks:

- 94 banks from Euro area countries which are under the SSM, i.e. those banks belonging to the list of significant supervisory institutions according to the ECB (cut-off date of the list:

[9] We therefore dropped the Austrian firm Immigon Portfolioabbau AG which takes care of the orderly disposition of VBAG bank, the Dutch BNG which does not provide financing to private customers, but exclusively to (semi-)public organizations, such as municipalities and provinces; RBC Investor Services Bank S.A. in Luxembourg which mainly provides administration and custody services, and the Slovene Export and Development Bank.

15 August 2015).[10] We classify Euro area countries into "Core" (Austria, Belgium, Finland, France, Germany, Luxembourg, and Netherlands), and "Peripheral" (Greece, Ireland, Italy, Portugal, and Spain);

- 14 European banks from non-Euro area countries (UK, Denmark and Sweden) that participated in the EU-wide stress test led by the EBA in 2014.
- 24 US banks that participated in the 2015 stress test led by the Federal Reserve. The FED carries out an annual assessment of whether BHC with $50 billion or more in total consolidated assets "have effective capital planning processes and sufficient capital to absorb losses during stressful conditions, while meeting obligations to creditors and counterparties and continuing to serve as credit intermediaries".[11]

To retrieve ownership information that are not present in Bankscope, we identify our banks in the comprehensive world-wide bank-ownership database compiled by Claessens and van Horen (2014). The database provides panel information on bank ownership (domestic or foreign owned) for virtually all banks in the world and, therefore, is very useful for our purpose, in order to investigate the response to the crisis of different owned banks. Following Ongena et al (2015), we take the ownership in 2007 to categorize a bank as being domestic or foreign owned. Foreign owned implies that foreigners hold more than 50 percent of the shares of the bank. Of the 132 banks in our sample we match ownership information for 75 banks. Among these 75 banks, 11 banks are majority-owned by foreigners and are referred to as *Foreign Banks*.

Table 1 contains the list of banks in our sample by country. For each bank we report the average values between 2005 and 2014 of total assets, and gross loans and customer deposits as percentage of total assets. The table shows that banks in our sample are sufficiently heterogeneous as for the three overmentioned variables, which enables us to define treatment and control groups within each country. The largest banks (with total assets over USD 2 trillion) are located in France, Germany, UK, and the US. In terms of prevalent business model, in all countries banks with a major focus on

[10] According to the ECB, a credit institution will be considered significant if any one of the following conditions is met: the total value of its assets exceeds €30 billion or – unless the total value of its assets is below €5 billion – exceeds 20% of national GDP; it is one of the three most significant credit institutions established in a Member State; it is a recipient of direct assistance from the European Stability Mechanism; the total value of its assets exceeds €5 billion and the ratio of its cross-border assets/liabilities in more than one other participating Member State to its total assets/liabilities is above 20%.

[11] This annual assessment includes two related programs: the Comprehensive Capital Analysis and Review (CCAR) evaluates a BHC's capital adequacy, capital adequacy process, and its planned capital distributions, such as dividend payments and common stock repurchases; and the Dodd-Frank Act supervisory stress testing, which is a forward-looking quantitative evaluation of the impact of stressful economic and financial market conditions on BHC capital.

commercial banking compete with banks with a more limited focuns on the traditional banking business.

Table 2 provides the distribution of banks by bank type (according the definition provided by Bankscope) and by country. All US banks in our sample are bank holding companies. In Europe, banks are mainly labeled as commercial banks (44% of European banks by total assets), cooperative banks (18%), bank holding companies (15%), and savings banks (9%).[12] Finally, Table 3 presents the sample representativeness in terms of total assets for Euro (area panel A) and US banks (panel B). We compare total assets of Euro area and US banks in our sample to total Euro and US banking assets according to ECB and FED statistics, by year. Banks in our sample hold on average more than 80% of total banking assets,in both geographical areas. Figures 1 to 3 show the trend of our main lending variables for the whole sample over 2005-2014. Similarly to aggregate statistics, loan growth rate has reduced to negative level in 2008 (Figure 1); such a drop has been more relevant for the sub-category of loans to corporate. There are sign of recovery in post crisis years (2013-2014). Nonetheless, lending growth rates of both total and coporate loans have remained lower than the pre-crisis level. Looking at volumes (Figure 2), total lending seem to be relatively stable over 2008-2012, while loans to corporates have dropped consistently. Finally, there is evidence of a composition effect (Figure 3): banks have only partly shrinked their loan portfolio as a percentage of total assets during the crisis years. Instead, within the loan portfolio, the amont of resources allocated to corporates, in percentage of total assets, has remarkably reduced (from an average of 30 % in pre-crisis years to about 20% in 2014).

b. Summary statistics

In Table 4 we report summary statistics between 2005 and 2014 of the main variables used in the empirical analysis. Panel A reports statistics on European banks, Panel B on US banks, Panel C on banks from Euro area countries, and Panel D on banks in Euro-Periphery countries.

[12]The remaning banks are classified as specialized governmental credit institutions (8%), finance companies (2%), investment and trust corporations (3), and real estate and mortgage banks (1%).

Banks in our sample are on average large (about USD 400 billion of total assets in both Europe and the US). Within Europe, the average bank is smaller in the Euro area and, particularly, in Euro-Periphery countries (about USD 250 billion and USD 160 billion of total assets, respectively). Bank assets have increased on average in all geographical areas; banks from the US and the Euro-Periphery have grown at a similar average rate (5.5% and 4.9%, respectively).[13]

Focusing on the lending business, there are no striking differences as for the average total loan growth rate, that, on average, has been positive and has mirrored the bank asset growth rate in all areas. Interestingly, in all areas corporate loans have grown at a slower pace than the whole loan portfolio. The average corporate loan growth rate has been in fact nearly 3%, with the highest value in the Euro-Periphery and the lowest rate in the US (3.7% and 2.5%, respectively).

Interestingly, there are no striking difference between US and European banks as for the relevance of the lending business. Lending seems to be the prevalent business for the average bank in all areas, accounting for more than half of bank total assets. The largest share of loans, as a percentage of total assets (nearly 70%), is held by Euro-Periphery banks. Focusing on the composition of the loan portfolio, US banks tend to allocate relatively less resources to corporates (39% of total loans), compared to the average European banks (44% of total loans). This is not surprisingly in light of the fact that US firms are traditionally less bank dependent than European corporates. The loan portfolio quality is on average much lower in European vis a vis US banks, a probable effect of the more prolonged downturn in Europe (Beck et al. 2013). The average share of impaired loans to gross loans is in fact around 6% for European banks and less than 2% for US institutions. The ratio is on average higher (9%) in banks from stressed countries which have suffered most during the Euro sovereign crisis. The topic of NPL is currently under scrutiny by policy makers in many European countries; in Italy and other Periphery countries, for example, it represents a heavy burden for the entire banking sector (European Parliament 2016).

Focusing on funding strategies, US banks in our sample are on average more relying on traditional deposits relative to European banks. The customer deposits to total asset ratio is in fact around 64% for former banks and less than 40% for the latter. Looking at liquidity and capitalisation, US banks seem to be, on average, in a better position as for both indicators of balance sheet strength.

We consider two indicators of bank liquidity: a narrow indicator given by the ratio of cash and due from banks to total assets and a broader one. i.e. the ratio of Government bonds to total assets. Public bonds are very liquid assets that play a crucial role in banks' everyday activities, like storing funds, posting collateral, or maintaining a cushion of safe assets (Gennaioli et al. 2014; Bofondi et

[13]In particular, the bank is Hypo Real Estate Holding AG in Germany that showed a negative growth rate every year since 2007 and registered the minimum of - 47,95%.

al. 2013, Altavilla et al. 2016). US banks show average larger exposure to Government bonds (10%) relative to European banks (roughly 7%), while the average amount of cash and due from banks, as a percentage of total assets, is similar (on average around 2%) in all geographical areas.

As for capitalisation, US banks record a equity to total asset ratio that is almost double the level of the ratio in European banks (10% and 5.5%, respectively). Interestingly, the gap reduces remarkably when we focus on a risk-weighted capital ratio, i.e. the Tier 1 ratio, which is in all areas well above the minimum requirements set by Basel III.[14] Such an evidence may be the result of the different prevalent model in measuring risk weights adopted in European relative to US banks. Notoriously, large European banks tend to use internal rating models more extensively than their US peers (Le Leslé and Avramova, 2012). Since 2004, a growing number of banks have opted for the internal-ratings based ("IRB") approach in Europe. Many of them have achieved substantial benefits in terms of lower capital consumption, compared to the standardized approach based on agency ratings(Le Leslé and Avramova 2012).[15] Finally, only a small percentage of banks (less than 10%) is foreign owned, with the highest value registered in the US and the lowest in the Euro-Periphery.[16]

Table 5 and 6 show a dynamic picture of the banking sector over 2005-2014, by bank size. We split the sample in three percentiles based on the level of total assets (below 25%, 25 to 75%, top 75%) and three different periods. The years 2005-2007 represent the pre-crisis period, 2008-2012 the two crises years, and 2013-2014 the post crisis period. Table 5 shows the evolution of our main dependent variables, i.e. total assets, gross loans and corporate loans. Table 6 records the evolution of our main independent variables.

Table 5 shows that the growth rate of both total assets and gross loans have overall reduced in 2013-2014 compared to the pre crisis period, regardless of bank size. Signals of a recovery in the post-crisis period are only evident for US banks that have expanded the size of their balance sheet and that of the lending portfolio in 2013-2014, although at a lower pace than in the pre-crisis years. In terms of incidence to total assets, US banks have however reduced the amount of resources allocated to lending (especially to corporate loans). The contraction of the gross loan to total asset ratio is more remarkable for largest banks (nearly -20% between 2005-2014), while smallest bansk are those who reduced the allocation to business loans by more (- 5%).

[14]The minimum Tier 1 ratio is 6%. The required amount comprehensive of the capital conservation buffer is 8.5%.

[15]This has contributed to the distrust towards IRB models, and investors have started to look at "RWA tweaking" as a suspicious practice (Bruno et al. 2016). The 2007-2009 Great Financial Crisis has reinforced the belief that RWAs may have helped banks disguise a rising credit bubble by keeping their stated capital ratios artificially high. Capital-constrained banks may use the IRB approach strategically to improve the capital ratios

[16]We define a bank as foreign owned if in 2007 more than 50% of the bank's shares were owned by foreigners.

Both bank assets and loan growth rates in European banks have dropped during the financial and Euro sovereign crises, becoming negative in the post-crisis years. The incidence of the loan portfolio over total assets has not changed significantly, while instead there has been a remarkable contraction of coporate loans as a percentage of total assets.

To gain further insights on banks' characteristics in our sample, Table 6 shows the average composition, and its evolution over 2005-2014, of European and US bank assets and liabilities. Three main facts emerge. First, European banks have dramatically increased their exposure to sovereigns. Such an increase has been more accentuated in small and medium sized banks from the Euro-Periphery. Interestingly, also largest US banks have incremented their public bond holdings significantly (+8 percentage points), which suggests that a reallocation from gross loans (-9 percentage points, see Table 5) to sovereigns, in percentage of total assets, has taken place. Second, the amount of bank assets financed through deposits has increased across geographies, probably as an effect of a switch from sources of funding (i.e. wholesale funds) that have proven instable during the banking crisis. Third, both US and European banks have improved their capital position. Interestingly, as a distintictive feature, US banks tend to hold higher non-risk weighted capital ratios, compared to European banks. The opposite is true if we look at the Tier 1 ratio, that is generally higher in European insitutions, as an effect of lower risk weighted asset densities (i.e. RWA / Total assets). Fourth, the loan portfolio quality of European banks has deteriorated over time, regardess of their size, as shown by the dramatic rise of impaired loans in percentage of total loans. Such a phenomenon seems to be driven by Euro-Periphery banks, that at the end of the period hold the highest percentage of impaired loant to total loans (on average 17% *vis-à-vis* the European banks' average of nearly 10%)

3. Empirical strategy

To investigate the main drivers of bank lending in crisis years we split our sample period period into the 2008-2009 banking crisis, the Euro Sovereign debt crisis (2010-2012), and Post crisis years (2013-2014).The identification of the crisis period has been challenging, since there is no consensus among academics and policy makers on the date of start and end of sub-prime and Euro sovereign crises. Some commentators date the start of the sub-prime financial crisis in August 2007, when the French bank BNP Paribas froze redemptions for three investments funds (see among the others Bonaccorsi and Sette, 2012). This event was seen as the starting point of a period of instability in the interbank market both in Europe and US. A commonly acknowledged trigger

event was, of course, Lehman Brothers failure, in September 2008 (Ivashina and Sharfstein, 2010). In Laeven and Valencia (2013), on the basis of various criteria, the start date of the recent banking crisis for US and UK is 2007, while for all other European countries is 2008. The beginning and the duration of the Euro sovereign crisis is also debated. In December 2009 Greece saw its credit ratings downgraded to the lowest level in the eurozone on Tuesday as fears mounted over its deteriorating public finances. However, the first half of 2010 is commonly considered as the starting date of the Euro sovereign crisis, when Greece financial weakness became public and ECB and IMF agreed a first bail-out package to rescue the country. During 2010, the contagion spread out to other Euro-countries (namely Ireland) and further bail-out measures were agreed by EU and IMF. Portugal agreed on a bail-out on May 2011, and Spain and Italy never became "program countries" but rather saw gradual deterioration of their Government bond yields (Popov and van Horen 2013). For example, the deterioration of Greek economic conditions triggered contagion to Italy only in June 2011, when spreads on Italian sovereign debt rose abruptly (Bofondi et al. 2013). Using a more restrictive criterion, Laven and Valencia (2013) date the start of the sovereign crisis by looking at the year of the sovereign default to private investors and the year of debt rescheduling.[17]

Our main interest is in whether banks that enter crisis periods with certain characteristics respond differently to the crisis shock, and exit the crisis period, in terms of lending growth, volumes and composition. The identification strategy is a differences-in-differences (DiD) with multiple treatment variables defined over the pre-crisis period (2005-2007) as time-invariant dummies indicating whether a bank is in the top half of the sample in terms of a certain characteristic (e.g. *Size*). Our strategy is similar to that implemented by Popov and van Horen (2015). Specifically, we compute the cross-sectional median of several balance sheet measures within each country, across all banks in the pre-crisis period. We define "treated" a bank that is above the median at least in one of the pre-crisis years.[18] This should enable us to deal with the endogeneity issue, since we assume that the probability that a bank is above or below the p50 in the pre-crisis period is not affected by the "crisis shock" and by the way crisis influence lending pattern after 2007. We estimate the following specification:

[17]These criteria yield to only a single recent episode of sovereign debt crisis in the Euro area, i.e. Greece in 2012.

[18]We test whether ourresults are affected by alternative definition of treatments, by adding time-varying control variables, and by using an alternative measure of Capitalisation (Tier 1 ratio instead of Equity to Total Asset ratio). We first consider estimates from a regression where treatment variables are continuous instead of dummies. These tests confirm that our main result does not depend on how we choose treatment variables, and are robust to several controls. Estimates from robust tests are available upon request.

$$Y_{bct} = \boldsymbol{BankingCrisis_t}(\beta_1 Size_{bc} + \beta_2 Sovereign_{bc} + \beta_3 Deposits_{bc} + \beta_4 Liquidity_{bc} + \beta_5 Equity_{bc} + \beta_6 ForeignOwned_{bc}) + \boldsymbol{SovCrisis_t}(\gamma_1 Size_{bc} + \gamma_2 Sovereign_{bc} + \gamma_3 Deposits_{bc} + \gamma_4 Liquidity_{bc} + \gamma_5 Equity_{bc} + \gamma_6 ForeignOwned_{bc}) + \boldsymbol{Post2012_t}(\theta_1 Size_{bc} + \theta_2 Sovereign_{bc} + \theta_3 Deposits_{bc} + \theta_4 Liquidity_{bc} + \theta_5 Equity_{bc} + \theta_6 ForeignOwned_{bc}) + \vartheta ImpLoans_{bct-1} + \delta_b + \lambda_t + \mu_{ct} + \varepsilon_{bct} \quad (1)$$

where Y_{bct} is the dependent variable and represents, for a bank b in country c, the annual growth rate of gross (corporate) loans, the percentage of gross (corporate) loans over total assets, or the nominal level of gross (corporate) loans in local currency expressed in logarithm, in year *t*.
We measure the impact of the crisis on bank lending by looking at three different indicators. We first want to understand whether and the extent to which the financial and the Euro sovereign crisis let to a credit crunch, i.e. an actual reduction of banks loans supplied, relative to the "normal" supply estimated from a control period. Alternatively, banks may react to the crisis by slowing-down the credit supply. We assess bank lending behavior in crisis years by considering both the lending volume and a measure of loan growth rate. We also ask whether credit tightening is a consequence of bank deleveraging (as expected during crisis years), or alternatively whether banks reduce (slow down) loan supply to a greater extent than they shrink their assets. To assess this composition effect in crisis and post-crisis years we look at the loan over total asset ratio.

The dummy variable *Size* is defined at bank level before 2008 and it is time-invariant over 2005-2014. Specifically, it equals one if the logarithm of total assets of bank b is above the median at least in one year between 2005 and 2007. We follow the same strategy for the identification of the dummies *Sovereign*, *Deposits*, *Liquidity*, and *Equity.* These variables equal one if respectively government bonds, customer deposits, cash and due from banks, and equity as percentage of total assets exceed the p50 in at least one year before 2008. The dummy variable *ForeignOwned* equals one if the bank was foreign-owned in 2007 and equals zero otherwise. We implement the identification strategy within each country in order to have a representative number of banks from different geographical areas in both treated and control groups. We include bank fixed effects (δ_b), time fixed effects (λ_t), and country-year fixed effects (θ_{ct}). In all specifications we account for changes in bank portfolio quality, by controlling for the ratio of impaired loans to gross loans. The time dummy *BankingCrisis* equals one in 2008 and 2009, zero otherwise. It is common to all countries, our country-year specific time dummies captures differences in time-varying macro factors that are country specific. The *SovCrisis* is an indicator time dummy for the years 2010, 2011

and 2012. The *PostCrisis* dummy equals one in years 2013 and 2014, zero otherwise. All variables are winsorized at1^{st} and 99^{st} percentile to mitigate the impact of possible outliers on the estimates. All regressions include a constant. The model is estimated using OLS and standard errors are clustered at bank level according to Bertrand et al. (2002). The inclusion of country-year fixed effects allows us to deal with differences in the timing and in the intensity of the two crises between countries. This specification thus differences out country-specific shocks, business cycle effects and banks fixed-effects. Any systematic difference between "treated" and "non-treated" banks in terms of our several treatment dummies is attributable to the "treatment" (e.g. difference in *Size*).

Our coefficients of interest β_j, γ_j, θ_j (j=1,…6) capture the change in lending outcomes, from the pre-treatment to BankingCrisis, SovCrisis, and Post2012 years, for the treatment group (affected banks in terms of different bank characteristics) relative to a control group (non-affected banks). The key identifying assumption here is that trends in the dependent variables would be the same both in treated and controls in the absence of treatment, and the treatment induces a deviation from this common trend. Although the treatment and control banks can differ in levels, this difference is full captured when we include bank-fixed effects.

We estimate different versions of equation (1) for banks operating in Europe, and, separately, in US. Then we run the same regression within Euro countries and in Periphery countries only.

In the next section we present the main results from our empirical strategy.

2. Main Results

Tables 8 to 13 present the results of the main regressions. Overall, we find some evidence of the existence of a bank lending channel (although not confirmed in all specifications), which appear to be stronger in Europe and when we focus on corporate lending. We also find some discrepancies between European and US banks as for the main bank characteristics affecting the lending channel.

Tables 8 and 9 show the results of estimating equation (1) for the logarithm of gross and corporate loans, respectively, for banks in Europe (column 1), in the US (column 2), in the Euro area (column 3), and in Euro-Periphery countries (column 4). In Europe (particularly in the Euro area), lending in crisis years is better shielded in smaller banks, as well as in those more capitalized (H4) and more relying on deposits (H1); in the US the most powerful driver of lending seems to be asset liquidity (H2). The bank lending channel is reinforced when we focus on corporate loans by European banks. Table 9 shows that, in line with our predictions, capitalization and liquidity play a positive role on corporate lending only in banks from the Euro-Periphery, while the opposite is true in the larger

sample of Euro-area banks. Larger exposure to sovereigns in Euro-peryphery banks seems also to have a beneficial effect on corporate loan volumes. Consistently to our prediction (H7), ownership structure (as measured by the foreign owned dummy) is a persistent and powerful driver of bank lending in all Europe. In particular, we find that a foreign ownership weakens bank lending, the more so if banks are located in stressed countries. Such an evidence confirms that the European banking system is actually fragmented and points to the stability implication of cross-border lending. Contrary to our expectations, we also find that Euro-peryphery banks more relying on deposits contract corporate lending more, relative to banks with a less traditional funding base.

These results on the main drivers of corporate lending in Euro-Periphery banks are confirmed when we focus on the corporate loan to total asset variable (Table 13, column 4). Looking at US banks (column 2), some of the bank characteristics that have proven ineffective in previous analysises are now significant. Consistently to the extant literature on the traditional bank lending channel (Kashyap and Stein 2000), size and reliance on deposits are positively related to corporate loan to total assets ratio. On the contrary, liquidity and capitalization do not shield corporate lending in the US, being both variables negatively correlated to the corporate to total asset ratio. Interestingly, the persistent and negative nexus between the foreign ownership dummy and the incidence of corporate loans over total assets is confermed for all banks, independently of their location. This result confirms previous evidence on the negative impact of foreign banks on lending during the banking crisis (Cull and Peria 2013) and the sovereign crisis (Popov and van Horen 2015).

3. Conclusions

This work present a comprehensive analysis of main drivers of bank lending in Europe and the US over 2008-2014. We examine how bank lending has changed in the 2008-12 crisis years and in the 2013-14 post crisis years, from the 2005-07 pre-crisis period and how these changes have been influenced by bank specific key variables. Both crises have reminded us of the crucial role performed by banks in supplying lending to the economy, especially in a situation of serious distress.

Our analyis confirms the existence of a bank lending channel, that is stronger in Europe than in the US and especially if we look at corporate loans rather than at the whole loan portfolio. We also find interesting differences across regions and over time as for the way banks adjust lending.

We uncover that the main bank characteristics affecting lending, as emerged in previous studies, are size, capitalisation, liquidity, and ownership, and to a lower extent reliance on deposits and exposures to Government bonds. Some of these factors have indeed shielded bank lending as predicted, but results are not always in the expected direction and are not confirmed in all specifications. Our findings point to the existence of a revised version of the traditional bank lending channel, where new powerful drivers of bank lending may emerge (e.g. bank ownership structure), suggesting that further and more comprehensive analysis is needed.

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Table 1: List of sample banks, by country

The Table reports for each bank in our sample the average Total Assets, Gross Loans, and Deposits/Total Assets ratio between 2005 and 2014.

Country	Bank Name	Total Assets (USD/billion)	Gross Loans (% Total Assets)	Customer Deposits (% Total Assets)
Austria	VTB Bank (Austria) AG	11,4	45	20,2
Austria	Sberbank Europe AG	15,6	72	45,2
Austria	Raiffeisenlandesbank Niederösterreich-Wien AG	35,6	34,4	25,4
Austria	Raiffeisen-Holding Niederösterreich-Wien reg.Gen.mbH	40	31,2	22,4
Austria	Raiffeisenlandesbank Oberösterreich AG	45,6	53,4	26,2
Austria	Bank für Arbeit und Wirtschaft und Österreichische Postsparkasse Aktiengesellschaft-BAWAG P.S.K. AG	57	54,6	54,4
Austria	Raiffeisen Zentralbank Oesterreich AG - RZB	184,6	54	42,4
Austria	Erste Group Bank AG	262,8	61	55,2
Belgium	Banque Degroof SA-Bank Degroof NV	8	34,8	75,4
Belgium	Argenta Spaarbank-ASPA	42,2	62,2	69
Belgium	Investar SA-Investeringsmaatschappij Argenta NV	43	52	71,2
Belgium	Belfius Banque SA/NV-Belfius Bank SA/NV	312,8	38,8	28,6
Belgium	KBC Groep NV/ KBC Groupe SA-KBC Group	406,2	47	44,8
Belgium	Dexia SA	634,4	49,8	13
Denmark	Sydbank A/S	25,4	56	45,2
Denmark	Nykredit Bank A/S	33,6	30,4	25,6
Denmark	Jyske Bank A/S (Group)	40,6	55	45,2
Denmark	Danske Bank A/S	574	55,2	25
Finland	Danske Bank Plc	36,8	74	51,6
Finland	OP-Pohjola Group-OP Osuuskunta	109,4	66,8	48,2
Finland	Nordea Bank Finland Plc	334,2	33,2	22,4
France	RCI Banque SA	35,4	92,2	12
France	La Banque Postale	221,8	24,2	80,8
France	Fédération du Crédit Mutuel	590	50,4	36,4
France	Société Générale SA	1484	31,8	25,2
France	BPCE Group	1499,4	49,2	34,8
France	Crédit Agricole S.A.	2005,6	21,6	29
France	BNP Paribas SA	2395,8	31	25
Germany	IKB Deutsche Industriebank AG	35,2	70,8	19,2
Germany	Münchener Hypothekenbank eG	46,4	67,2	28,4
Germany	Deutsche Apotheker- und Aerztebank eG	49,2	67,4	46,4
Germany	HASPA Finanzholding	52,8	65,6	67,2
Germany	Aareal Bank AG	55,8	60,4	23,2
Germany	SEB AG	63,2	47,4	42,4
Germany	Landeskreditbank Baden-Wuerttemberg - Förderbank-L-Bank	85,4	37,6	11,2
Germany	Volkswagen Financial Services AG	90,6	85,4	34,2
Germany	Erwerbsgesellschaft der S- Finanzgruppe mbH & Co. KG	104	46	40,8
Germany	WGZ-Bank AG Westdeutsche Genossenschafts-Zentralbank	124,4	35,8	20,8
Germany	DekaBank Deutsche Girozentrale AG	163,2	19	20,6
Germany	Landesbank Berlin AG	169,8	34,8	27,6
Germany	HSH Nordbank AG	214,8	60,4	29,8
Germany	Landesbank Hessen-Thueringen Girozentrale - HELABA	236,4	49,2	24
Germany	Norddeutsche Landesbank Girozentrale NORD/LB	294,6	48,6	25,2
Germany	Hypo Real Estate Holding AG	317,8	43,2	10,4
Germany	Bayerische Landesbank	441,8	49	28,2
Germany	Landesbank Baden-Wuerttemberg	505,2	34,4	22,8

Germany	DZ Bank AG-Deutsche Zentral-Genossenschaftsbank	548,8	28,6	21,2
Germany	Commerzbank AG	845,8	41,8	31,4
Germany	Deutsche Bank AG	2416,4	18	26,6
Greece	Piraeus Bank SA	76	72,2	53
Greece	Alpha Bank AE	82,2	77,4	55,6
Greece	Eurobank Ergasias SA	96,4	67,6	48,2
Greece	National Bank of Greece SA	134,2	65,2	61,8
Ireland	Permanent Tsb Group Holdings P.L.C	48	87	48,6
Ireland	Ulster Bank Ireland Limited	63,2	81,8	45,6
Ireland	Allied Irish Banks plc	195,8	68,8	48
Ireland	Bank of Ireland-Governor and Company of the Bank of Ireland	223,8	68,2	45,8
Italy	Banca Piccolo Credito Valtellinese-Credito Valtellinese Soc Coop	31,4	79,8	55,4
Italy	Banca Popolare di Sondrio Societa Cooperativa per Azioni	33,4	75,8	70,8
Italy	Iccrea Holding SpA	35	43,8	11,8
Italy	Veneto Banca scpa	35,4	76,2	43,6
Italy	Credito Emiliano SpA-CREDEM	38,2	63,2	44,2
Italy	Banca Popolare di Vicenza Societa cooperativa per azioni	46,4	73,4	41,4
Italy	Banca Carige SpA	47,8	61,2	36,4
Italy	Banca Popolare di Milano SCaRL	62,4	70	45,8
Italy	Banca popolare dell'Emilia Romagna	73,8	79,6	53,4
Italy	Mediobanca SpA-MEDIOBANCA - Banca di Credito Finanziario Società per Azioni	91,2	52	16,2
Italy	Unione di Banche Italiane Scpa-UBI Banca	164,6	75,8	38,8
Italy	Banco Popolare - Società Cooperativa-Banco Popolare	173,6	67,8	37,2
Italy	Banca Monte dei Paschi di Siena SpA-Gruppo Monte dei Paschi di Siena	267,4	67,6	34,4
Italy	Intesa Sanpaolo	826,4	59	33,8
Italy	UniCredit SpA	1216,6	59,8	38,6
Luxembourg	UBS (Luxembourg) SA	15	18,2	75,2
Luxembourg	Banque et Caisse d'Epargne de l'Etat Luxembourg	53,4	37,8	59,4
Netherlands	Nederlandse Waterschapsbank NV	58,6	80,6	10,8
Netherlands	SNS Reaal NV	162,2	53,6	29,4
Netherlands	ABN AMRO Group N.V.	515	70,6	52
Netherlands	Cooperatieve Centrale Raiffeisen-Boerenleenbank B.A-Rabobank Nederland	845,6	66,4	44,6
Netherlands	ING Groep NV	1600	46,4	41
Portugal	Banco BPI SA	55,6	66,4	51,6
Portugal	Novo Banco	79,4	61,2	42,6
Portugal	Banco Comercial Português, SA-Millennium bcp	117	75,8	50,4
Portugal	Caixa Geral de Depositos	146,6	66,2	55,2
Spain	Cajas Rurales Unidas Sociedad Cooperativa de Crédito	47,8	86,8	66
Spain	Unicaja Banco SA	52,2	58,2	54
Spain	Liberbank SA	56,6	72,8	55,4
Spain	Ibercaja Banco SAU	68	67,2	54,4
Spain	Bankinter SA	70,6	74,8	34,4
Spain	Banco Mare Nostrum Group	72,2	61	65,2
Spain	Abanca Corporacion Bancaria SA	77,8	58,4	52,4
Spain	Kutxabank SA	83,4	77,4	59,6
Spain	Catalunya Banc SA	87	55,6	50,2
Spain	Banco de Sabadell SA	139,8	77,4	47,8
Spain	Banco Popular Espanol SA	162	78	42
Spain	BFA Tenedora de Acciones SAU	407	59,8	38,8

Spain	Caixabank, S.A.	411	64,6	46,8
Spain	Banco Bilbao Vizcaya Argentaria SA	719,2	60	42,8
Spain	Banco Santander SA	1435	60	40
Sweden	Swedbank AB	245	68,4	29,8
Sweden	Svenska Handelsbanken	311,8	66,6	28,6
Sweden	Skandinaviska Enskilda Banken AB	330,4	49	33,6
Sweden	Nordea Bank AB (publ)	707	53,6	31,6
United Kingdom	Nationwide Building Society	292,4	82,4	68,6
United Kingdom	Standard Chartered Plc	487,6	46,8	58
United Kingdom	Lloyds Banking Group Plc	1090,6	58,6	44
United Kingdom	Royal Bank of Scotland Group Plc (The)	2043,8	41	36,2
United Kingdom	Barclays Bank Plc	2234,2	29,2	25,2
United Kingdom	HSBC Holdings Plc	2359	40,6	48,8
United States	Huntington Bancshares Inc	51,8	74	75,4
United States	Zions Bancorporation	52,2	72,4	78,6
United States	Comerica Incorporated	61,4	74,6	75,6
United States	M&T Bank Corporation	72,2	75	71,8
United States	MUFG Americas Holdings Corporation	79,8	65	75,8
United States	BMO Financial Corp	82,4	48,4	55,8
United States	Northern Trust Corporation	84	33,4	77,4
United States	KeyCorp	94	65,6	68,4
United States	Fifth Third Bancorp	117	71	71
United States	Regions Financial Corporation	125,8	65,4	72,6
United States	American Express Company	140,8	39	21
United States	Citizens Financial Group Inc.	142,8	68	68,2
United States	BB&T Corporation	156,6	66,2	68,6
United States	Ally Financial Inc	169	65,6	27,2
United States	SunTrust Banks, Inc.	179,4	71,2	70
United States	State Street Corporation	179,6	12,4	67
United States	Capital One Financial Corporation	210,8	64,4	63,4
United States	PNC Financial Services Group Inc	234,2	57,8	67,2
United States	Bank of New York Mellon Corporation	292,4	16,6	65,6
United States	US Bancorp	298,2	66,6	64,4
United States	Wells Fargo & Company	1110,2	64,2	67
United States	Citigroup Inc	1873,6	35,2	44
United States	Bank of America Corporation	1932	45,8	48,6
United States	JPMorgan Chase & Co	2005,2	32,6	48,4

Table 2:Sample description by country and bank type (in 2013)

The Table reports for each country the total amount of Total Assets, and Gross Loans by bank type in 2013.

Country	Specialization	Total Assets (USD/billion)	Gross Loans (USD billion)
AUSTRIA	Cooperative Banks	91.7	43.7
AUSTRIA	Commercial Banks	77.8	47.6
AUSTRIA	Bank Holding & Holding Companies	516.9	315.7
BELGIUM	Commercial Banks	259.2	122.6
BELGIUM	Savings Bank	40.7	28.2
BELGIUM	Bank Holding & Holding Companies	636.7	352.5
DENMARK	Commercial Banks	713.3	347.9
FINLAND	Cooperative Banks	139.3	94.6
FINLAND	Commercial Banks	457.1	185.1
FRANCE	Cooperative Banks	2796.9	820.8
FRANCE	Commercial Banks	4489.8	1496.7
FRANCE	Bank Holding & Holding Companies	1549.5	792.1
GERMANY	Bank Holding & Holding Companies	91.7	47.3
GERMANY	Specialized Governmental Credit Institution	1789.6	812.8
GERMANY	Investment Banks	33.2	19.2
GERMANY	Finance Companies (Credit Card. Factoring & Leasing)	229.4	151.7
GERMANY	Commercial Banks	3024.1	857.7
GERMANY	Cooperative Banks	704.7	253.7
GERMANY	Real Estate & Mortgage Bank	107.2	72.5
GREECE	Commercial Banks	488.5	370.4
IRELAND	Bank Holding & Holding Companies	44.1	37.5
IRELAND	Commercial Banks	385.7	287.7
ITALY	Investment Banks	96.2	45.6
ITALY	Bank Holding & Holding Companies	63.7	16.2
ITALY	Cooperative Banks	695	504.4
ITALY	Commercial Banks	2406.4	1469.9
LUXEMBOURG	Savings Bank	56.1	23.6
LUXEMBOURG	Commercial Banks	11.6	2.1
NETHERLANDS	Bank Holding & Holding Companies	1642.8	805.2
NETHERLANDS	Cooperative Banks	922.8	626
NETHERLANDS	Specialized Governmental Credit Institution	100.7	83.7
NETHERLANDS	Commercial Banks	513.1	361.3
PORTUGAL	Commercial Banks	349	234.5
PORTUGAL	Bank Holding & Holding Companies	59.1	37.1
SPAIN	Commercial Banks	1806.3	1126.2
SPAIN	Savings Bank	584.8	316.3
SPAIN	Bank Holding & Holding Companies	53.3	30.2
SWEDEN	Commercial Banks	773.6	452.4
SWEDEN	Savings Bank	284	190.1
SWEDEN	Bank Holding & Holding Companies	869.4	422.1
UK	Commercial Banks	2213.8	727.1
UK	Bank Holding & Holding Companies	6425.8	2824.9
UK	Real Estate & Mortgage Bank	316	279.3
US	Bank Holding & Holding Companies	11236.2	4953.1

Table 3: Sample representativeness

The table provides sample representativeness for our sample of Euro (Panel A)and US banks (Panel B). The table shows the total amount of total assets of our sample banks (column 1) compared to those reported in the BSI and FED statistics (columns 2) between 2005 and 2012. Column 3 reports our sample's main assets as percentage of the same variables in the consolidated data reported in the BSI statistics of the ECB and in the FED statistics for large commercial banks in US.

A: Euro area

Year	Total Assets (EUR/billion)		(%)
	Sample	ECB	
	(1)	(2)	(3)
2005	12,047	17,863	.67
2006	16,729	19,700	.85
2007	19,293	22,352	.86
2008	22,495	24,066	.93
2009	21,542	23,814	.90
2010	22,639	25,768	.88
2011	23,334	26,685	.87
2012	22,933	26,214	.87
2013	19,807	24,594	.81
2014	21,125	25,875	.82

B: US

Year	Total Assets ($/billion)		(%)
	Sample	FED	
	(1)	(2)	(3)
2005	6,132	8,179	.75
2006	6,761	9,183	.74
2007	8,307	10,218	.81
2008	8,255	11,429	.72
2009	10,041	11,034	.91
2010	10,305	11,281	.91
2011	10,529	11,862	.88
2012	11,134	12,615	.88
2013	11,236	12,935	.87
2014	11,725	13,768	.85

Table 4: Descriptive statistics

The Table reports summary statistics between 2005 and 2014 of the main variables used in the empirical analysis. Panel A reports statistics on European banks , Panel B on US banks, Panel C on banks from Euro area countries, and Panel D on banks in Euro-Periphery countries.

Panel A: Europe

	Mean (1)	Min (2)	P50 (3)	P75 (4)	Max (5)	St.Dev. (6)	N.Obs (7)
Growth of Total Assets (annual % change)	3.59	-47.95	2.42	9.95	67.18	13.39	851
Growth of Gross Loans (annual % change)	4.09	-64.59	2.31	10.92	91.62	14.34	851
Growth of Corporate Loans (annual % change)	2.85	-91.25	0.27	10.63	99.09	21.06	289
Total Assets (LCU/billion)	400.76	5.75	115.21	382.62	3343.88	669.44	959
Gross Loans (LCU/billion)	196.34	1.77	66.34	173.94	1839.59	344.48	959
Corporate Loans (LCU/billion)	122.52	0.06	31.83	91.60	1383.81	248.91	365
Gross Loans/TA (%)	56.74	12.31	59.63	69.81	92.38	17.99	959
Corporate Loans/TA (%)	24.47	0.14	23.90	34.42	60.78	14.95	365
Corporate Loans/Gross Loans (%)	44.43	0.00	45.52	60.65	100.00	25.79	365
Government Bonds/TA (%)	7.13	0.01	6.00	9.96	25.06	5.79	768
Total Customer Dep/TA (%)	39.79	5.20	39.42	50.69	82.74	16.52	953
Cash and Due from Banks/TA (%)	2.08	0.06	1.29	2.73	10.26	2.18	959
Total Equity/TA (%)	5.45	0.68	5.04	7.03	15.05	2.64	959
Impaired Loans/GL (%)	5.99	0.09	3.92	7.37	34.18	6.45	806
Tier 1 Capital Ratio (%)	10.68	5.45	10.10	12.70	22.10	3.33	865
Foreign Owned (%)	0.07	0.00	0.00	0.00	1.00	0.26	1045

Panel B: US

	Mean (1)	Min (2)	P50 (3)	P75 (4)	Max (5)	St.Dev. (6)	N.Obs (7)
Growth of Total Assets (annual % change)	5.51	-27.85	4.21	10.18	54.82	10.66	205
Growth of Gross Loans (annual % change)	4.84	-42.22	3.56	8.34	84.01	14.02	205
Growth of Corporate Loans (annual % change)	2.54	-91.01	6.52	13.82	45.63	19.39	193
Total Assets (LCU/billion)	412.36	32.76	142.32	269.86	2573.13	644.71	229
Gross Loans (LCU/billion)	185.52	6.48	75.66	139.49	975.50	255.36	229
Corporate Loans (LCU/billion)	59.82	1.64	31.03	55.84	348.39	74.51	217
Gross Loans/TA (%)	56.36	12.31	64.41	70.43	81.78	18.73	229
Corporate Loans/TA (%)	22.81	0.43	21.70	29.59	63.02	14.21	217
Corporate Loans/Gross Loans (%)	39.05	2.78	35.85	45.40	88.71	17.94	217
Government Bonds/TA (%)	10.81	0.02	12.35	15.70	25.06	6.93	177
Total Customer Dep/TA (%)	63.59	10.28	67.92	73.76	82.74	15.16	229
Cash and Due from Banks/TA (%)	2.23	0.30	1.84	2.68	8.17	1.24	229
Total Equity/TA (%)	10.02	3.66	9.77	11.19	15.05	2.21	229
Impaired Loans/GL (%)	1.86	0.09	1.51	2.81	7.29	1.48	224
Tier 1 Capital Ratio (%)	11.29	6.80	11.50	12.60	20.50	2.45	225
Foreign Owned (%)	0.09	0.00	0.00	0.00	1.00	0.28	235

Panel C: Euro area

	Mean (1)	Min (2)	P50 (3)	P75 (4)	Max (5)	St.Dev. (6)	N.Obs (7)
Growth of Total Assets (annual % change)	3.23	-47.95	2.04	9.48	60.98	13.35	729
Growth of Gross Loans (annual % change)	4.09	-64.59	2.34	11.32	91.62	14.64	729
Growth of Corporate Loans (annual % change)	2.80	-91.25	0.13	10.54	99.09	22.58	227
Total Assets (LCU/billion)	245.38	5.75	80.43	232.50	2202.41	391.98	823
Gross Loans (LCU/billion)	111.91	1.77	48.60	119.64	750.56	149.72	823
Corporate Loans (LCU/billion)	38.68	0.06	25.46	57.26	248.78	44.66	291
Gross Loans/TA (%)	57.46	12.31	60.70	70.60	92.38	18.33	823
Corporate Loans/TA (%)	24.83	0.14	24.57	37.31	60.78	16.28	291
Corporate Loans/Gross Loans (%)	44.32	0.00	44.47	64.10	100.00	28.07	291
Government Bonds/TA (%)	7.68	0.01	6.71	10.78	25.06	5.94	655
Total Customer Dep/TA (%)	39.97	5.20	39.81	51.12	82.74	17.01	817
Cash and Due from Banks/TA (%)	1.94	0.06	1.26	2.47	10.26	2.03	823
Total Equity/TA (%)	5.57	0.68	5.24	7.42	15.05	2.79	823
Impaired Loans/GL (%)	6.58	0.23	4.30	7.94	34.18	6.80	670
Tier 1 Capital Ratio (%)	10.49	5.45	10.00	12.30	22.10	3.21	730
Foreign Owned (%)	0.08	0.00	0.00	0.00	1.00	0.28	909

Panel D: Euro-Periphery

	Mean (1)	Min (2)	P50 (3)	P75 (4)	Max (5)	St.Dev. (6)	N.Obs (7)
Growth of Total Assets (annual % change)	4.90	-29.98	3.21	11.04	60.98	13.77	309
Growth of Gross Loans (annual % change)	4.86	-39.08	1.77	12.89	69.28	14.84	309
Growth of Corporate Loans (annual % change)	3.65	-91.25	0.08	13.62	60.16	21.83	99
Total Assets (LCU/billion)	159.07	8.91	65.17	130.92	1269.63	241.56	351
Gross Loans (LCU/billion)	101.79	6.82	46.67	94.90	750.56	143.48	351
Corporate Loans (LCU/billion)	33.90	0.06	26.60	35.29	248.78	39.37	130
Gross Loans/TA (%)	68.68	23.70	68.98	76.00	92.38	10.42	351
Corporate Loans/TA (%)	27.25	0.14	30.60	37.81	60.78	16.91	130
Corporate Loans/Gross Loans (%)	39.62	0.00	45.36	55.83	100.00	23.98	130
Government Bonds/TA (%)	8.95	0.01	7.91	12.73	25.06	5.82	327
Total Customer Dep/TA (%)	45.62	5.20	45.04	54.10	78.56	12.73	350
Cash and Due from Banks/TA (%)	1.99	0.11	1.43	2.53	9.33	1.63	351
Total Equity/TA (%)	6.52	0.68	6.29	7.85	15.05	2.55	351
Impaired Loans/GL (%)	8.98	0.27	5.88	12.54	34.18	8.05	342
Tier 1 Capital Ratio (%)	9.38	5.45	9.00	11.00	17.90	2.36	332
Foreign Owned (%)	0.05	0.00	0.00	0.00	1.00	0.21	410

Table 5: Average bank characteristics between 2005 and 2014, by period and geographical area: dependent variables

	EUROPE			US			EURO area			Euro-Periphery		
	2005-2007	2008-2012	2013-2014	2005-2007	2008-2012	2013-2014	2005-2007	2008-2012	2013-2014	2005-2007	2008-2012	2013-2014
Growth Total Assets (%)												
≤p25	11.2	6	-4.3	16.3	2.1	4.8	10.9	7	-5.4	17	10.8	-6
P25-p75	10.8	4.3	-1.3	9.4	3.1	3	9.5	4.1	-1.8	15	5.7	-.5
>p75	11.8	.5	-3	13.4	7.1	3.5	11.5	.1	-3.4	11.2	1.6	-2.3
Growth Gross Loans (%)												
≤p25	12.6	6.3	-4.4	18.5	1.4	3.6	12.9	7.9	-5.5	19.5	9	-7.7
P25-p75	10.6	3.8	-.8	12.6	1	4.1	9.1	3.8	-1.1	18.6	4.4	-1.5
>p75	17.6	1	-1.7	13.5	4.1	3.1	19.1	1.3	-2	18.7	.8	-2.9
Growth Corporate Loans (%)												
≤p25	10.9	6.8	-2.1	11.1	-2	.8	7.8	10.2	-2.7	15.6	.3	-1.2
P25-p75	14.1	1.5	.3	5.2	2.5	4.8	14	.5	1	26.3	-1.5	6.6
>p75	17.7	-3	.7	6.6	2.5	-4.9	19.7	-3.5	.1	21.3	-8.9	4.3
Total Assets (LCU/billion)												
≤p25	52.3	70.2	76.6	47	60.3	74.2	38.4	40.6	59	40.7	50.5	52.4
P25-p75	186.1	218.5	308.3	105.7	132.5	175.4	153.9	197.9	240.9	73.8	83.9	112.7
>p75	744.2	920	846	1034.3	1088.8	1471.6	662.3	765	719	437.5	555.5	503.2
Gross Loans (LCU/billion)												
≤p25	30.3	51.7	50.2	34.1	44.8	50.9	23.5	29.9	35.7	28.2	38.8	37.8
P25-p75	96.8	117.3	157	62.9	70.8	97.1	74.4	105.1	126.9	52.4	61.5	73
>p75	297.9	381.7	348.6	454	457.8	580.6	261.6	331.3	305.8	263.4	348.4	304.6
Corporate Loans (LCU/billion)												
≤p25	22.5	11.1	15.4	19.6	24.3	24.1	12.9	2.7	8.6	22.5	.5	14.8
P25-p75	71	71.2	64.1	25.8	26	35.5	48.4	57.2	46.1	42.9	23.8	23.1
>p75	112.4	130.5	115.9	132	127.8	182.2	86.6	67.5	62.1	102.5	62.9	41.9
Gross Loans/TA (%)												
≤p25	65.1	69.7	65.4	72.6	74	69.1	65.9	70.2	65.1	69.4	77.6	71.1
p25-p75	56.8	57.9	56.1	59.8	54.4	56.6	56.1	58.7	57.8	69.4	71.9	64.8
>p75	48.4	49.8	50.5	50.3	46.7	40.2	48.3	51.2	52.2	62	65.6	64.1
Corporate Loans/TA (%)												
≤p25	31.5	12	16.7	41.6	41	33.4	33.7	11.1	16.8	38.4	.8	18.6
p25-p75	33.9	28.2	22.9	26.2	20	20.7	36	28.6	23	45.9	28.4	20.4
>p75	28	21.8	16.9	17.6	13.1	12.4	28.5	22.1	16.3	30	26	17.7

Table 6: Average bank characteristics between 2005 and 2014, by period and geographical area: independent variables

	EUROPE			US			EURO area			Euro-Periphery		
	2005-2007	2008-2012	2013-2014	2005-2007	2008-2012	2013-2014	2005-2007	2008-2012	2013-2014	2005-2007	2008-2012	2013-2014
Sovereign (% TA)												
≤p25	5	4.6	9.8	7.4	8.8	9.4	5	5.1	10.9	5.2	6.3	14.4
P25-p75	5.2	7.4	9.8	6.7	10.7	7.1	6	7.9	10.6	5.2	8.6	14.7
>p75	5.5	7.4	10.7	8	14.9	15.9	5.9	7.7	10.9	7	8.4	13.5
Deposits (% TA)												
≤p25	37.6	43.8	53.9	74	75.7	79.4	36.5	43.1	54.4	40.8	55.2	57.4
P25-p75	39.3	40.7	40.9	61.5	62.2	66.8	39.1	41	40.8	45	44.8	46.5
>p75	35.1	35.5	39	51.3	58.7	61.2	35.3	36.2	39.9	42.8	42.5	47
Liquidity (% TA)												
≤p25	1.9	2.5	2.2	3.7	2	1.5	1.8	2.5	2.1	1.6	1.3	1.5
P25-p75	1.3	1.9	2.6	3	1.8	1.6	1.3	1.7	2	2	1.7	1.8
>p75	1.6	2.5	3.1	2.8	2.2	2.5	1.8	2.4	3	2.4	2.7	3.1
Equity (% TA)												
≤p25	6.3	6.1	6.6	9.3	9.5	10.7	6.3	6.4	6.7	6.2	6.5	7.4
P25-p75	5.6	5.4	6	9.7	10.1	11.6	6	5.5	6.1	7.8	6.4	6.8
>p75	5	4.4	5.3	8.6	10.1	9.9	5.1	4.5	5.3	6.5	5.6	6.3
Tier1 (Capital Ratio)												
≤p25	9.8	10.7	13.8	8.3	11.2	12	9.9	9.9	12.2	8.1	9.3	12.1
P25-p75	8.5	10.6	13.1	8.9	12.7	12.6	8.5	10.4	10.7	8.3	9	11.2
>p75	8.1	10.9	13.2	8.3	11.9	12.7	8.2	10.7	9.6	7.8	9.4	11.8
ImpLoans (% GL)												
≤p25	2.5	6.5	10.9	.6	2.6	1.4	2.6	8.3	13.2	2.6	9.2	18.1
p50-p75	2.7	6.1	9.8	.5	2.6	1.7	3.3	6.4	12.8	2.6	8.5	16.9
>p75	2.5	6	8.7	.4	2.5	2.6	2.7	6.3	12.9	3	9	15.8
Foreign Owned (%)												
≤p25	.2	.1	.2	.3	0	0	.2	.1	.2	.3	0	.2
p25-p75	.1	.1	0	.1	.2	.2	.1	.1	0	0	.1	0
>p75	0	0	0	0	0	0	0	0	0	0	0	0

Table 7: Bank characteristics and lending: a correlation analysis

Dep. Var. Log Gross Loans				
	(1)	(2)	(3)	(4)
	Europe	US	Euro area	Euro-Periphery
Size	0.725***	0.722***	0.690***	0.692***
	(0.067)	(0.110)	(0.074)	(0.089)
Sovereign	-0.004**	-0.006*	-0.004*	-0.005*
	(0.002)	(0.003)	(0.002)	(0.003)
Deposits	0.004	0.003	0.003	0.002
	(0.002)	(0.004)	(0.003)	(0.003)
Liquidity	-0.007	-0.023	-0.012**	-0.014*
	(0.007)	(0.019)	(0.006)	(0.007)
Equity	0.023***	0.015	0.021***	0.021***
	(0.006)	(0.010)	(0.006)	(0.006)
Impaired Loans	-0.003	-0.013	-0.002	0.000
	(0.004)	(0.015)	(0.004)	(0.004)
Constant	6.213***	6.364**	7.006***	6.970***
	(1.772)	(3.000)	(1.985)	(2.346)
Observations	570	149	472	279
Mean	25.28	25.36	25	24.80
St. Dev.	1.256	1.123	1.090	0.987
Adjusted R-squared	0.735	0.618	0.746	0.767

Dep. Var. Log Corporate Loans				
	(1)	(2)	(3)	(4)
	Europe	US	Euro area	Euro-Periphery
Size	0.433	-0.274	0.418	0.800**
	(0.296)	(0.430)	(0.415)	(0.297)
Sovereign	-0.008	-0.016*	-0.012	-0.020**
	(0.010)	(0.009)	(0.012)	(0.008)
Deposits	-0.003	-0.001	-0.002	-0.003
	(0.007)	(0.009)	(0.008)	(0.005)
Liquidity	-0.012	-0.025	-0.014	-0.075***
	(0.013)	(0.036)	(0.022)	(0.021)
Equity	0.011	-0.021	0.010	0.001
	(0.013)	(0.032)	(0.015)	(0.015)
Impaired Loans	-0.022	0.044*	-0.016	-0.045***
	(0.014)	(0.025)	(0.015)	(0.014)
Constant	13.393*	31.987**	13.196	4.423
	(7.743)	(11.829)	(10.643)	(7.552)
Observations	214	142	163	86
Mean	24.56	24.32	24.01	23.80
St. Dev.	1.641	1.083	1.327	1.234
Adjusted R-squared	0.851	0.0959	0.864	0.939

Table 8: The effect of Bank Characteristics on Gross Loans

The dependent variable is the logarithm of gross loans (LCU/billion). The variable BankingCrisis is a time dummy equal to one in 2008 and 2009, the dummy SovCrisis equals one between 2010 and 2012, Post2012 is a dummy equal one in 2013 and 2014. Each treatment variable (Size, Sovereign, Deposits, Liquidity, Equity, ForeignOwned) is a time invariant dummy zero/one indicating whether the bank was below/above the median of a certain characteristic in the pre crisis period (2005-2007). We control for bank FEs, year FEs, and country-year FEs. Robust standard errors, clustered at bank-level, in parentheses.*** p<0.01, ** p<0.05, * p<0.1.

	Europe	US	Euro area	Euro-Periphery
	(1)	(2)	(3)	(4)
BankingCrisis*Size	-0.043	0.271	0.036	-0.058
	(0.052)	(0.280)	(0.046)	(0.037)
SovCrisis*Size	-0.198***	0.315	-0.105**	-0.203***
	(0.056)	(0.293)	(0.048)	(0.054)
Post2012*Size	-0.328***	0.323	-0.246***	-0.329***
	(0.062)	(0.311)	(0.069)	(0.062)
BankingCrisis*Sovereign	0.014	-0.045	-0.010	0.060
	(0.054)	(0.223)	(0.047)	(0.040)
SovCrisis*Sovereign	0.056	0.298	0.048	0.095
	(0.069)	(0.234)	(0.062)	(0.061)
Post2012*Sovereign	0.125	0.322	0.109	0.040
	(0.078)	(0.247)	(0.084)	(0.074)
BankingCrisis*Deposits	-0.018	0.197	0.042	0.018
	(0.050)	(0.294)	(0.046)	(0.034)
SovCrisis*Deposits	0.058	0.146	0.125**	0.097*
	(0.055)	(0.293)	(0.050)	(0.053)
Post2012*Deposits	0.122*	0.117	0.172***	0.163***
	(0.062)	(0.304)	(0.062)	(0.051)
BankingCrisis*Liquidity	-0.022	0.377**	0.062	0.073*
	(0.055)	(0.147)	(0.051)	(0.038)
SovCrisis*Liquidity	0.002	0.480***	0.077	0.063
	(0.059)	(0.154)	(0.062)	(0.048)
Post2012*Liquidity	0.035	0.505***	0.116	0.107*
	(0.069)	(0.160)	(0.088)	(0.054)
BankingCrisis*Equity	-0.010	0.033	0.041	0.085**
	(0.051)	(0.275)	(0.045)	(0.037)
SovCrisis*Equity	0.017	0.347	0.088	0.134**
	(0.064)	(0.286)	(0.055)	(0.062)
Post2012*Equity	-0.062	0.405	0.002	0.029
	(0.071)	(0.295)	(0.070)	(0.072)
BankingCrisis*ForeignOwned	-0.082	0.056	0.021	0.003
	(0.081)	(0.228)	(0.071)	(0.077)
SovCrisis*ForeignOwned	-0.019	-0.203	0.094	-0.068
	(0.118)	(0.232)	(0.112)	(0.136)
Post2012*ForeignOwned	-0.156	-0.044	-0.055	-0.285**
	(0.145)	(0.244)	(0.140)	(0.122)
Impaired Loans	0.004	-0.054**	0.003	0.006
	(0.006)	(0.021)	(0.005)	(0.005)
Controls:				
Bank FEs	yes	yes	yes	yes
Time FEs	yes	yes	yes	yes
Country-year FEs	yes	yes	yes	yes
Observations	607	147	497	271
Mean Outcome (PreCrisis)	25.25	25.53	24.95	24.78
St. Dev. Outcome (Pre-Crisis)	1.256	1.157	1.054	0.991
Adjusted R-squared	0.515	0.689	0.529	0.739

Table 9: The effect of Bank Characteristics on Corporate Loans

The dependent variable is the logarithm of corporate loans (LCU/billion). The variable BankingCrisis is a time dummy equal to one in 2008 and 2009, the dummy SovCrisis equals one between 2010 and 2012, Post2012 is a dummy equal one in 2013 and 2014. Each treatment variable (Size, Sovereign, Deposits, Liquidity, Equity, ForeignOwned) is a time invariant dummy zero/one indicating whether the bank was below/above the median of a certain characteristic in the pre crisis period (2005-2007). We control for bank FEs, year FEs, and country-year FEs. Robust standard errors, clustered at bank-level, in parentheses.*** p<0.01, ** p<0.05, * p<0.1.

	Europe	US	Euro area	Euro-Periphery
	(1)	(2)	(3)	(4)
BankingCrisis*Size	-0.254	0.447	-0.589***	-6.713***
	(0.169)	(0.341)	(0.189)	(0.343)
SovCrisis*Size	-0.270*	0.571	-0.587***	-6.025***
	(0.144)	(0.348)	(0.173)	(0.259)
Post2012*Size	-0.559***	0.434	-1.398***	-5.904***
	(0.183)	(0.402)	(0.135)	(0.221)
BankingCrisis*Sovereign	0.064	0.162	0.374**	6.587***
	(0.157)	(0.286)	(0.153)	(0.348)
SovCrisis*Sovereign	0.068	0.090	0.376*	5.762***
	(0.121)	(0.253)	(0.191)	(0.246)
Post2012*Sovereign	0.092	0.168	0.572***	5.086***
	(0.160)	(0.269)	(0.102)	(0.186)
BankingCrisis*Deposits	0.105	0.328	0.087	-3.831***
	(0.111)	(0.332)	(0.104)	(0.287)
SovCrisis*Deposits	0.176	0.482	0.217*	-4.183***
	(0.112)	(0.336)	(0.121)	(0.185)
Post2012*Deposits	0.421***	0.620	0.363***	-4.155***
	(0.140)	(0.397)	(0.109)	(0.180)
BankingCrisis*Liquidity	-0.099	0.519*	-0.113	3.785***
	(0.164)	(0.245)	(0.098)	(0.278)
SovCrisis*Liquidity	-0.124	0.378*	-0.341***	4.071***
	(0.176)	(0.190)	(0.121)	(0.194)
Post2012*Liquidity	-0.093	0.251	-0.390***	4.131***
	(0.229)	(0.219)	(0.102)	(0.173)
BankingCrisis*Equity	-0.339*	-0.099	-0.746***	2.293***
	(0.181)	(0.338)	(0.199)	(0.209)
SovCrisis*Equity	-0.199	-0.280	-0.651***	2.853***
	(0.177)	(0.359)	(0.195)	(0.071)
Post2012*Equity	-0.419	-0.196	-1.576***	2.977***
	(0.252)	(0.388)	(0.160)	(0.074)
BankingCrisis*ForeignOwned	-0.909**	-0.262	-1.668***	-4.682***
	(0.369)	(0.249)	(0.370)	(0.463)
SovCrisis*ForeignOwned	-0.793**	-0.302	-1.677***	-3.658***
	(0.351)	(0.198)	(0.230)	(0.229)
Post2012*ForeignOwned	-1.489***	-0.166	-3.612***	-3.569***
	(0.502)	(0.283)	(0.179)	(0.184)
Impaired loans	-0.015	-0.002	-0.006	-0.008
	(0.009)	(0.036)	(0.008)	(0.008)
Controls:				
Bank FEs	yes	yes	yes	yes
Time FEs	yes	yes	yes	yes
Country-year FEs	yes	yes	yes	yes
Observations	186	138	136	84
Mean Outcome (PreCrisis)	24.80	24.54	24.34	24.33
St. Dev. Outcome (Pre-Crisis)	1.226	0.883	0.822	0.828
Adjusted R-squared	0.912	0.176	0.955	0.984

Table 10: The effect of Bank Characteristics on Growth of Gross Loans

The dependent variable is the annual growth rate of gross loans (%). The variable BankingCrisis is a time dummy equal to one in 2008 and 2009, the dummy SovCrisis equals one between 2010 and 2012, Post2012 is a dummy equal one in 2013 and 2014. Each treatment variable (Size, Sovereign, Deposits, Liquidity, Equity, ForeignOwned) is a time invariant dummy zero/one indicating whether the bank was below/above the median of a certain characteristic in the pre crisis period (2005-2007). We control for bank FEs, year FEs, and country-year FEs. Robust standard errors, clustered at bank-level, in parentheses.*** p<0.01, ** p<0.05, * p<0.1.

	Europe	US	Euro area	Euro-Periphery
	(1)	(2)	(3)	(4)
BankingCrisis*Size	-1.369	2.491	-1.791	2.873
	(3.613)	(8.759)	(3.944)	(4.573)
SovCrisis*Size	-4.895	2.994	-9.121**	-1.208
	(3.451)	(8.653)	(4.210)	(3.785)
Post2012*Size	-0.639	13.200*	-4.058	3.554
	(3.549)	(7.334)	(4.286)	(4.282)
BankingCrisis*Sovereign	-1.827	-12.736	-4.314	-7.403
	(3.088)	(9.473)	(3.422)	(5.631)
SovCrisis*Sovereign	-1.123	2.316	-2.649	-6.784
	(3.297)	(5.683)	(3.842)	(4.099)
Post2012*Sovereign	-2.322	-9.335	-3.278	-9.822**
	(3.199)	(6.627)	(3.783)	(4.695)
BankingCrisis*Deposits	-2.938	-5.521	-3.035	-2.521
	(3.497)	(7.631)	(4.111)	(4.814)
SovCrisis*Deposits	2.452	-15.302**	-0.825	1.085
	(3.428)	(5.673)	(4.080)	(3.389)
Post2012*Deposits	-0.140	-2.872	-2.390	-0.964
	(2.860)	(5.962)	(3.618)	(3.611)
BankingCrisis*Liquidity	1.625	-8.947	4.158	4.957
	(3.371)	(9.337)	(4.037)	(4.295)
SovCrisis*Liquidity	-1.524	-7.623	-1.843	-1.455
	(3.120)	(4.885)	(4.069)	(3.344)
Post2012*Liquidity	2.790	-1.338	2.593	2.459
	(2.553)	(4.652)	(3.464)	(3.456)
BankingCrisis*Equity	1.589	5.477	2.474	-2.077
	(4.123)	(10.187)	(4.691)	(5.939)
SovCrisis*Equity	4.816	19.151**	3.233	-1.489
	(3.807)	(7.543)	(4.609)	(4.275)
Post2012*Equity	2.449	0.520	1.189	-7.601
	(3.645)	(6.833)	(4.639)	(4.963)
BankingCrisis*ForeignOwned	14.768	21.209	14.596	24.627*
	(10.077)	(13.142)	(9.304)	(13.708)
SovCrisis*ForeignOwned	13.539*	1.982	9.831	12.980
	(7.176)	(10.716)	(6.859)	(10.383)
Post2012*ForeignOwned	7.228*	20.053**	4.531	6.777
	(4.206)	(8.083)	(4.376)	(6.812)
Impaired loans	-1.027**	-5.268***	-0.877**	-0.704
	(0.401)	(1.783)	(0.415)	(0.524)
Controls:				
Bank FEs	yes	yes	yes	yes
Time FEs	yes	yes	yes	yes
Country-year FEs	yes	yes	yes	yes
Observations	607	147	497	271
Mean Outcome (PreCrisis)	4.906	5.159	5.044	6.160
St. Dev. Outcome (Pre-Crisis)	14.48	14.03	14.82	13.90
Adjusted R-squared	607	147	497	271

Table 11: The effect of Bank Characteristics on Growth of Corporate Loans

The dependent variable is the annual growth rate of corporate loans (%). The variable BankingCrisis is a time dummy equal to one in 2008 and 2009, the dummy SovCrisis equals one between 2010 and 2012, Post2012 is a dummy equal one in 2013 and 2014. Each treatment variable (Size, Sovereign, Deposits, Liquidity, Equity, ForeignOwned) is a time invariant dummy zero/one indicating whether the bank was below/above the median of a certain characteristic in the pre crisis period (2005-2007). We control for bank FEs, year FEs, and country-year FEs. Robust standard errors, clustered at bank-level, in parentheses.*** p<0.01, ** p<0.05, * p<0.1.

	Europe	US	Euro	Euro-Periphery
	(1)	(2)	(3)	(4)
BankingCrisis*Size	7.224	7.599	16.043	62.730
	(7.689)	(13.664)	(22.675)	(66.789)
SovCrisis*Size	7.847*	20.866	8.916	43.193
	(3.995)	(14.901)	(13.488)	(57.314)
Post2012*Size	4.197	13.921	9.526	19.794
	(7.704)	(12.918)	(11.581)	(43.310)
BankingCrisis*Sovereign	-6.963	-32.632**	-19.032	-60.001
	(8.513)	(14.351)	(18.775)	(65.220)
SovCrisis*Sovereign	-6.819	-27.175*	-6.750	-44.861
	(5.802)	(13.399)	(14.241)	(52.539)
Post2012*Sovereign	-6.731	-16.643	-15.506	-25.798
	(5.466)	(13.507)	(10.623)	(38.170)
BankingCrisis*Deposits	3.111	2.157	5.961	30.145
	(7.569)	(12.193)	(10.931)	(45.919)
SovCrisis*Deposits	-1.947	0.901	1.155	-0.487
	(4.029)	(11.196)	(12.844)	(35.186)
Post2012*Deposits	5.354	-4.756	1.919	12.226
	(4.799)	(11.870)	(12.099)	(35.473)
BankingCrisis*Liquidity	-12.970	0.159	-5.765	-31.085
	(9.923)	(11.374)	(9.471)	(50.112)
SovCrisis*Liquidity	-1.730	-0.870	-1.603	0.796
	(8.410)	(11.691)	(10.848)	(36.862)
Post2012*Liquidity	7.749	1.188	14.362	4.044
	(7.221)	(12.410)	(10.731)	(36.714)
BankingCrisis*Equity	-4.093	-3.970	-14.462	20.803
	(8.857)	(15.437)	(22.922)	(16.134)
SovCrisis*Equity	9.850*	-13.627	13.356	20.916
	(5.367)	(14.581)	(23.393)	(14.573)
Post2012*Equity	7.727	14.751	20.890	10.467
	(9.516)	(14.013)	(28.990)	(13.830)
BankingCrisis*ForeignOwned	-12.601	30.341**	-9.645	76.881
	(17.125)	(13.287)	(43.268)	(62.896)
SovCrisis*ForeignOwned	17.404	18.192	20.389	59.175
	(10.799)	(13.171)	(29.522)	(50.823)
Post2012*ForeignOwned	5.571	44.659***	28.715	28.572
	(18.766)	(12.187)	(30.417)	(32.441)
Impaired loans	-0.908	-4.347**	-1.582	-1.576
	(0.691)	(2.017)	(1.373)	(1.503)
Controls:				
Bank FEs	yes	yes	yes	yes
Time FEs	yes	yes	yes	yes
Country-year FEs	yes	yes	yes	yes
Observations	186	138	136	84
Mean Outcome (PreCrisis)	17.70	3.245	19.53	22.27
St. Dev. Outcome (Pre-Crisis)	17.25	18.93	19.13	21.20
Adjusted R-squared	0.646	0.190	0.670	0.704

Table 12: The effect of Bank Characteristics on Gross Loans as Percentage of Total Assets

The dependent variable is the percentage of gross loans relative to total assets (%). The variable BankingCrisis is a time dummy equal to one in 2008 and 2009, the dummy SovCrisis equals one between 2010 and 2012, Post2012 is a dummy equal one in 2013 and 2014. Each treatment variable (Size, Sovereign, Deposits, Liquidity, Equity, ForeignOwned) is a time invariant dummy zero/one indicating whether the bank was below/above the median of a certain characteristic in the pre crisis period (2005-2007). We control for bank FEs, year FEs, and country-year FEs. Robust standard errors, clustered at bank-level, in parentheses.*** p<0.01, ** p<0.05, * p<0.1.

	Europe	US	Euro area	Euro-Periphery
	(1)	(2)	(3)	(4)
BankingCrisis*Size	-1.075	3.877	0.593	0.575
	(1.630)	(5.512)	(1.962)	(1.652)
SovCrisis*Size	-1.538	4.001	0.736	1.046
	(1.789)	(6.269)	(2.173)	(2.697)
Post2012*Size	0.004	5.280	2.426	5.065
	(2.703)	(6.199)	(3.751)	(4.976)
BankingCrisis*Sovereign	-3.254**	-10.819	-3.260*	-3.242
	(1.569)	(6.580)	(1.732)	(2.010)
SovCrisis*Sovereign	-2.130	-2.303	-2.061	-2.273
	(1.626)	(6.065)	(1.814)	(2.831)
Post2012*Sovereign	-2.026	-4.933	-1.659	-3.802
	(1.978)	(7.008)	(2.228)	(3.201)
BankingCrisis*Deposits	-2.000	-0.376	-1.060	-1.911
	(1.541)	(4.783)	(1.579)	(1.519)
SovCrisis*Deposits	0.390	1.086	1.484	0.748
	(1.674)	(4.532)	(1.855)	(2.274)
Post2012*Deposits	0.023	-1.499	1.034	1.458
	(2.090)	(5.037)	(2.715)	(3.227)
BankingCrisis*Liquidity	-2.263	-1.271	-0.506	-2.175
	(1.666)	(4.390)	(1.922)	(1.538)
SovCrisis*Liquidity	-2.190	-1.260	-0.116	-0.566
	(1.837)	(4.177)	(1.952)	(2.312)
Post2012*Liquidity	-0.968	-3.658	1.153	1.520
	(2.253)	(4.391)	(2.389)	(2.856)
BankingCrisis*Equity	-1.736	-4.026	0.078	-1.967
	(1.528)	(6.408)	(1.815)	(1.903)
SovCrisis*Equity	-2.943*	3.710	-0.933	-1.677
	(1.743)	(6.776)	(2.131)	(2.999)
Post2012*Equity	-4.489*	2.063	-2.004	-2.475
	(2.533)	(6.856)	(3.442)	(4.563)
BankingCrisis*ForeignOwned	-0.827	4.848	1.379	4.057
	(5.173)	(7.566)	(5.238)	(6.282)
SovCrisis*ForeignOwned	0.875	-5.188	3.571	8.149
	(6.348)	(7.813)	(6.516)	(8.765)
Post2012*ForeignOwned	1.590	5.055	4.352	9.031
	(6.893)	(8.493)	(7.029)	(11.330)
Impaired loans	0.143	-0.670	0.136	0.148
	(0.214)	(0.488)	(0.247)	(0.340)
Controls:				
Bank FEs	yes	yes	yes	yes
Time FEs	yes	yes	yes	yes
Country-year FEs	yes	yes	yes	yes
Observations	607	147	497	271
Mean Outcome (PreCrisis)	58.08	55.32	59.45	69.85
St. Dev. Outcome (Pre-Crisis)	17.93	19.18	18.09	10.04
Adjusted R-squared	0.284	0.375	0.218	0.265

Table 13: The effect of Bank Characteristics on Corporate Loans as Percentage of Total Assets

The dependent variable is the percentage of corporate loans relative to total assets (%). The variable BankingCrisis is a time dummy equal to one in 2008 and 2009, the dummy SovCrisis equals one between 2010 and 2012, Post2012 is a dummy equal one in 2013 and 2014. Each treatment variable (Size, Sovereign, Deposits, Liquidity, Equity, ForeignOwned) is a time invariant dummy zero/one indicating whether the bank was below/above the median of a certain characteristic in the pre crisis period (2005-2007). We control for bank FEs, year FEs, and country-year FEs. Robust standard errors, clustered at bank-level, in parentheses.*** p<0.01, ** p<0.05, * p<0.1.

	Europe	US	Euro	Euro-Periphery
	(1)	(2)	(3)	(4)
BankingCrisis*Size	-2.345	4.638	-21.392***	-142.867***
	(2.657)	(3.005)	(4.603)	(9.856)
SovCrisis*Size	-2.473	9.396**	-21.884***	-124.222***
	(3.037)	(3.646)	(3.599)	(8.823)
Post2012*Size	-5.892	12.469**	-31.869***	-118.961***
	(5.077)	(4.982)	(2.890)	(6.787)
BankingCrisis*Sovereign	2.469	2.059	16.444***	139.340***
	(2.928)	(2.943)	(3.333)	(9.730)
SovCrisis*Sovereign	6.924**	-5.058**	18.733***	120.181***
	(2.769)	(1.847)	(3.595)	(8.256)
Post2012*Sovereign	6.707*	-7.857***	19.010***	106.163***
	(3.781)	(1.838)	(2.226)	(5.731)
BankingCrisis*Deposits	-1.913	4.945**	-5.139*	-66.892***
	(2.676)	(1.841)	(2.532)	(8.190)
SovCrisis*Deposits	2.041	9.255***	-2.654	-84.069***
	(2.487)	(1.764)	(2.301)	(4.979)
Post2012*Deposits	7.385**	10.289***	3.484	-83.704***
	(3.570)	(2.055)	(2.252)	(5.317)
BankingCrisis*Liquidity	4.369	2.273	4.901**	66.350***
	(4.277)	(2.659)	(2.066)	(7.465)
SovCrisis*Liquidity	0.770	-3.258**	-1.778	79.839***
	(4.894)	(1.253)	(2.467)	(4.803)
Post2012*Liquidity	-1.473	-3.752**	-8.278***	78.936***
	(6.597)	(1.477)	(2.226)	(4.653)
BankingCrisis*Equity	-11.321***	-5.903**	-36.585***	18.480***
	(3.771)	(2.575)	(4.203)	(2.505)
SovCrisis*Equity	-8.465**	-13.113***	-37.249***	33.280***
	(3.652)	(2.605)	(4.657)	(1.397)
Post2012*Equity	-12.046**	-14.250***	-49.925***	37.545***
	(5.711)	(2.943)	(4.921)	(1.423)
BankingCrisis*ForeignOwned	-22.444***	-12.606***	-67.689***	-132.964***
	(5.924)	(2.866)	(8.279)	(9.568)
SovCrisis*ForeignOwned	-22.794***	-12.948***	-71.703***	-104.268***
	(6.581)	(2.454)	(6.354)	(8.192)
Post2012*ForeignOwned	-34.835***	-8.904**	-101.823***	-101.472***
	(11.598)	(3.867)	(5.798)	(5.723)
Impaired loans	-0.611***	-0.526	-0.242	-0.259
	(0.181)	(0.390)	(0.195)	(0.205)
Controls:				
Bank FEs	yes	yes	yes	yes
Time FEs	yes	yes	yes	yes
Country-year FEs	yes	yes	yes	yes
Observations	186	138	136	84
Mean Outcome (PreCrisis)	31.74	26.62	33.87	34.96
St. Dev. Outcome (Pre-Crisis)	12.74	9.838	13.73	12.44
Adjusted R-squared	0.806	0.530	0.906	0.944

Figure 1: Growth of Gross and Corporate Loans

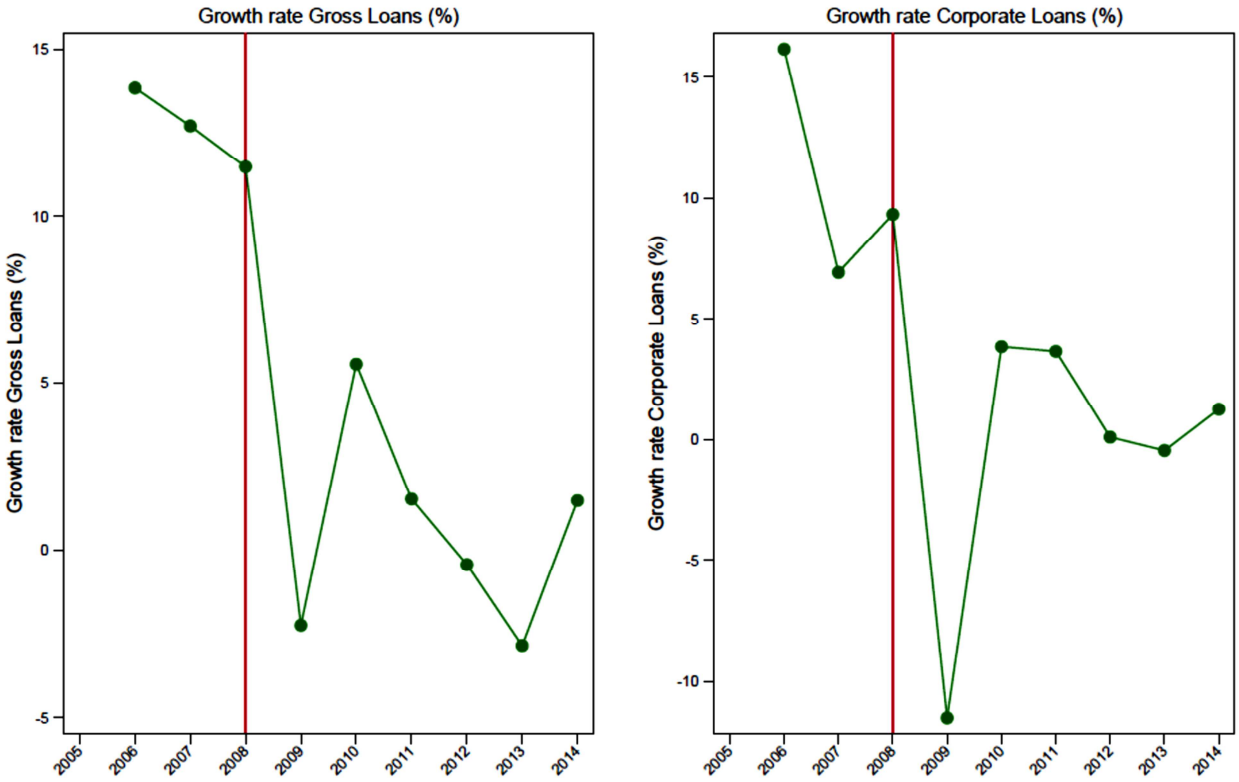

Figure 2: Gross and Corporate Loans (Log)

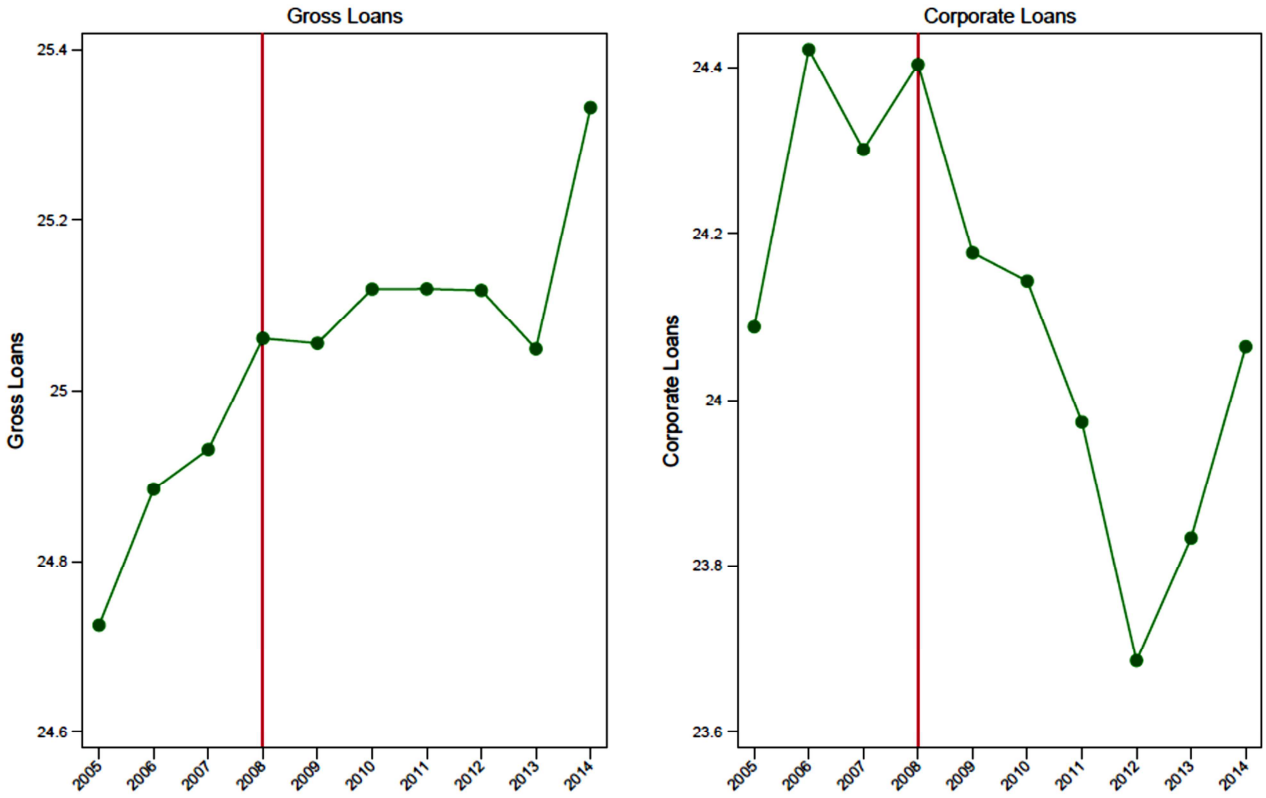

Figure 3: Gross and Corporate Loans as Percentage of Total Assets