

(Non-Bank) Financing of SMEs in Light of Crisis and New Regulation – Do Innovations in Market Financing have a real Impact?

Alexander Eisele

UBS Asset Management Products

Eric Nowak*

Swiss Finance Institute and University of Lugano

ABSTRACT

As the availability of bank loans to SMEs is likely to deteriorate in the future due to crisis-ridden banks and new regulation, there should be growth potential for alternative financing sources. We look at the innovation of SME segments as a quasi-exogenous shock and conduct a difference-in-difference estimation (DID) to study the effect of the introduction of an SME equity segment and find that it increases the use of equity financing of SMEs significantly (around 6% in relative terms). Equivalently, the introduction of SME bond segments increases bond financing of SMEs significantly (around 9.5% in relative terms). Our results suggest a positive complementarity of introducing SME bond and equity segments, as higher disclosure costs can be leveraged across different financing sources, so SMEs are more likely to be willing to pay the costs in the first place.

*Corresponding author: eric.nowak@usi.ch. The authors thank Thomas Hellman and Vikrant Vig for helpful comments. We thank the CEPR project Restarting European Long Term Investment Finance (RELTIF) for financial support.

I. Introduction - SME Financing and New Regulation

European firms and particularly small and medium-sized enterprises (SMEs) became highly reliant on bank credit relative to the US since the 1990s. The European market is dominated by a few large banks (ESRB 2014) and European banks are underfunded relative to their counterparts in other countries (Acharya and Steffen 2015). Consequently, bank financing is more volatile than other sources of financing (Becker and Ivashina 2014), and countries with a bank-based financial system are hit more severely by a financial crisis (Gambacorta et al., 2014). As in addition to these reasons the availability of bank loans to European SMEs is likely to even deteriorate in the future due to crisis-ridden banks and new regulation (Basel III, IFRS, Mifid), there should be significant growth potential for alternative financing sources.

We look at the introduction of SME market segments as a quasi-exogenous shock and find that it increases the equity financing of SMEs significantly (around 6% in relative terms). Equivalently, the introduction of SME bond segments increases bond financing of SMEs significantly (around 9.5% in relative terms). Our results suggest a positive complementarity of introducing SME bond and equity segments, as higher disclosure costs can be leveraged across different financing sources at the same time, so SMEs are more likely to be willing to pay the costs of transparency in the first place.

The remainder of our paper is organized as follows. We first provide a summary of new rules and regulations for bank capital requirements and loan issuance which will have an impact on the financing of SMEs. Then we deliver a descriptive empirical overview on the current situation of SME financing. In the next part we show how SME financing has been adversely affected by the financial crisis in the European countries. Our main empirical analysis assesses the impact of new (market-based) initiatives to strengthen the financing of SMEs through the introduction of specialized SME equity and bond market segments. In the final section we conclude.

A. New Regulations for Bank Capital Requirements and Loan Issuance

The primary goal of the new regulations is to make banks safer by imposing higher capital requirements and force the banks to hold more liquid assets. Secondary goals are to encourage more market-based funding by strengthening the relative attractiveness of market-based funding relative to bank loans. However, a pre-condition for this is to ease the burden for firms to access capital markets and this is true in particular for SMEs.

A.1 Basel III

Basel III will impose higher capital requirements on banks:

- Tier 1 capital increases from 4% to at least 8.5%
- Tier 2 capital decreases from 4% to 2%
- Total regulatory capital increases from 8% to at least 10.5%

The introduction of the *Liquidity Coverage Ratio* (LCR) is supposed to guarantee a bank's liquidity in the short run (< 1 month). The amount of *highly liquid assets* (which can be liquidated in less than a month) has to be larger than the amount of liabilities with a maturity less than a month. Banks will always have to maintain at least 25% of their expected cash outflows as liquid assets.

The Introduction of the *Net Stable Funding Ratio* (NSFR) is supposed to guarantee the stability of banks' funding. The ratio of long-term liabilities (> 1 year) to weighted long-term assets has to be larger than 100%.

A.2 Impact of Liquidity Coverage Ratio, Net Stable Funding Ratio, and IFRS 9

LCR and NSFR will have a potentially significant impact on SME lending. LCR threatens the traditional maturity transformation business, because banks have to change their balance sheet

composition towards more liquid assets (ESBG, 2011). Consequently, the maturity of loans to SMEs will shorten. IFRS 9 will impose higher interest rate costs to compensate for the higher capital requirements. That might lead to a change of asset composition away from SME loans to less regulatory capital-intensive business and more securitization of loans.

Higher capital requirements will have a significant impact on lending spreads for SMEs. Berg et al. (2011) estimate that a higher Tier 1 capital ratio could lead to an increase in interest rates of 54bps for SME loans. Cardone-Riportella et al. (2010) estimate that a higher Tier 1 capital ratio could increase interest rates for SME loans by 30-100bps. The impact of a one percent capital ratio increase on lending spreads is estimated between 2.5 and 16 bps.

Table 1. Impact of 1% capital ratio increase on lending spreads

	Kashyap et al. (2011)	BCBS (2010)	Cosimano and Hakura (2011)	Elliott (2009)	Baker and Wurgler (2015)	MAG (2010)	King (2010)	Slovik and Cournède (2011)
Impact, in b.p.	2.5-4.5	9-19	9-13	5-10	6-9	12.2	15	16

II. SME Financing – The Current Situation

A. Data Description and Methodology

In this section, we provide a first descriptive analysis of the current state of SME financing in Europe. We make use of the BACH Database (*Bank for the Accounts of Companies Harmonized*) created by the *European Committee of Central Balance – Sheet Data Offices*. It contains comparable information aggregated across a set of European countries and sectors. The number of SMEs in the BACH database increases from 648'000 in 2000 to 1.2 million in 2013. We use a panel of 17 sectors across 9 countries (153 observations per year) between 2000 and 2013. Then we utilize regression analysis to study the impact of country, time and sector effects on the financial structure of SMEs.

B. Results

B.1 Equity Financing

Equity financing constitutes on average around 38% of all SME funding. During our sample period, it has increased from 34% in 2000 to 40% in 2013 and 2.5% of variation can be explained by time effects. The fraction of equity varies significantly across sectors and industry effects can explain 23% of the variation in equity ratios. Again as to be expected, the fraction of equity varies significantly across countries so country effects can explain 34% of the variation in equity ratios.

[Insert Figures 2a-c about here]

B.2 Bank Financing

Bank financing constitutes around 25% of overall financing of SMEs in Europe. The fraction of bank financing stays relatively stable across time. Time effects explain only 0.92% of the variation in the fraction of bank financing. However, the fraction of bank financing varies significantly across sectors with 25% of the variation in bank funding ratios explained by industry effects. As we would expect, the fraction of bank financing varies significantly across countries, hence country effects explain 28% of the variation in bank funding ratios.

[Insert Figures 3a-c about here]

B.3 Bond Financing

Bond financing is still relatively less important for SMEs in Europe as it constitutes on average only around 0.6% of all funding. However, it has increased with the beginning of the financial crisis and time effects can explain 0.36% of the variation. The fraction of bond financing varies significantly across sectors so industry effects can explain 6% of the variation in bond funding ratios. Finally, the fraction of bonds varies significantly across countries and country effects can explain 8% of the variation in bond funding ratios.

[Insert Figures 4a-c about here]

III. SME Financing – The Impact of the Financial Crisis

In this section, we analyze the impact of the Financial Crisis on the financing of SMEs in Europe. For this purpose, we use data from the *ECB Survey on Access to Finance for Enterprises* (SAFE), which comprises survey responses from companies that are available every 6 months starting from 2009. The survey covers over 10'000 enterprises in the Euro area. We complement this with data from the *ECB Lending Survey* which comprises responses of senior loan officers from 90 banks in the euro area. This data is available quarterly since 2000.

A. Intermediated Financing

A.1 Supply of Bank Loans

The supply of bank loans tightened during the financial crisis with negative consequences for corporate investment. Iyer et al. (2014) show that Portuguese banks relying more on interbank financing tightened credit supply significantly and that firms were not able to substitute the shortfall in loans through other banks. Cingano et al. (2016) argue that the freeze of the interbank market in 2007 explained more than 40% of the decrease in corporate investment in Italy. As Jimenez et al. (2012) conclude during times of crisis banks are less likely to grant loans the weaker their capital position.

Data from the ECB SAFE on the availability of bank loans in the Eurozone confirms these findings. The net change in the availability of loans was sharply negative (up to minus 40 percent) for every half year from 2009 until 2014.

[Insert Figure 5a about here]

A.2 Interest Rates, Collateral, and Maturity

As Rajan (1992) points out banks extract informational rents from their borrowers when their access to market-based funding is more difficult (hold-up problem). Santos and Winton (2008) argue that this hold-up problem is particularly severe in recessions. Empirical evidence from the ECB Bank Lending Survey shows that this hampered bank financing particularly to SMEs in the Financial Crisis. SMEs usually ask for smaller loans than large blue chip companies. The interest rate spread between small loans (of less than one million euros) and large loans increased substantially following the Financial Crisis, from less than one percent on average before the Crisis up to almost 1.8 percent in 2012. Interestingly this effect was driven mainly by peripheral countries like Italy and Spain while the spread remained constant in Germany and even declined in France.

[Insert Figures 5b-e about here]

Furthermore, while the collateral requirements for SME borrowers become stricter for every quarter from 2008 until 2015, the maturities of those same loans are becoming significantly shorter. So following the Crisis SMEs can borrow less, at higher interest rates, for a shorter time, and yet have to provide even more collateral.

A.3 Trade Credit

Not surprisingly that due to the higher costs and decreased availability of bank loans, many SMEs substituted bank loans with trade credit, in particular in countries where firms were more likely to be constrained (see Carbo-Valverde et al. 2012).

[Insert Figure 6 about here]

B. Market-based Financing

B.1 Equity Securities

Information problems make equity financing for SMEs difficult and the costs to list equity are sometimes prohibitively high for SME. Nevertheless, our empirical evidence suggests some increase in equity raising during the financial crisis. The increase in equity financing seems to be particularly strong in countries with established SME equity segments (France and Germany). For example, the number of listed SMEs at *Alternext* increased from 125 in June 2008 to 177 at the end of 2014.

B.2 Debt Securities

The problems in SME bond financing are similar to those hindering SME equity financing and hence the percentage of SMEs issuing debt securities remains in the low single digits, with the interesting exception of Italy and Spain. Not surprisingly, the volume in the ABS market for SMEs decreased significantly following the Crisis, as the negative sentiment towards ABS decreased demand. In addition, heightened capital requirements after the crisis dampened the demand as well.

[Insert Figure 7 about here]

IV. Innovations in SME Financing – Assessing the Impact of New Form of Market

Finance for SMEs in Europe

A. Identification Strategy

In this section, we use the implementation of innovative forms of SME financing in a country as events to study the impact on the financial structure of SMEs - and their cost of capital (tbd). We look at the introduction of an SME equity or bond segment as a quasi-exogenous shock to the financing of SMEs. SMEs in a country with such a market innovation are the treatment group, while the control group are SMEs in non-treated countries.

B. Innovations in SME Financing – Equity Market Segments

France, Germany, Italy, and Spain have all introduced new market segments to trade equity securities of SMEs (Lugaresi, 2015). Germany's Deutsche Börse installed the *Entry Standard* segment targeting SMEs on October 25, 2005. Additionally, in 2008, favorable interest rates to companies investing in SME equity were introduced. In France, the *Alternext* multilateral trade facility opened as an SME equity segment of NYSE Euronext on May 17, 2005. Since 2008, the *Fonds Stratègique d'Investissement* (FSI) provides direct equity investments and the *Garantie des Fonds Propres* gives public guarantees on SME equity investments. In 2008, the European Commission presented the *European Economic Recovery Plan*, part of which was the *European Recovery Programme* (ERP). ERP is a EUR 1.7 bn Fund of Funds investing in venture capital funds mainly focusing on German based, high-tech early and development stage companies. Even though those funds are not restricted to invest solely in German companies, the focus of investments should be in Germany (http://www.eif.org/what_we_do/resources/erp/). In Italy, the *AIM Italia MAC* opened in 2008 as a new facility to trade SME equity. Finally, in 2009 Spain created the *Mercado Alternativo Bursatil MAB* as a

new facility to trade SME equity with the exclusion of real estate and financial companies. While as described above there have been other shocks to the ecosystems of SME financing such as public tax credits, loan guarantees, and EIF programs, the timing of these has been different to the opening of the SME equity segments. These innovations can therefore count as independent single and exogenous events (initiated by profit-maximizing stock exchanges as opposed to public governments) in our identification strategy.

B.1 Equity Impact Assessment

Descriptive analyses show that the median *equity funding ratio* before and after the introduction of a SME equity segment significantly increases in all four countries. To confirm these results, in a second step, we use the aforementioned BACH database to conduct a difference-in-difference estimation (DID) to study the effect of the introduction of an SME equity segment on the use of equity by SMEs. We use the general DID model as described in Bertrand et al. (2004), but also present some simple dummy regressions in columns 1 and 2 of Table 2. The third column of Table 2 presents the DID results where we control for *time*, *sector*, and *country fixed effects*. Results show that the introduction of a SME equity segment increases the equity funding ratio by 2.37% (the average equity funding ratio is 38.6%) so the effect is about 6 percent in relative terms and statistically significant.

[Insert Figures 8 and Table 2 about here]

C. Innovations in SME Financing – Bond Market Segments

The first European SME Bond market initiative was the German *BondM Market for Mittelstandsanleihen* introduced in 2010. At the end of 2014 the approximate size of the market was

EUR 6 bn (see Brächer 2014) with 148 different bond issues. In Italy the Market for Italian minibonds *ExtraMOT PRO* was introduced in February 11, 2013 to target the needs of SMEs to listing bonds, but is open only for institutional investors. Bonds are partially guaranteed by the Italian government. At the end of 2014 there were around EUR 4 bn in minibonds in 82 issues outstanding (see Kraemer-Eis et al. 2014). According to Cerved Group (2013) the pool of potential issuers comprises 34'000 companies with EUR 140 bn of outstanding debt. In Spain the *Alternative Fixed Income Market MARF* was introduced as a Market for SME bonds in October 2013. In France a Market for first-time SME bond issuers exists since 2014, with the development of the *Euro PP market* for SMEs, with access for retail as well as institutional investors.

Other related initiatives include the increase in the direct lending to SMEs by specialized debt funds. According to Moeglich and Rabel (2014) the number of such funds investing in European SMEs grew significantly to 31 with a target volume of EUR 13.2 bn. New laws in Italy allow insurance companies to lend directly to SMEs conditionally on a bank having significant interest in the transaction. French insurers are allowed to invest up to 5% of their balance sheet in unrated bonds, which has led to the creation of *Novo*, a credit fund/private placement platform.

C.1 Bond Impact Assessment

The simple change in the median Bond Funding Ratio before and after the introduction of a SME bond segment is heterogeneous across countries and industries. We conduct again a difference-in-difference estimation to study the effect of an SME bond segment on the use of debt securities by SMEs. In the third column of Table 3 we find that the introduction of a SME bond segment increases the bond funding ratio by 0.06% (the average bond funding ratio is 0.62%). The effect is economically small given small bond funding ratios but still around 9.5% in relative terms and statistically significant.

[Insert Table 3 about here]

D. Innovations in SME Financing – Joint Assessment of Market-Based Funding Initiatives

Finally, we analyze the joint effect of introducing Equity and Bond market segments for SMEs. Table 4 presents the DID results and column 2 suggests that the introduction of a SME bond segment has a positive impact also on the Equity Funding Ratio, while the introduction of a SME Equity market segment has no further impact on the bond funding ratio.

[Insert Table 4 about here]

Our empirical results suggest a positive complementarity of introducing SME bond and equity segments. While this seems to be surprising at first sight, it does make sense from the point of view of SMEs and their potential investors. Listing equity or bond debt on an exchange imposes direct and indirect issuance costs. The most important indirect costs are the costs of higher disclosure as external investors require a higher level of transparency. When these higher disclosure costs can be utilized across different financing sources, the SMEs are more likely to be willing to pay the costs in the first place. They can thereby leverage through multiple forms of market-based financing. We can therefore conclude that equity and bond markets are not substitutes but complementary forms of financing for SMEs. This result is in contrast to findings in the venture capital literature that different forms of venture financing are substitutes not complements (Ozmel et al., 2013; Hellmann et al. 2015).

V. Conclusion - The Future of SME Financing in Europe

We look at the introduction of SME equity segments as a quasi-exogenous shock and find that it increases the equity financing of SMEs significantly (around 6% in relative terms). Equivalently, the introduction of SME bond segments increases bond financing of SMEs significantly (around 9.5% in relative terms). Our results suggest a positive complementarity of introducing a SME bond and equity segments. When these higher disclosure costs can be utilized across different financing sources, SMEs are more likely to be willing to pay the costs in the first place, as they can thereby leverage through multiple forms of market-based financing. We can therefore conclude that equity and bond markets are not substitutes but complementary forms of financing for SMEs in Europe. This result is in contrast to findings in the venture capital literature that different forms of venture financing are substitutes not complements (Ozmel et al., 2013; Hellmann et al. 2015).

Bank debt is likely to stay an important financing source for SMEs but to a lower extent, as higher collateral requirements make bank financing particularly uninteresting for young and asset-light enterprises. Shorter maturities of bank loans can harm investments into long-term projects. In light of significant efforts to facilitate the direct access of SMEs to capital markets, our evidence suggests that the introduction of SME bond segments has a positive impact on the amount of bond financing of SMEs. Our evidence also suggests that introduction of SME equity segments has a positive impact on the equity financing of SMEs. Future success depends critically on the costs of issuance and disclosure. Low institutional demand due to the small issuance amounts could become a growth obstacle for these markets as well as high issuance and disclosure costs for SMEs. However, there is a lot of potential for SME bond and equity market segments as complementary financing sources.

REFERENCES

- Acharya, Viral, and Sascha Steffen, The "Greatest" Carry Trade Ever? Understanding Eurozone Bank Risks", *Journal of Financial Economics* 115 (2), 2015, 215 – 236.
- Altman, Edward and Gabriele Sabato, 2005, Effects of the New Basel Capital Accord on Bank Capital Requirements for SMEs, *Journal of Financial Services Research* 28(1-3), 15–42.
- Baker, Malcolm and Jeffrey Wurgler, 2015, Do Strict Capital Requirements Raise the Cost of Capital? Bank Regulation, Capital Structure, and the Low-Risk Anomaly. *American Economic Review* 105(5): 315-20.
- Bank for the Accounts of Companies Harmonized (BACH), BACH Userguide Summary. European Committee of Central Balance – Sheet Data Offices.
- Basel Committee on Banking Supervision (BCBS), 2010 (rev June 2011), *Basel III: A global regulatory framework for more resilient banks and banking systems*, Basel.
- Becker, Bo, and Victoria Ivashina, 2014, “Cyclicality of Credit Supply: Firm Level Evidence,” *Journal of Monetary Economics* 62, 76-93.
- Becker, Bo, and Victoria Ivashina, 2014, Financial Repression in the European Sovereign Debt Crisis, Working Paper, Harvard Business School.
- Tobias Berg, Bernhard Gehra, and Michael Kunisch, 2011, A Certification Model for Regulatory Arbitrage: Will Regulatory Arbitrage persist under Basel III?, *Journal of Fixed Income* 21(2), 39-56.
- Betrand, Marianne, Esther Duflo and Sendhil Mullainathan, 2004, How Much Should We Trust Difference-In-Difference Estimates?, *Quarterly Journal of Economics* 119, 249–275.

Carbo-Valverde, Santiago, Francisco Rodriguez-Fernandez and Gregory F. Udell, 2016, Trade Credit, the Financial Crisis, and SME Access to Finance, *Journal of Money, Credit and Banking*, 48(1): 113-143.

Cardone-Riportella, Clara, Reyes Samaniego-Medina, Antonio Trujillo-Ponce, 2010, What drives bank securitisation? The Spanish experience, *Journal of Banking and Finance* 34(11), 2639-2651.

Cingano, Federico, Francesco Manaresi, and Enrico Sette, 2016, Does Credit Crunch Investment Down? New Evidence on the Real Effects of the Bank-Lending Channel, *Review of Financial Studies*, first published online June 7, 2016.

Cosimano, Thomas F. and Dalia Hakura, 2011, Bank Behavior in Response to Basel III: A Cross-Country Analysis, *IMF Working Paper No. 11/119*.

Cournède, Boris and Patrick Slovik, 2011, Macroeconomic Impact of Basel III, OECD Economics Department Working Paper, No. 844, OECD Publishing, Paris.

Elliott, Douglas J., 2009, Reviewing the Administration's Financial Reform Proposals, The Brookings Institution.

European Systemic Risk Board (ESRB), 2014, Is Europe Overbanked?, Report of the Advisory Scientific Committee No. 4, June.

European Systemic Risk Board (ESRB), 2013, The structure and resilience of the European interbank market, *ESRB Occasional Paper no. 3*.

Gambacorta, Leonardo, Jing Yang, and Kostas Tsatsaronis, 2014, Financial structure and growth, *BIS Quarterly Review*, 21-37.

Giovannini, Alberto, Colin Mayer, Stefano Micossi, Carmine Di Noia, Marco Onado, Marco Pagano, Andrea Polo, 2015, Restarting European Long-Term Investment Finance - A Green Paper Discussion Document, CEPR, London.

Hanson, Samuel G., Anil K Kashyap, and Jeremy C. Stein, 2011, A Macroprudential Approach to Financial Regulation, *Journal of Economic Perspectives* 25(1), 2011, 3-28.

Hellmann, Thomas, Paul Schure and Dan Vo, 2015, Angels and Venture Capitalists: Complements or Substitutes? Said Business School Working Paper 2015-2.

Iyer, Rajkamal, José-Luis Peydró, Samuel da-Rocha-Lopes, and Antoinette Schoar, 2014, Interbank Liquidity Crunch and the Firm Credit Crunch: Evidence from the 2007–2009 Crisis, *Review of Financial Studies* 27 (1): 347-372.

Jiménez, Gabriel, Steven Ongena, José-Luis Peydró and Jesús Saurina. 2012. Credit Supply and Monetary Policy: Identifying the Bank Balance-Sheet Channel with Loan Applications. *American Economic Review*, 102(5): 2301-26.

King, Michael R., 2010, Mapping capital and liquidity requirements to bank lending spreads, BIS Working Paper No. 324.

Kraemer-Eis, Helmut, Lang, Frank and Gvetadze, Salome, 2014. European Small Business Finance Outlook. EIF Working Paper 2014/26. EIF Research & Market Analysis. December 2014.

Lugaresi, Sergio, 2015, Restarting the credit engine in Europe - Review of the Main European Policy Initiatives, Restarting European Long-Term Investment Finance, CEPR, London.

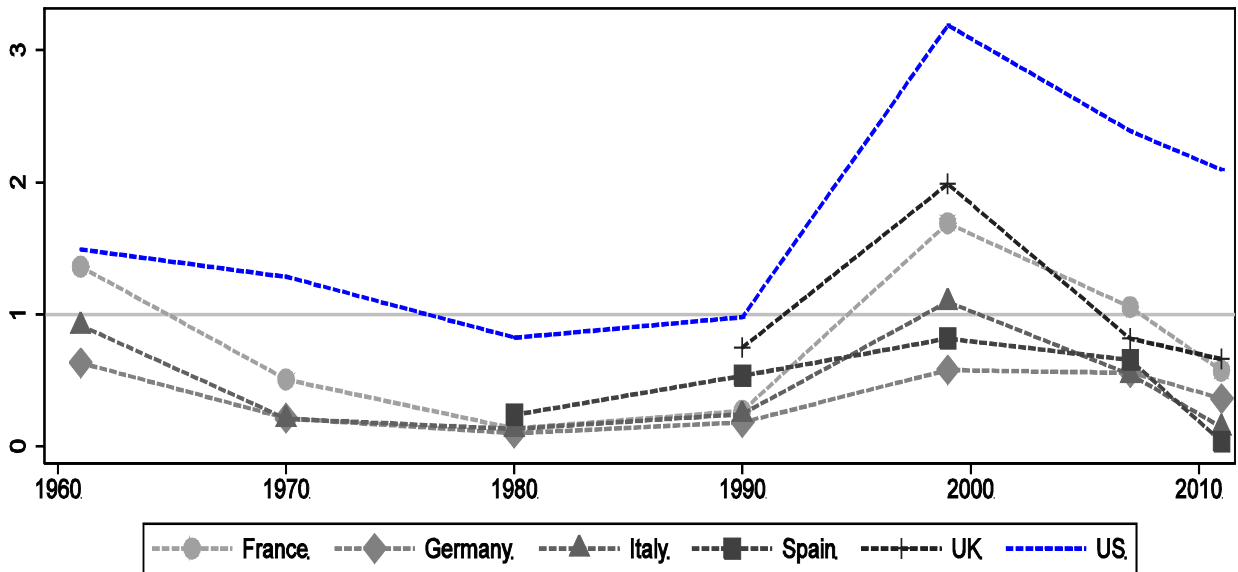
Macroeconomic Assessment Group established by the Financial Stability Board and the Basel Committee on Banking Supervision (MAG), 2010, *Assessing the macroeconomic impact of the transition to stronger capital and liquidity requirements*, Final report, Basel.

Ozmel, Umit, David T. Robinson, Toby E. Stuart, 2013, Strategic alliances, venture capital, and exit decisions in early stage high-tech firms, *Journal of Financial Economics* 107(3), 655-670.

Rajan, Raghuram G., 1992, Insiders and Outsiders: The Choice between Informed and Arm's-Length Debt. *Journal of Finance* 47(4), 1367-1400.

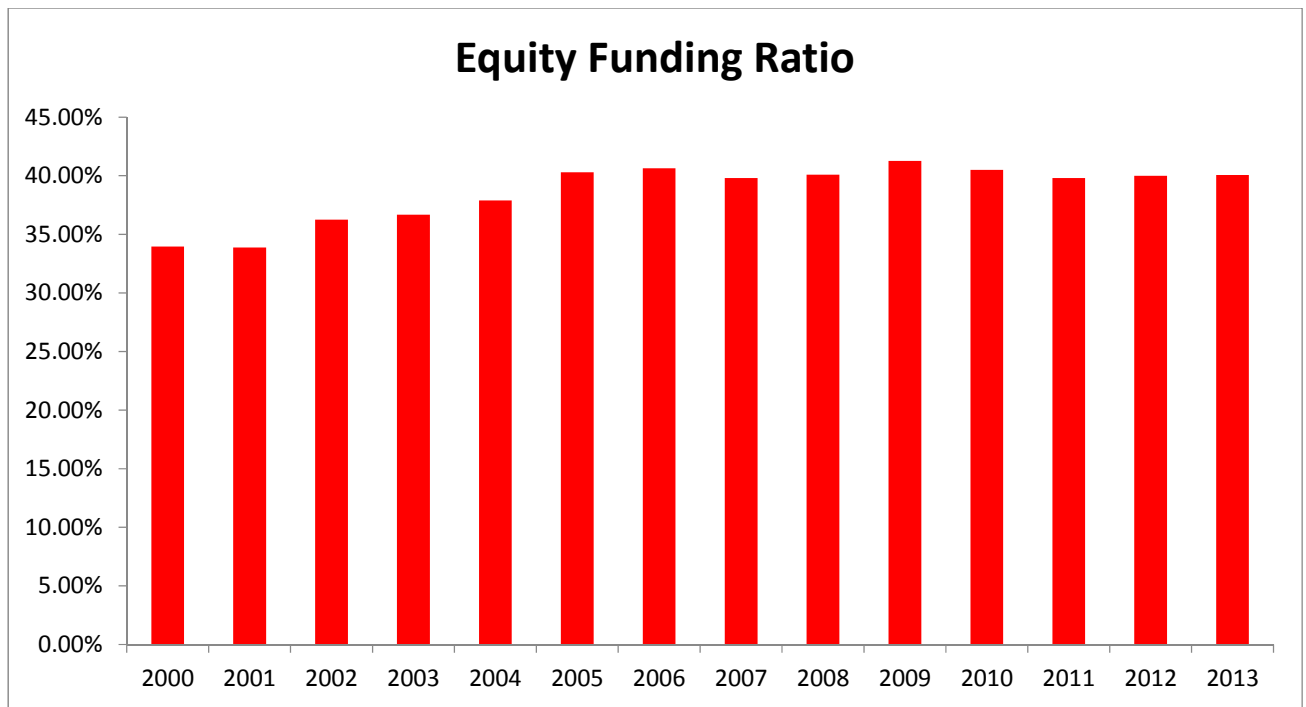
Santos, Joao and Andrew Winton, 2008, Bank Loans, Bonds, and Information Monopolies across the Business Cycle. *Journal of Finance*, 63: 1315–1359.

Figure 1. Ratio of Stock Market Capitalization to Bank Credit to the Private Sector



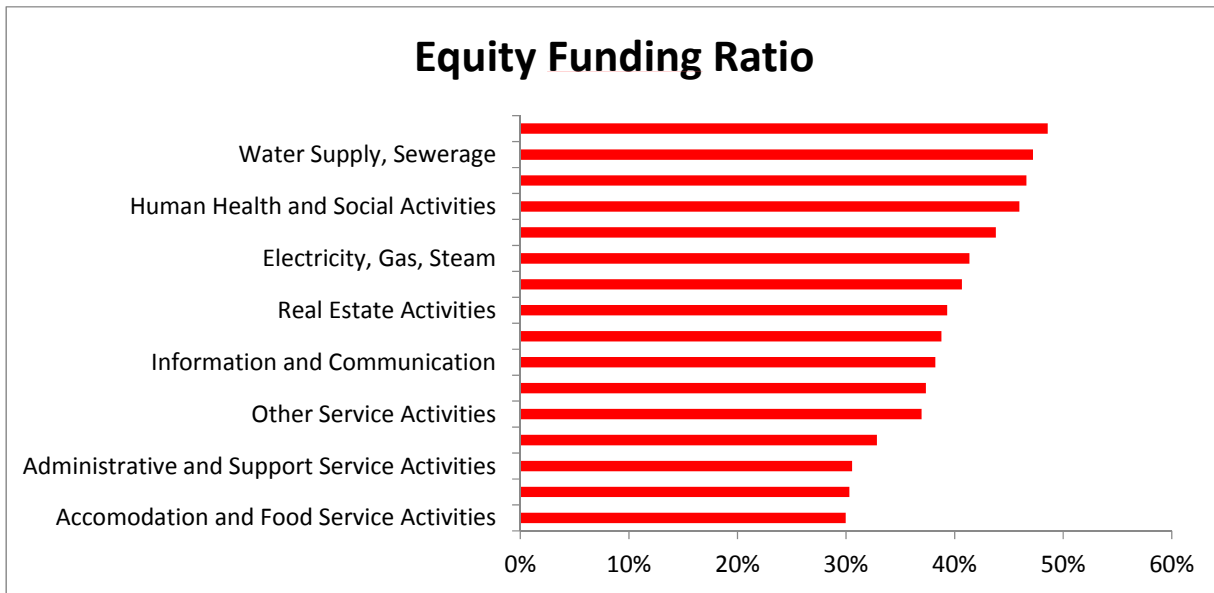
Source: ESRB(2014), Rajan and Zingales (2003), Schularick and Taylor (2012)

Figure 2A. Equity Financing over Time



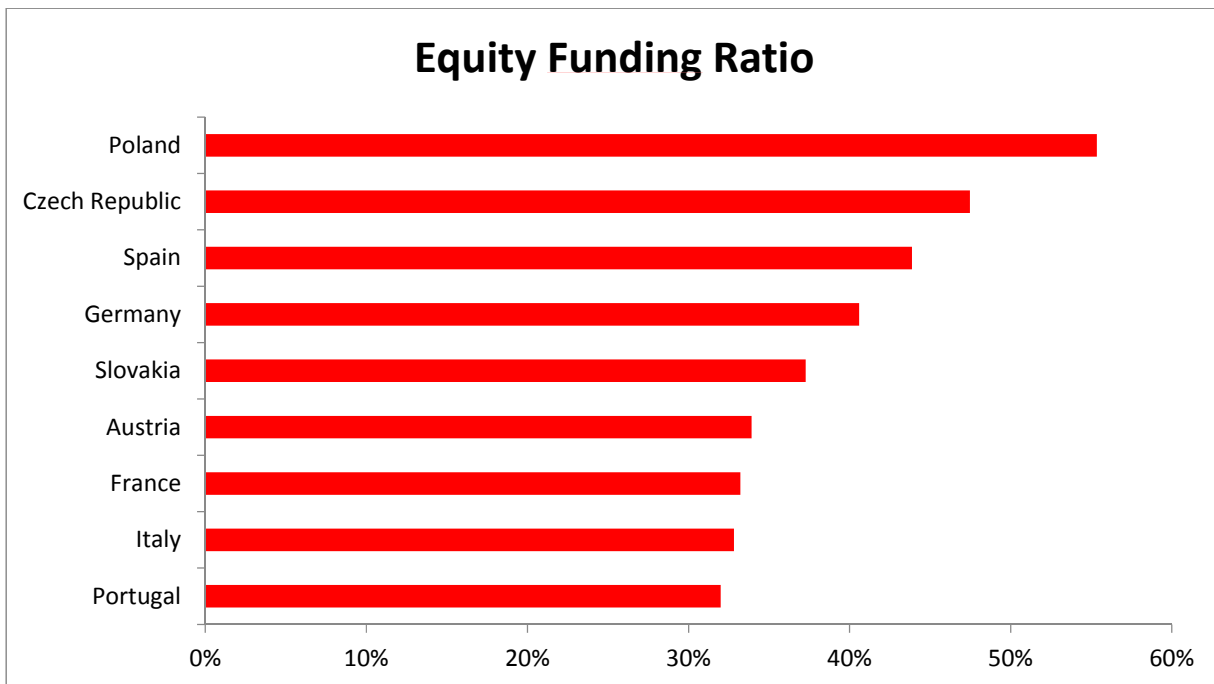
Source: BACH, own calculations

Figure 2B. Equity Financing across Sectors



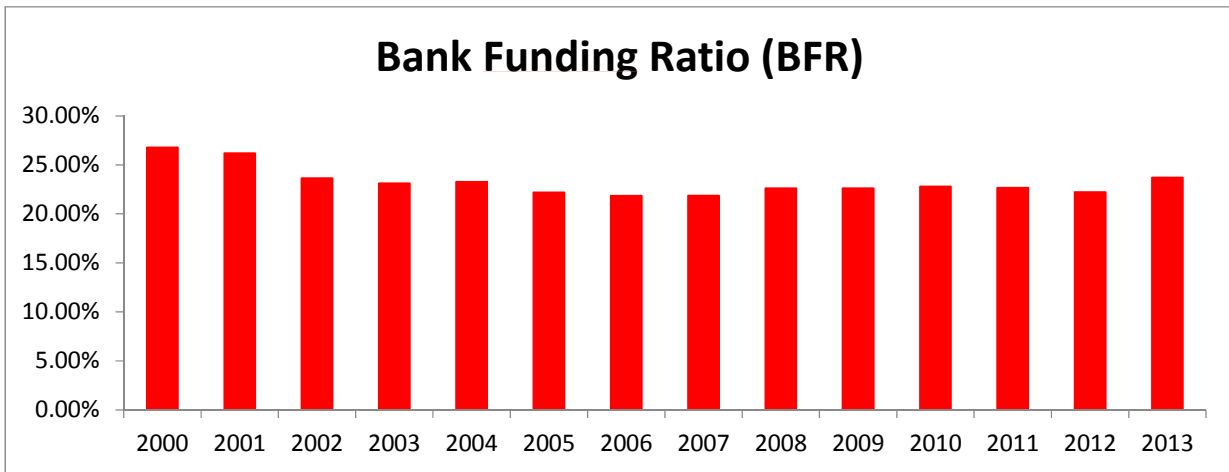
Source: BACH, own calculations

Figure 2C. Equity Financing across Countries



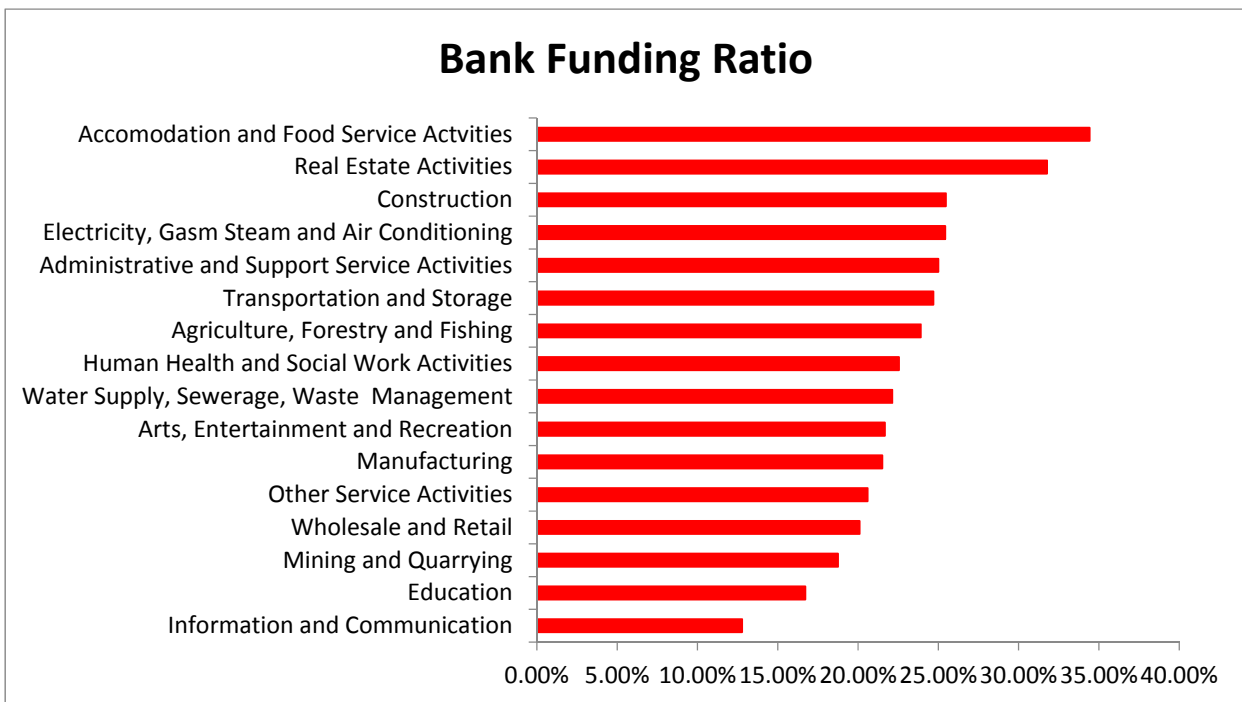
Source: BACH, own calculations

Figure 3A. Bank Financing over Time



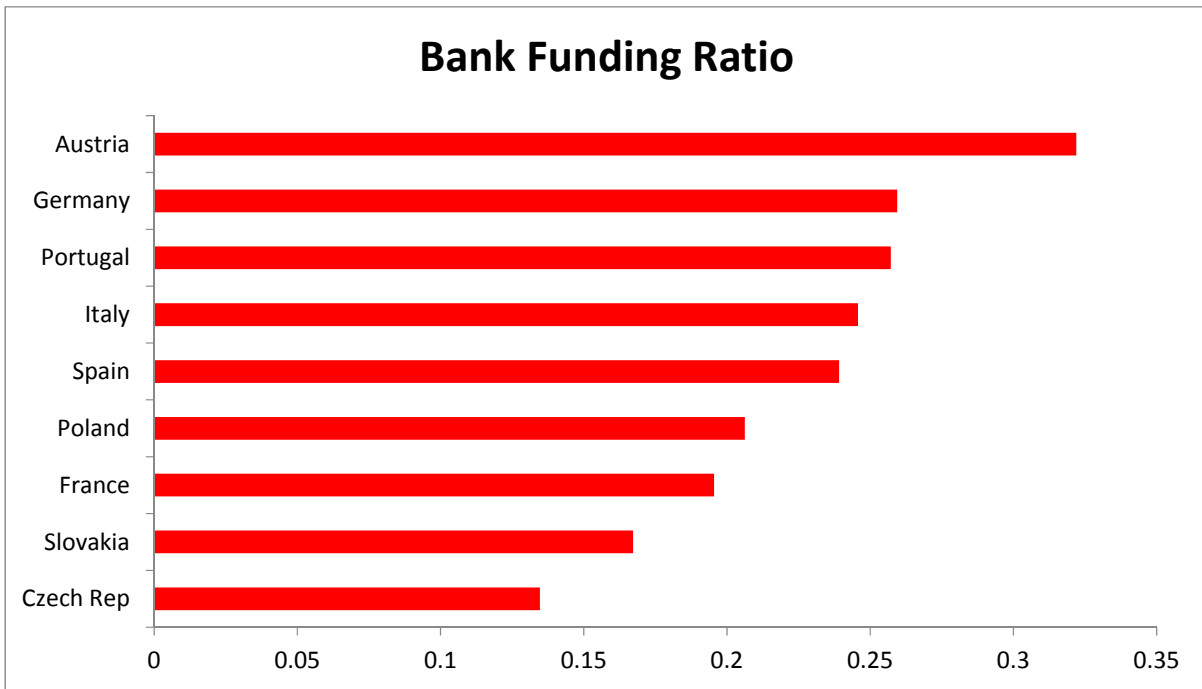
Source: BACH, own calculations, Bank Funding Ratio: fraction of loans from banks to total liabilities (excluding provision and deferred liabilities)

Figure 3B. Bank Financing across Sectors



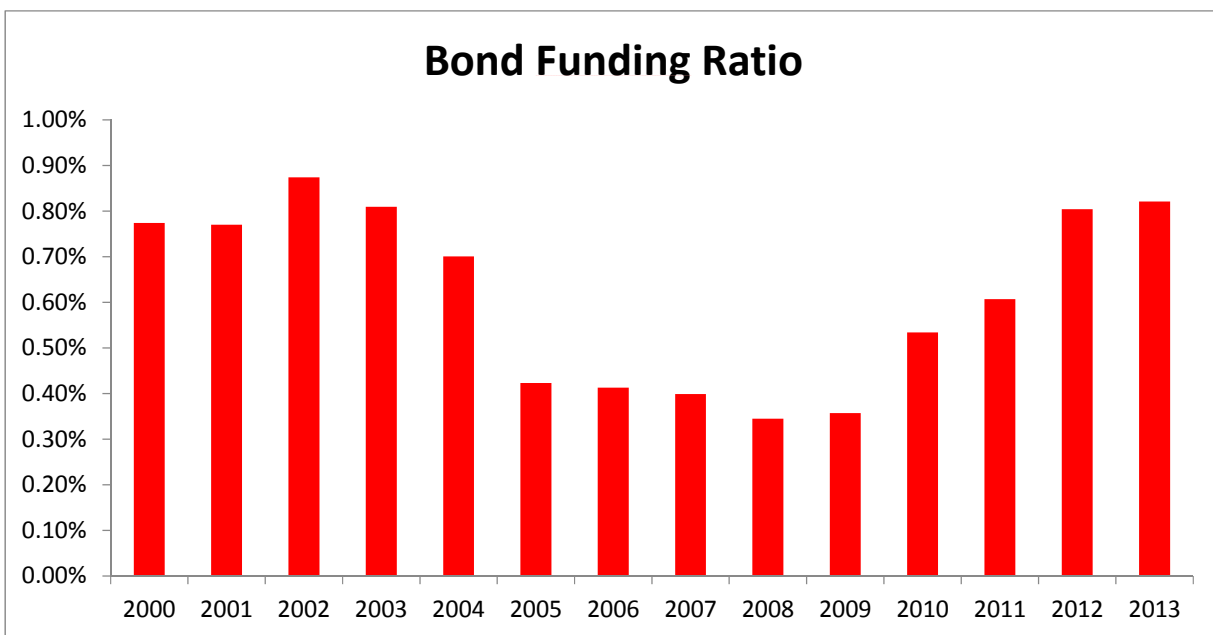
Source: BACH, own calculations

Figure 3C. Bank Financing across Countries



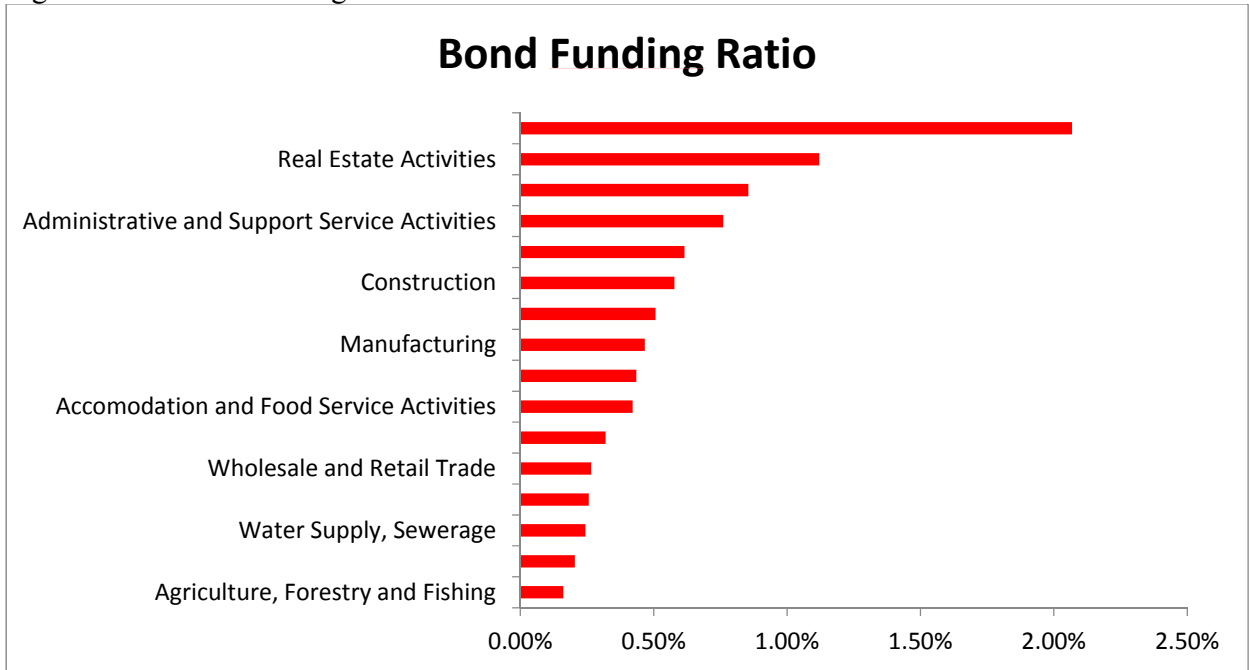
Source: BACH, own calculations

Figure 4A. Bond Financing over Time



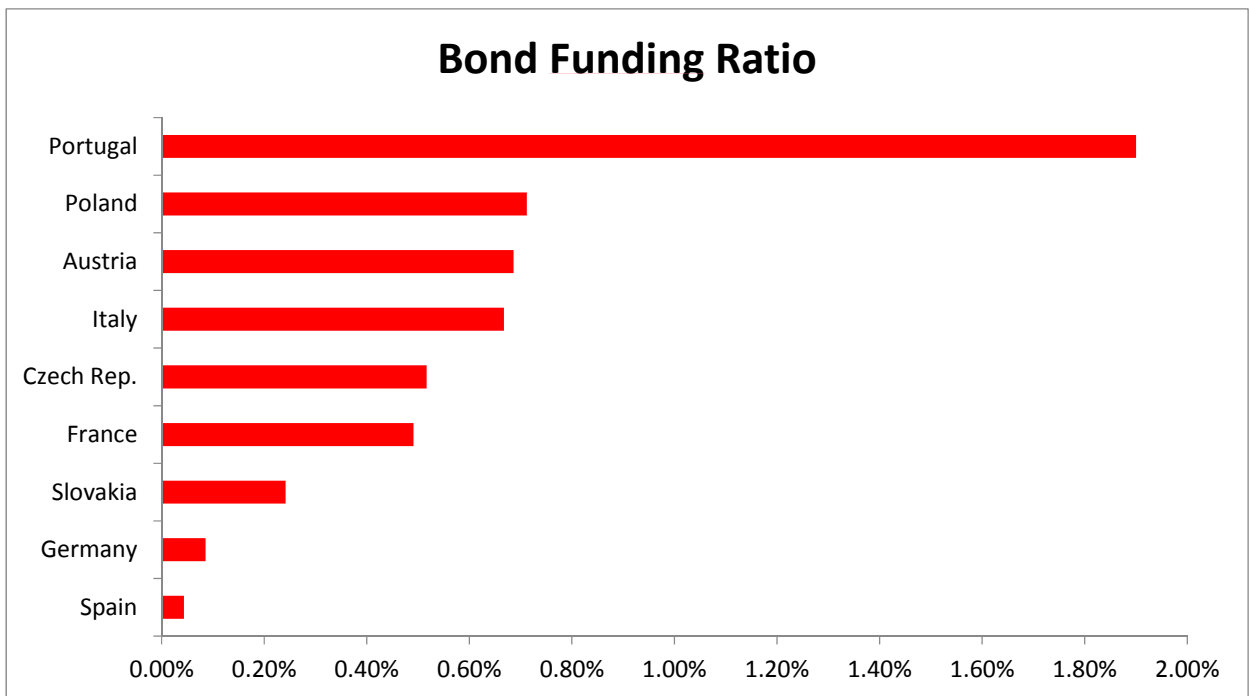
Source: BACH, own calculations

Figure 4B. Bond Financing across Sectors



Source: BACH, own calculations

Figure 4C. Bond Financing across Countries



Source: BACH, own calculations

Figure 5a. Availability of Bank Loans in the Eurozone 2009-2014

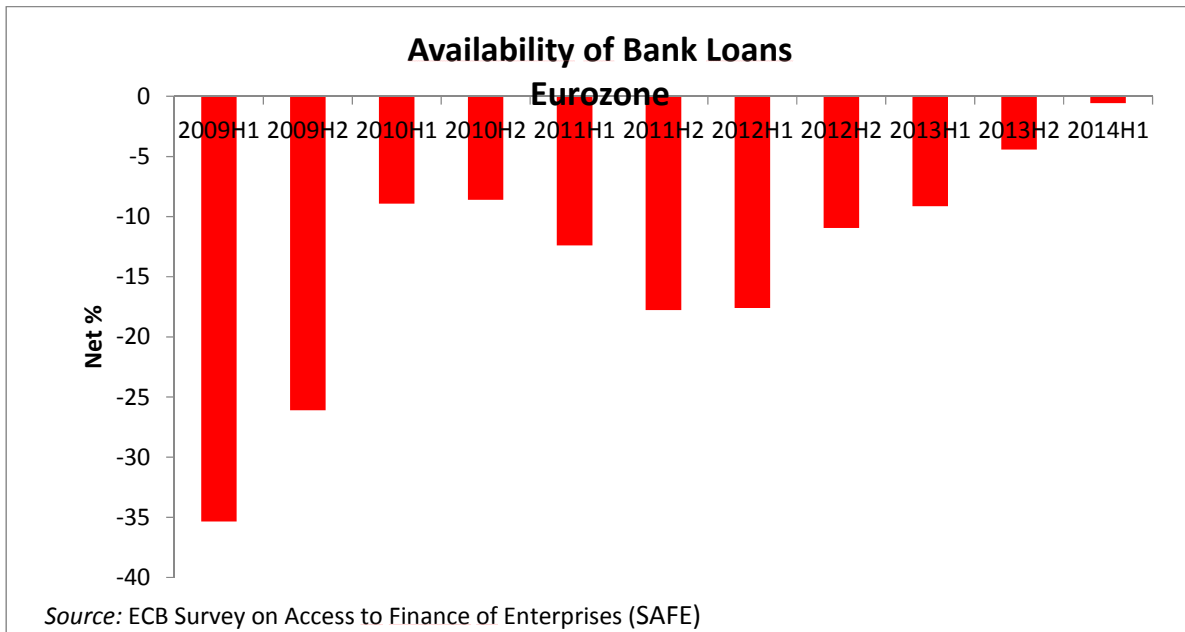


Figure 5b. Interest Rate Spreads in the Eurozone 2000-2014 (Source: ECB Lending Survey)

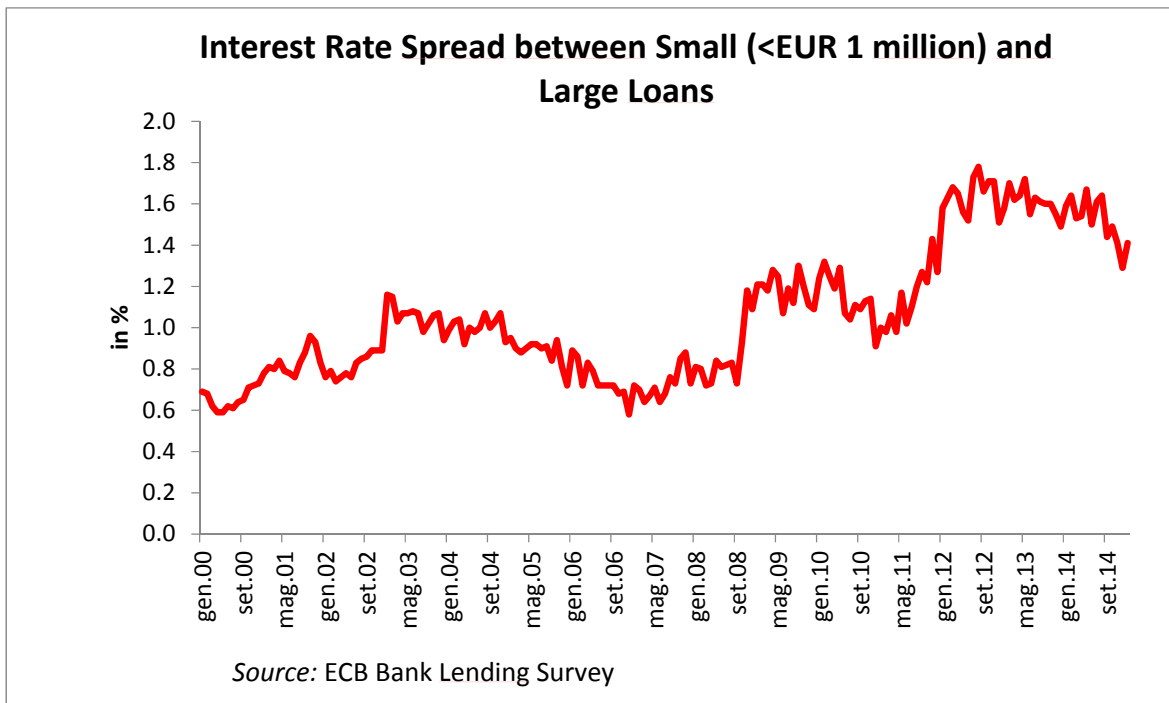


Figure 5c. Interest Rate Spreads in Germany, Spain, France, and Italy 2000-2015 (Source: ECB)

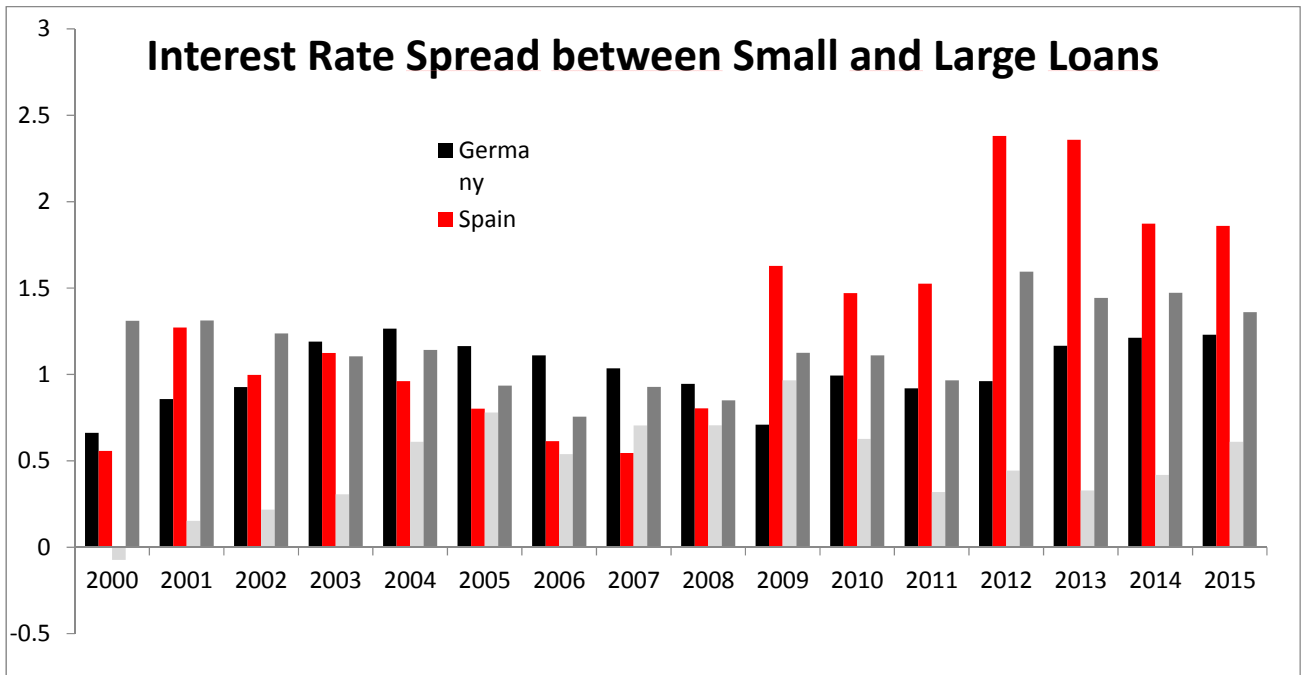


Figure 5d. Collateral Requirements (Source: ECB Lending Survey)

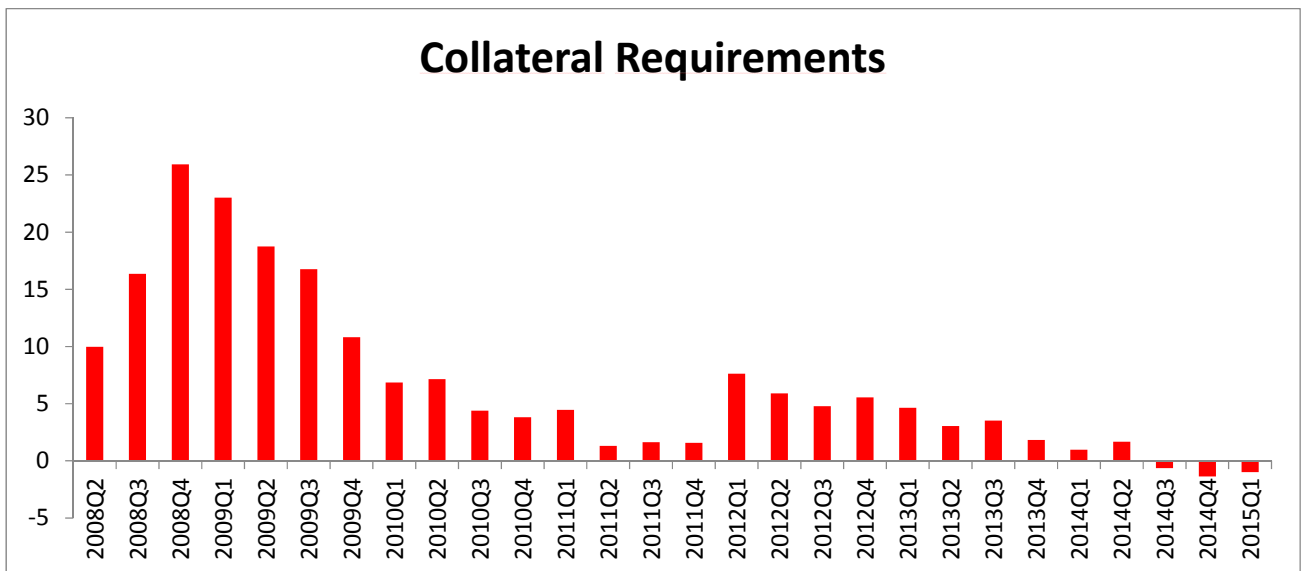


Figure 5e. Loan Maturities (*Source: ECB Lending Survey*)

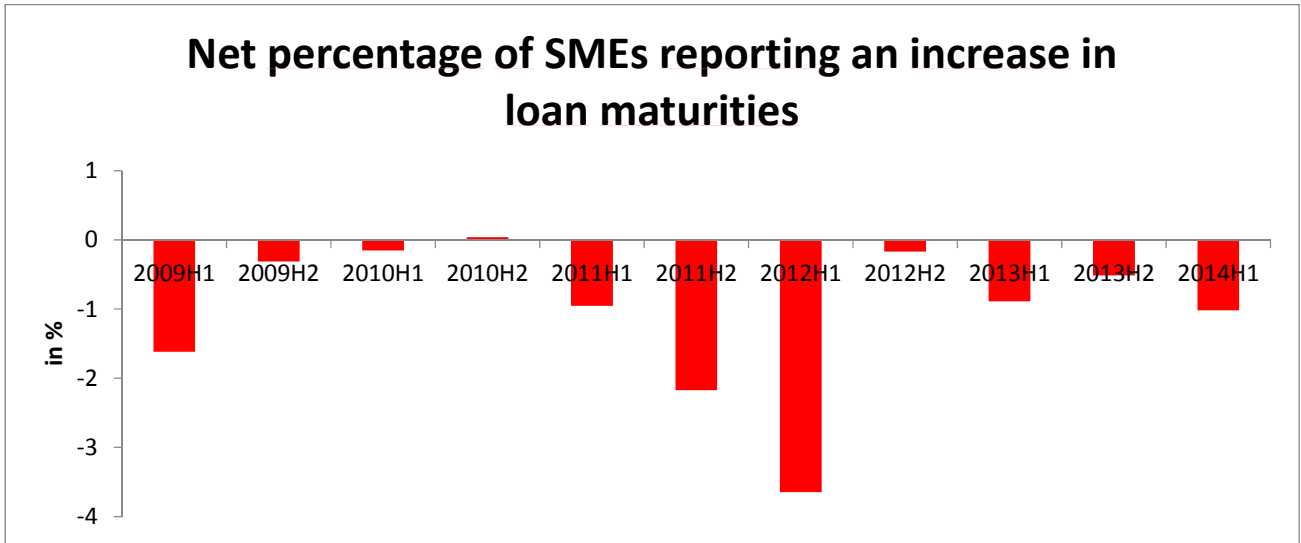


Figure 5f. Percentage of SMEs using Trade Credit across Countries (*Source: ECB SAFE*)

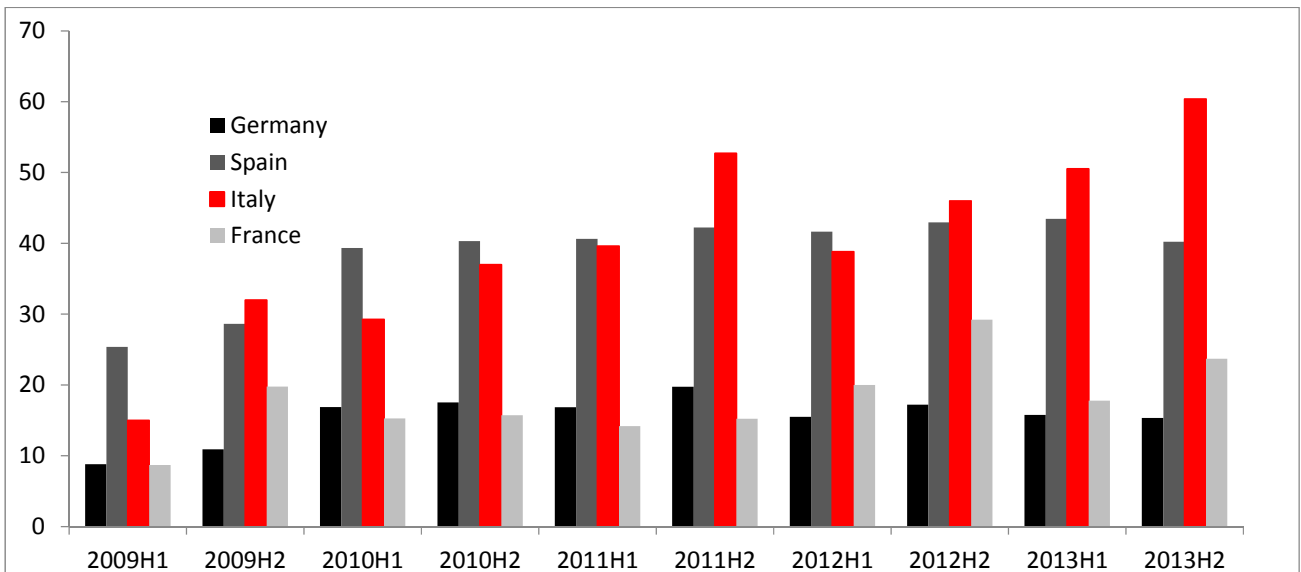


Figure 6a. Percentage of SMEs using Equity across Countries (*Source: ECB SAFE*)

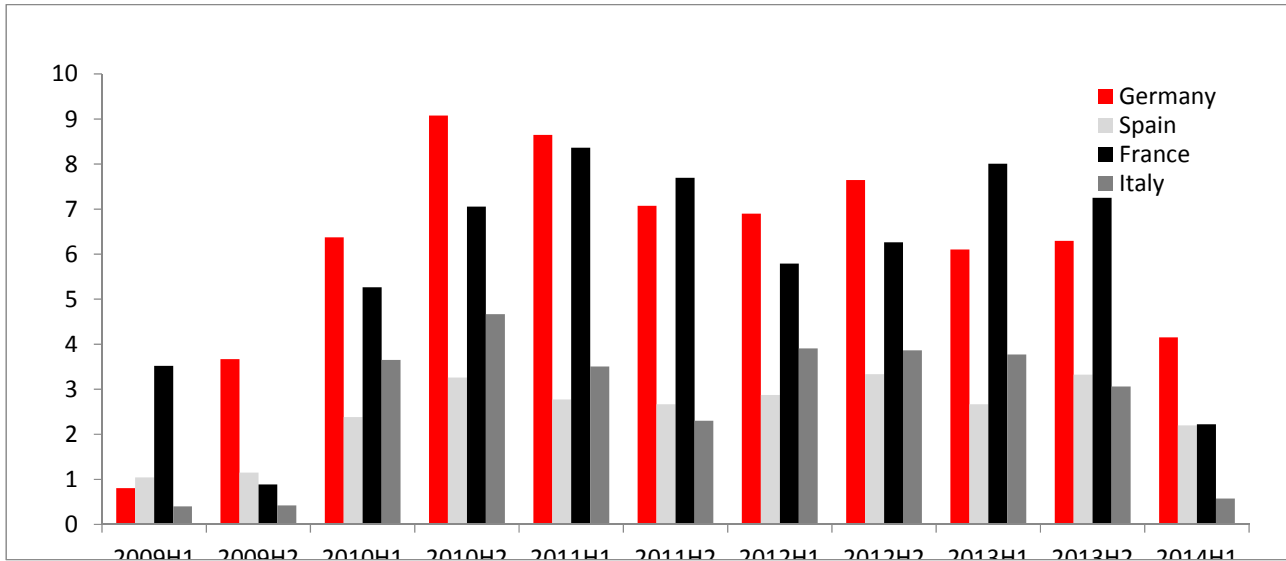


Figure 6b. Percentage of SMEs using Debt Securities across Countries (*Source: ECB SAFE*)

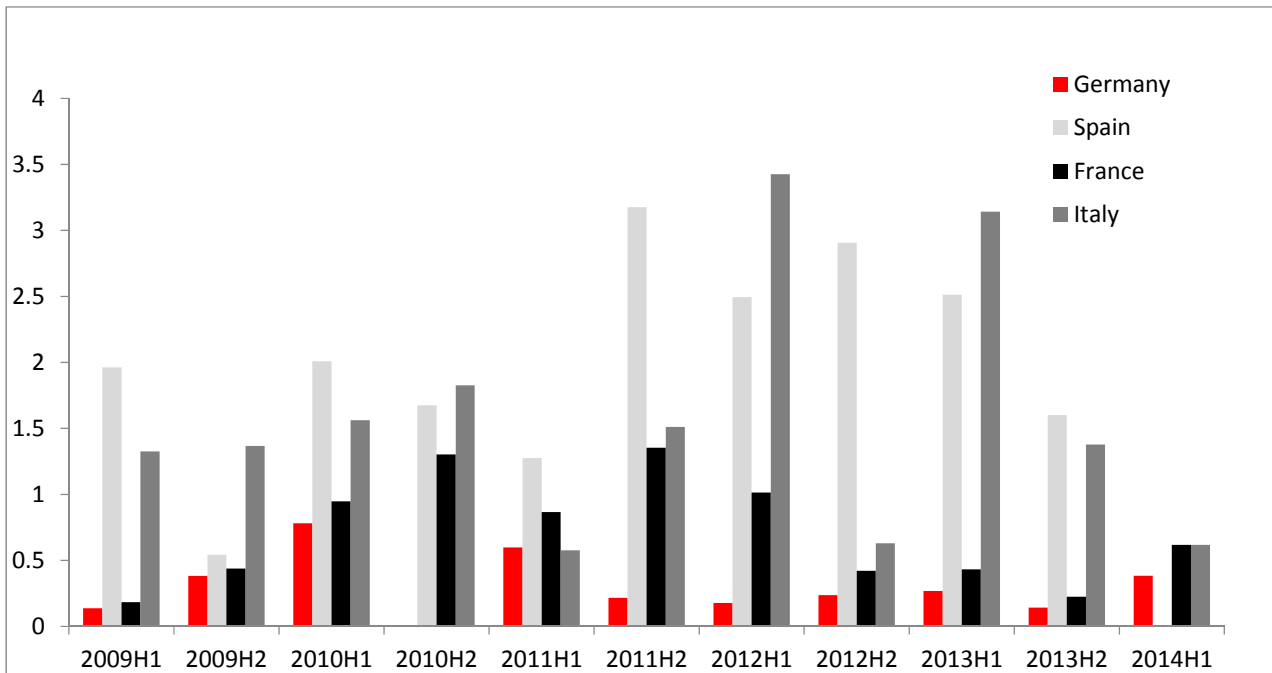
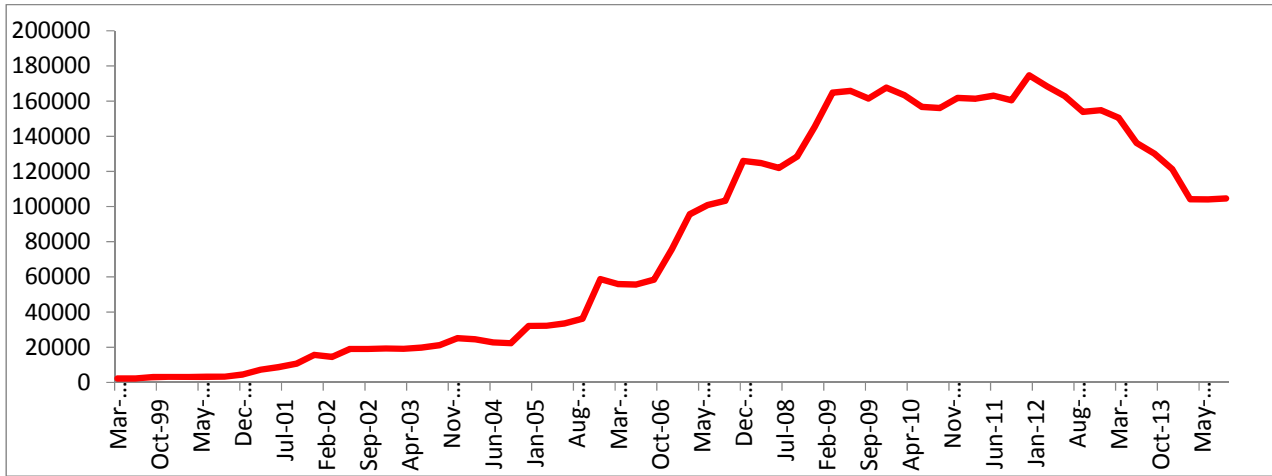


Figure 7. Outstanding volume of SME backed ABS (EUR millions)



Source: SIFMA

Figure 8. Median Equity Funding Ratio before and after the introduction of a SME equity segment

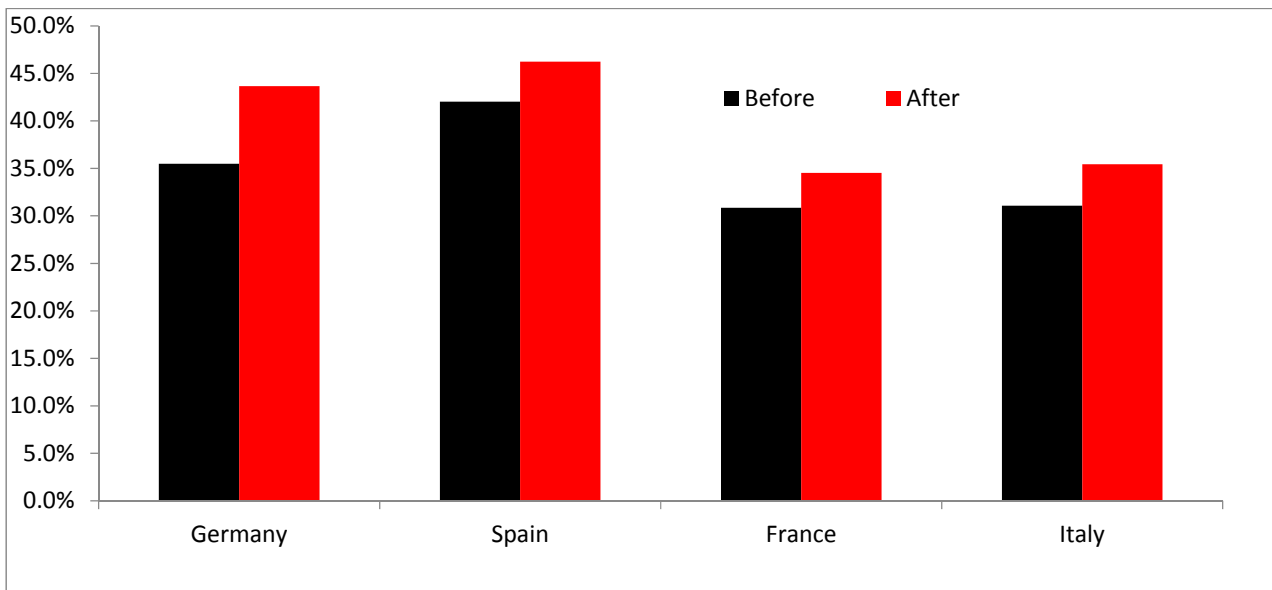


Table 2. Equity Funding Ratio

This table shows the effect of introducing a dedicated equity segment on the equity funding ratio of SMEs. Our data comprises equity funding ratios of 17 sectors across 9 countries from the BACH database. The variable SME segment is a dummy equal to 1 after the introduction of a SME equity market segment in a specific country, i.e. the multiplication of a treatment dummy and a post-treatment period dummy. *, **, *** indicates statistical significance at the 10%, 5% and 1% level respectively.

	EQUITY FUNDING RATIO		
	(1)	(2)	(3)
SME EQUITY SEGMENT	3.35*** (4.78)	3.60*** (6.61)	2.37*** (3.25)
COUNTRY FIXED EFFECTS	Y	Y	Y
SECTOR FIXED EFFECTS		Y	Y
TIME FIXED EFFECTS			Y
CONSTANT	35.62*** (41.03)	40.40*** (39.30)	43.57*** (30.93)
Observations	1,685	1,685	1,685
R-squared	0.35	0.59	0.60

Table 3. Bond Funding Ratio

This table shows the effect of introducing a dedicated bond segment on the bond funding ratio of SMEs. Our data comprises bond funding ratios of 17 sectors across 9 countries from the BACH database. The variable SME Bond segment is a dummy equal to 1 after the introduction of a SME bond market segment, i.e. the multiplication of a treatment dummy and a post-treatment period dummy. *, **, *** indicates statistical significance at the 10%, 5% and 1% level respectively.

	BOND FUNDING RATIO		
	(1)	(2)	(3)
SME BOND SEGMENT	0.03 (1.35)	0.03 (1.39)	0.06** (2.03)
COUNTRY FIXED EFFECTS	Y	Y	Y
SECTOR FIXED EFFECTS		Y	Y
TIME FIXED EFFECTS			Y
CONSTANT	0.13*** (7.28)	0.15*** (5.72)	0.10** (2.52)
Observations	1,685	1,685	1,685
R-squared	0.35	0.43	0.44

Table 4. Joint Assessment of Market Based Bond and Equity Funding Initiatives

This table shows the effect of introducing a dedicated bond/equity segment on the bond/equity/market-based funding ratio of SMEs. Our data comprises bond/equity/market-based funding ratios of 17 sectors across 9 countries from the BACH database. The variable SME Bond/Equity segment is a dummy equal to 1 after the introduction of a SME bond/equity market segment, i.e. the multiplication of a treatment dummy and a post-treatment period dummy. *, **, *** indicates statistical significance at the 10%, 5% and 1% level respectively.

	Market-based funding Ratio	Equity Funding Ratio	Bond Funding Ratio
SME EQUITY SEGMENT	1.93*** (2.64)	2.13*** (2.93)	0.00 (0.17)
SME BOND SEGMENT	2.11** (1.99)	2.36** (2.23)	0.05** (1.98)
COUNTRY FIXED EFFECTS	Y	Y	Y
SECTOR FIXED EFFECTS	Y	Y	Y
TIME FIXED EFFECTS	Y	Y	Y
Constant	41.79*** (25.68)	41.21*** (25.33)	0.02 (0.46)
Observations	1,685	1,685	1,685
R-squared	0.60	0.60	0.44