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EBA Discussion Paper and Call for Evidence on SMEs and the SME Supporting Factor

Preliminary analysis and call for evidence for the EBA report on
SMEs and SME Supporting Factor in accordance with the EBA
mandate in Article 501 CRR

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1. Responding to this Discussion Paper and Call for Evidence

The EBA invites comments on the analysis put forward in this paper and in particular on the specific questions stated in the boxes below (also in Annex 1 of this paper).

Comments are most helpful if they:

- respond to the question stated;
- indicate the specific point to which a comment relates;
- contain a clear rationale;
- provide evidence to support the view expressed;
- describe any alternatives the EBA should consider; and
- provide, where possible, data for a cost and benefit analysis.

Submission of responses

To submit your comments, click on the 'send your comments' button on the consultation page by **01.10.2015**. Please note that comments submitted after this deadline, or submitted via other means may not be processed.

Publication of responses

Please clearly indicate in the consultation form if you wish your comments to be disclosed or to be treated as confidential. A confidential response may be requested from us in accordance with the EBA's rules on public access to documents. We may consult you if we receive such a request. Any decision we make not to disclose the response is reviewable by the EBA's Board of Appeal and the European Ombudsman.

Data protection

The protection of individuals with regard to the processing of personal data by the EBA is based on Regulation (EC) N° 45/2001 of the European Parliament and of the Council of 18 December 2000 as implemented by the EBA in its implementing rules adopted by its Management Board. Further information on data protection can be found under the [Legal notice section](#) of the EBA website.

Disclaimer

The views expressed in this discussion paper are preliminary and will not bind in any way the EBA in the future development of the Report. They are aimed at eliciting discussion and gathering the stakeholders' opinion at an early stage of the process.

2. Executive Summary

Reasons for publication

Following the introduction of stricter capital rules by the Capital Requirements Regulation (CRR) and Capital Requirements Directive (CRDIV), and in the context of credit tightening after the financial crisis, a capital reduction factor for loans to small and medium enterprises (SMEs) – the so-called SME Supporting Factor (SF) - was introduced by the CRR to allow credit institutions to counterbalance the rise in capital resulting from the capital conservation buffer and to provide an adequate flow of credit to this particular group of companies.

In this context, the EBA has the mandate to report to the European Commission on¹: a) an analysis of the evolution of the lending trends and conditions for SMEs [...]; (b) an analysis of effective riskiness of Union SMEs over a full economic cycle; and (c) the consistency of own funds requirements laid down in the CRR for credit risk on exposures to SMEs with the outcomes of the analysis under points (a) and (b). In fulfilling its mandate, the EBA will provide input to the Commission's own report on the impact of own funds requirements as set out in the Regulation on lending to SMEs.

The current Discussion Paper and Call for Evidence aims to provide a basis for a preliminary discussion on the issues to be addressed in the final EBA report and to collect evidence from the industry and other stakeholders to further substantiate the proposals in the final report as well as potential objections and alternative proposals.

Contents

SMEs are key players in the EU economy in terms of their share in employment and value added. Nevertheless, they remain largely reliant on bank-related lending (e.g., credit lines and banks loans, leasing) to finance their activities. In fact, other sources of financing, such as equity finance, capital markets debt and securitization, although available, are not as widely used, or are only used through special public support schemes.

In the context of this dependence on bank lending and given the increased regulatory burden following the financial crisis, a capital discount (i.e., SME Supporting Factor) of 0.7619 was introduced in January 2014. This factor allows the reduction of capital requirements on SME loans with the aim of freeing up regulatory capital to deploy for further SME lending and to improve SME lending conditions.

Data on SME riskiness, lending trends and credit conditions provide a first insight into the evolution of lending environment for SMEs. Available data indicates that SMEs are generally riskier than larger firms, having a non-performing loans ratio twice as high than other non-

¹ Article 501(5) of the CRR (Annex 2)

financial corporations. At the same time, the results suggest that key financial ratios² of SMEs experience a more severe deterioration during downturns when compared to those of larger companies, pointing towards the pro-cyclical nature of SME lending.

The latter finding is consistent with the SME lending trends. Following the financial crisis, SME³ bank lending has suffered a significant backdrop in volumes, from a peak of EUR 95 billion in mid-2008 to approximately EUR 54 billion in 2013/2014⁴. Although the flow of new bank lending to SMEs has been positive in the post-crisis environment, it remained below its pre-crisis level. Bank lending to larger corporates, on the other hand, after experiencing stronger increase and decrease episodes since 2003, already recovered to its 2003-2004 pre-crisis volumes.

Lending conditions for SME loans have also deteriorated during the crisis. The spread between interest rates for loans below EUR 1 million – used as a proxy for SME loans - and loans above this threshold has risen from an average of 0.89 point up until 2008 to an average of 1.34 point since 2009. In addition, survey evidence shows that other lending conditions such as charges and fees as well as collateral requirements were also tightened in 2009-2014 - the post-crisis period.

In the light of these developments, and as part of the work stream on the assessment of the impact of the SME Supporting Factor, the Task Force on SMEs has launched the following two empirical projects:

- An empirical study to identify the credit supply effects related to the introduction of the SME Supporting Factor.
- An empirical study to further investigate the issue of the consistency of own funds requirements with the riskiness of SMEs. This study will address the question of the relative calibration of capital requirements associated to exposures to SMEs.

The main findings of these studies, if conclusive, will be included in the final report.

Next steps

Through this Discussion paper and Call for Evidence, which is the basis for a preliminary discussion on the issues to be addressed in the final report, stakeholders are invited to provide their input and evidence aimed at supporting the ongoing analysis on bank lending to SMEs and especially the impact of the SME SF.

The final EBA report on SMEs and the SME Supporting Factor is expected to be published in February 2016. The final report will consider the feedback to the current Discussion Paper and

² European Bank for Accounts of Companies Harmonised

³ SMEs are proxied by loans up to and including EUR 1 million. Large enterprises are proxied by loans over EUR 1 million

⁴ Average monthly lending for 2013/2014 based on data from ECB Monetary and Financial Institutions Interest Rate Statistics.

Call for Evidence, and will include additional analytical input based on the empirical analysis that is in progress.

3. Background and rationale

Following the introduction of stricter capital rules by the Capital Requirements Regulation (CRR)⁵ and Capital Requirements Directive (CRDIV)⁶, and in the context of the credit tightening after the financial crisis, a capital reduction factor for loans to small and medium enterprises (SME) – the so-called SME Supporting Factor (SF) - was introduced by the CRR⁷ to counterbalance the rise in capital resulting from the capital conservation buffer⁸. According to Recital 44 of the CRR, credit institutions should effectively use the capital relief produced through the SME Supporting Factor for the exclusive purpose of providing an adequate flow of credit to SMEs established in the Union.

In this regard, the EBA has the mandate to report to the European Commission on the following⁹: a) an analysis of the evolution of the lending trends and conditions for SMEs [...]; (b) an analysis of effective riskiness of Union SMEs over a full economic cycle; and (c) the consistency of own funds requirements laid down in the CRR for credit risk on exposures to SMEs with the outcomes of the analysis under points (a) and (b). In fulfilling its mandate, the EBA will provide input to the Commission's own report on the impact of own funds requirements as set out in the Regulation on lending to SMEs.

The EBA has already produced a SME report in 2012 prior to the introduction of the SME Supporting Factor¹⁰. In this report, the EBA analysed the appropriateness of risk weights for SME lending, testing the scenario of a reduction of the risk weights by one third (technically, the SME Supporting Factor) in relation to the then prevailing regulation, and the impact of this on banking credit and the soundness of the financial system. The report concluded that there was no sufficient evidence that could support a reduction in SME loan risk weights as a permanent change in the framework.

Given that the SME Supporting Factor was introduced in January 2014 with the entry into force of the CRR/CRDIV and thus with numerous other regulatory changes, assessing and singling out its effect on lending is not straightforward. Therefore, in order to prepare the ground for the final SME report which will provide more detailed analysis on the impact of the SME Supporting Factor, this paper aims to collect evidence on the current situation and evolution of riskiness, lending trends, and conditions of SMEs in the European Union, thereby fulfilling to some extent points (a)

⁵ Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012

⁶ Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC

⁷ Article 501 of the CRR (Annex 2)

⁸ European Banking Authority (2012), Assessment of SME Proposals for CRD IV/ CRR

⁹ Article 501(5) of the CRR (Annex 2)

¹⁰ European Banking Authority (2012), Assessment of SME Proposals for CRD IV/ CRR

and (b) of the EBA mandate. Regarding point (c) of the EBA mandate, the paper initiates a preliminary discussion on the possible ways to assess the consistency of own funds requirements with lending trends and conditions as well as SME riskiness. Finally, this paper is accompanied by a set of questions aimed at collecting evidence from the industry and other stakeholders to further substantiate the current or alternative proposals.

The discussion (Section 4 of the paper) is structured in four parts. The first part (4.1) provides a brief overview of the role of SMEs in the EU and the main sources of finance for SMEs. The second part (4.2) reviews the regulatory treatment of SMEs in the CRR, and in particular focuses on the application of the SME SF and the resulting capital relief for institutions. Part three (4.3) analyses the evolution riskiness of the SMEs in the EU over a full economic cycle¹¹, and sets forward a proposal on how to assess the consistency of own funds requirements with the SME riskiness. Finally, the fourth part (4.4) examines the SME lending trends and conditions and initiates a preliminary discussion on the impact of the SME SF on lending.

Data considerations and limitations

Any analysis focused on SMEs encounters obstacles when it comes to timely and quality data. These obstacles are faced due to, on the one hand, the diversity of SME definitions applied in different countries and institutions and, on the other hand, the fragmented statistical data. In combination, these two limitations require a pragmatic interpretation of data. Annex 4 provides an overview of the SME definitions, limitations and data sources used in this paper. The EBA will continue to consider this aspect throughout the paper.

¹¹ By full economic cycle is meant a period of at least 10 years, or, in cases when less data is available, a period that starts at least before the financial crisis (2007 and onwards) may be accepted.

4. Discussion

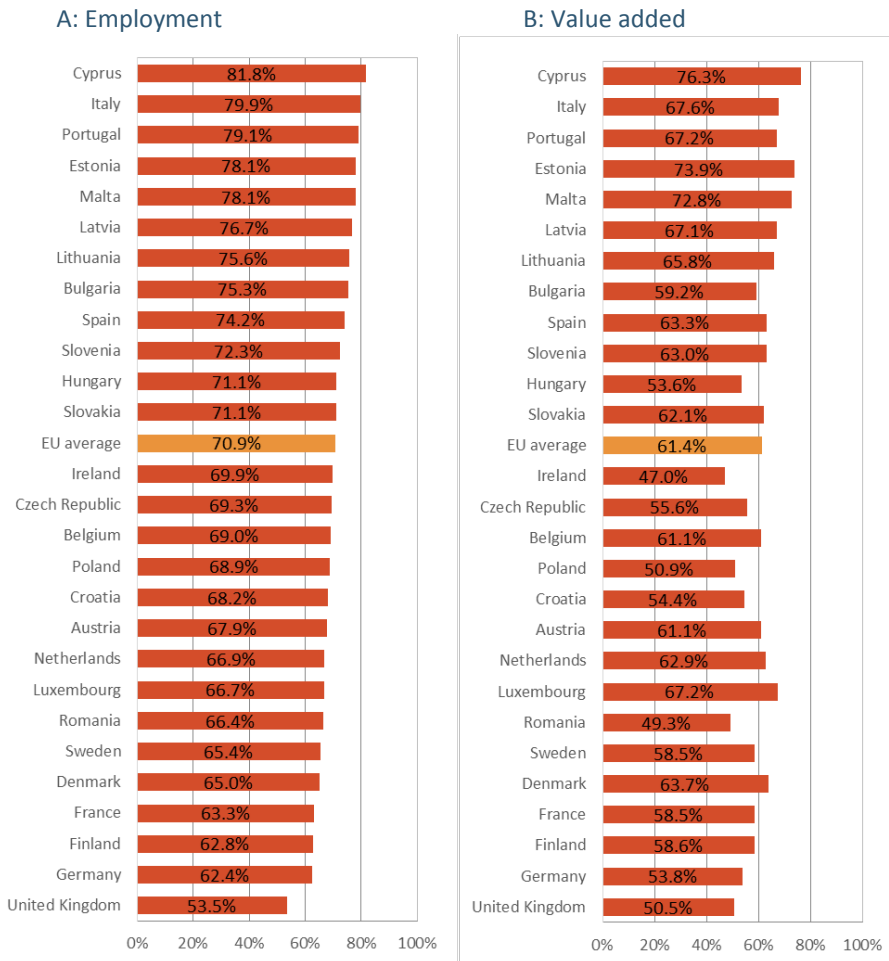
4.1 Market developments and sources of SME financing

1. Across the EU28 in 2013, some 21.6 million small and medium enterprises (SMEs)¹² in the nonfinancial business sector employed 88.8 million people and generated EUR 3 666 trillion in value added, which means 99 out of every 100 businesses are SMEs, as are 2 in every 3 employees and 58 cents in every euro of value added¹³. While micro SMEs (less than 10 employees and turnover or balance sheet total of less than EUR 2 million) count for 92.4% of all SMEs, employment and value added across SMEs is more equally distributed. Significant differences are also apparent across countries.
2. Figure 1, provides a picture of the weight of SME enterprises within each Member State, in terms of both employment and value added. While Greece is the Member State where the largest share of employment is absorbed by SME enterprises (approx. 86%), the United Kingdom is the economy where SMEs have the smallest employment share and the only Member State where this share appears to be below 60%. Interestingly, countries do not rank similarly in terms of value added shares, suggesting that employment and value added do not necessarily move together.
3. SMEs in the EU remain largely reliant on bank financing. Figure 2, below, presents the share of European SMEs (and large firms, for comparison) that used various sources of finance. Bank financing (overdrafts and loans) and leasing/hire-purchasing are the most used and relevant sources of finance for European SMEs – in the six month period to September 2014, bank overdrafts were used by 31% of micro SMEs, 38.9% of small SMEs and 43.9% of medium SMEs, while bank loans were used by 13.4% in micro SMEs, 19.1% of small SMEs and 23.6% of medium SMEs. The use of leasing appears to be highly dependent on SME size, with 15.9% of micro SMEs, 34.4% of small SMEs and 44.2% of medium SMEs using this form of finance. Of the remaining forms of finance available, trade credit is used by 10.3% of SMEs (across all SME size groups), grants and subsidised bank loans by 9.1%, factoring by 6.3% and non-bank loans by 6.9%. Debt securities and equity capital are used the least, with 0.6 and 2.9% of SMEs using this type of finance respectively.

¹² SMEs are defined based on the number of employees: 1-9: Micro; 10-49: Small; 50-249: Medium

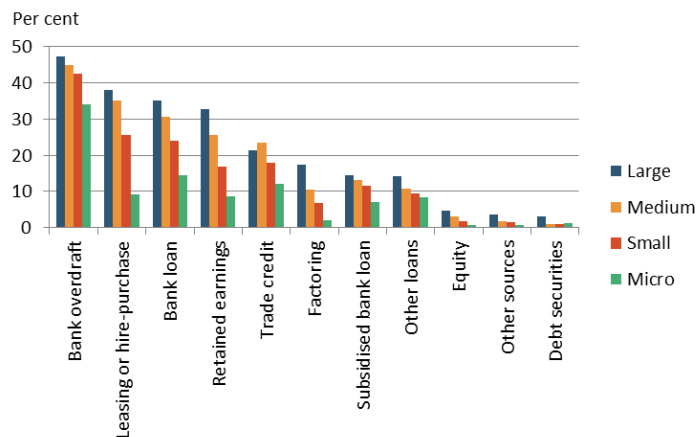
¹³ The size of SMEs in the economy is determined through the GDP production approach, which sums the outputs of various economic activities, minus the value of intermediate consumption and consumption of fixed capital. The value added of SMEs is the value of the output produced by SMEs, deducting the intermediate consumption used to produce it.

Figure 1 Percentage of employment and value added represented by SMEs in the EU



Note: Size categories are based on the number of employees (1-9: Micro; 10-49: Small; 50-249: Medium).
 Source: European Commission’s 2013/2014 Annual Report on European SMEs, http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/index_en.htm.

Figure 2 Use of various sources of finance in the euro area by enterprise size
 October to March 2015



Note: Size categories are based on the number of employees (1-9: Micro; 10-49: Small; 50-249: Medium; 250+: Large). Expressed as the percentage of respondents that used a given source of finance in the preceding six months.

Source: Own calculations using ECB Survey on the Access to Finance of Enterprises.

5. Apart from bank financing, which represent the largest share of SME financing, alternative sources of financing are also available to SMEs, although these are used at a smaller scale:

- **Bank-intermediated capital market funding** (i.e. structured finance) is an integral part of properly functioning capital markets, particularly for the case of the European SME sector where the underwriting role of credit institutions has traditionally played a dominant role. The February 2015 Green Paper of the European Commission on the Capital Markets Union (CMU) considers both covered bonds and securitisations as important alternative sources of funding for banks and opportunities of diversification for investors, improving the overall channeling of savings towards the real economy. These instruments however are still limited in their outreach. As of July 2014, almost none of the national frameworks allow for SME exposures to be included in cover pools¹⁴ for covered bonds. Within the European securitisation market, SME loans have consistently represented a relatively minor share of the outstanding volume, accounting for 7.5% of the outstanding volume today, and the largest class of underlying exposures being constantly represented by residential mortgage loans.¹⁵
- Certain initiatives at the national level have attempted to promote **debt finance on capital markets** for SME enterprises, including the Mini Bonds initiative in Italy¹⁶ and Spain¹⁷ in 2013. While the market is still at its infancy, banks and other institutional investors are increasingly setting up funds aimed at investing in mini bonds. Already since 2010 in Germany, and later in France and the UK, similar markets for retail bonds had been set up.
- In addition to the above mentioned initiatives, there is a large range of public support schemes across the EU for SMEs in various sectors and at different stages of the growth lifecycle. The EIB Group, comprised of the European Investment Bank (EIB) and the European Investment Fund (EIF), supports SME financing through equity investments, portfolio guarantees, investment in and guarantees in favour of securitisations and microfinance. At the national level several development/promotional banks or other

¹⁴ In 2013 Italy introduced a new type of covered bond - *Obbligazione Bancaria Collateralizzata (OBC)* - which, like the traditional Italian *Obbligazione Bancaria Garantita (OBG)*, will represent a dual recourse bond issued under a specific legal/regulatory framework and therefore will classify as covered bond. Unlike the OBG however, the OBC can be backed by: bonds, ship mortgage loans, loans to SMEs, leasing and factoring assets and asset-backed securities. As this DP is being drafted, the Spanish covered bond regulatory framework is being reviewed by the Spanish authorities. Among other changes, a new type of covered bond backed by loans to SMEs and self-employed individuals is being considered.

¹⁵ Against the mentioned percentage share of SME underlying exposures in total outstanding securitisation, it should be considered that as of Q4 2014 exposures to SMEs account for slightly less than 10% of total SA and IRB original exposure for European credit institutions subject to COREP reporting requirements.

¹⁶ Since 2012 the legal and tax treatment of bond issuance by non-listed companies has been simplified relative to the past and an ad-hoc multilateral trading facility (*ExtraMOT Pro*) within the stock exchange has been set up to facilitate bonds issuance for deals with maximum volume of EUR 50 million. In order to be able to access the platform, a given issuer does not have to comply with the listing prospectus requirement of the Prospectus Directive but it simply has to publish the financial statements of the last two years (the least of which has to be audited), the rating of the company if available (although not required) and technical specifications of the bond under consideration.

¹⁷ Disclosure requirements are similar in nature to the ones related to Mini Bonds in Italy.

institutions play similar roles in the support of SME financing, including the KfW in Germany, the ICO in Spain, the CDP in Italy.

4.2 Regulatory treatment of SMEs and the SME Supporting Factor

6. This part of the paper provides an overview of the general regulatory treatment of SME exposures in terms of capital requirement for credit risk in the Capital Requirements Regulation (the CRR) (the main European banking regulation), including the application of the SME Supporting Factor (the SF) which was introduced by Article 501 of the CRR.

Capital requirements for credit risk for SME exposures¹⁸

7. Credit risk capital requirements for institutions are determined by risk-weighting their assets. Risk-weights are either standardised under the supervisory framework, in the case of the Standardised Approach (SA) or produced by an institution's own internal models, in the case of exposure weighted under the Internal Ratings-Based (IRB) Approach.
8. The capital required for exposures to SMEs depends on the exposure class to which they belong. Typically SMEs, when defined according to the EU 2003 Recommendation¹⁹, will be assigned to Corporate or Retail exposure classes, or, in case of SA, will be assigned to the exposure class Secured by immovable property, where such collateral has been provided. Table 1 sets out the general risk weight treatment of exposures to SMEs under the Corporate and Retail exposure classes.
9. SME loans typically receive a differentiated treatment with respect to large enterprises either because they can be classified as retail exposures or due to their reduced size, when they are allocated to the corporate exposure class. When they are classified as retail exposures they attract a flat risk-weight of 75% under the SA and a reduced correlation coefficient under the IRB Approach, meant to capture a reduced dependency of the default of retail customers on the economic cycle. When they are classified as corporate exposures, exposures to SMEs receive a lower capital requirement on the basis of a factor which depends on their size. Hence the capital framework has always taken into account the nature of SMEs and reflected that the risk profile is different of SMEs.²⁰ Capital requirements for SME exposures may be further reduced where qualifying credit risk mitigation techniques are applied and / or eligible collateral is taken.

¹⁸ Given that SMEs are not defined by the CRR, in this section, SMEs will refer to those entities that fall under the definition of SMEs according to the EU 2003 Recommendation (Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises)

¹⁹ Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises

²⁰ For specific details and exceptions, please consult the Capital Requirements Regulation.

Table 1 Treatment of SMEs under SA and IRB Approach

| Corporate | Retail |
|---|--|
| <p>SA</p> <p><u>Eligibility:</u> Not eligible for Retail or any other exposure class²¹</p> <p><u>Same treatment as large enterprises:</u> Rated: risk-weight based on rating Unrated: maximum risk-weight between 100% and sovereign risk-weight</p> | <p><u>Eligibility:</u></p> <ul style="list-style-type: none"> - Defined as SME (as defined by the institution) or natural person; - SME (as defined by the institution) or natural person: amount owed to institution and its parent undertakings capped at EUR 1 million; - Exposure should be one of a significant number of exposures with similar characteristics such that the risks associated with such lending are substantially reduced. <p><u>Differentiated Treatment:</u></p> <ul style="list-style-type: none"> - All retail: flat 75% risk-weight. |
| <p>IRB Approach</p> <p><u>Eligibility:</u> Not eligible for Retail or any other exposure class²²</p> <p><u>Differentiated treatment:</u> Corporate with annual turnover below EUR 50 million: asset correlation coefficient includes a size adjustment²³</p> | <p><u>Eligibility:</u></p> <ul style="list-style-type: none"> - Defined as SME (as defined by the institution) or natural person; - SME (as defined by institution): amount owed to institution and its parent undertakings capped at EUR 1 million; - The exposures should be treated by institutions in its risk management consistently over time and in a similar manner, they should not be managed individually (as in the Corporate exposure class), and each should represent one of a significant number of similarly managed exposures. <p><u>Differentiated Treatment:</u></p> <ul style="list-style-type: none"> - Retail exposures secured by immovable property collateral: flat asset correlation coefficient of 15% - Qualifying revolving retail exposures: flat asset correlation coefficient of 4% - Other retail: asset correlation coefficient based on formula²⁴ (3%-16%) |

Note: Please refer to the CRR for a more detailed account of the treatment of SMEs under the SA and IRB Approach

Source: compiled based on the CRR

10. While certain risk weight treatments are limited to SMEs, the CRR does not define *SME* other than for purposes of Article 501 of the CRR²⁵. Accordingly, there is a large diversity of SME definitions used by institutions across Europe.²⁶ According to EBA (2012)²⁷, SME definitions vary with the size of the country in which the institution is domiciled and / or the level of the institution's international activity. Internationally active banks appear to often have different

²¹ Please refer to CRR for the the more detailed specifications

²² Please refer to CRR for the the more detailed specifications

²³ The asset correlation coefficient for Corporate is 12-24%. The application of the size adjustment allows to reduce it down to 8%-20%, depending on size (turnover) and PD. The formula for the asset correlation coefficient for IRB corporate exposures is provided in Article 153 of the CRR.

²⁴ The formula for the asset correlation coefficient for IRB retail exposures is provided in Article 154 of the CRR

²⁵ In Article 501 of the CRR, SMEs should be defined in accordance with the Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises

²⁶ A non-binding suggestion to use the SME definition from the European Commission Recommendation was provided in response to a question submitted through the EBA's formal Q&A on-line tool (Annex 3).

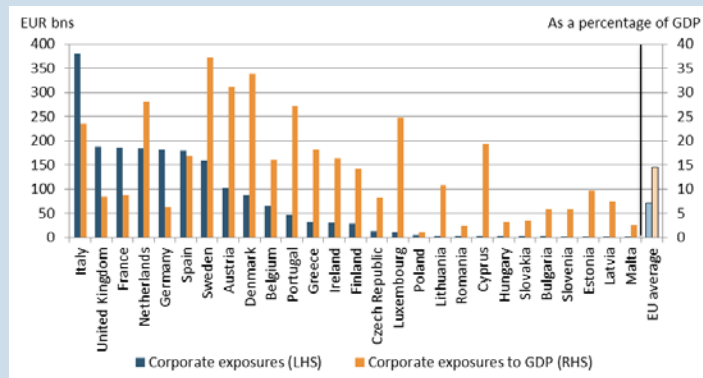
²⁷ European Banking Authority (2012), Assessment of SME Proposals for CRD IV/ CRR.

SME definitions for each and every country in which they operate. While non-internationally active smaller banks (typically using the SA) tend to share a common definition with other banks in their jurisdiction. Without a common SME definition, it is difficult to compare the size of SME exposures across EU institutions and countries. Notwithstanding the definitional issue, SME exposures represent approximately 30% of the Corporate portfolio and 80% of Retail portfolio across the EU credit institutions reporting to the EBA in 2014²⁸. A more detailed overview of the SME corporate and SME retail portfolios in the EU countries is presented in Box 1.

Box 1 SME Corporate and Retail portfolios by country

The size of ‘SME retail’ and ‘SME corporate’ exposures (originating values) across the EU as of 2014 Q4 are presented in Figure 3 and Figure 4 respectively (EBA supervisory data). The values presented include SME exposures of EU MSs, regardless of the debtor’s country of origin. These graphs also present exposure amounts as a proportion of GDP in 2014. For both corporate and retail exposures, Italy, the United Kingdom, France, the Netherlands, Germany and Spain show the highest level of SME lending, and together account for almost EUR 1.3 trillion in corporate lending and EUR 0.9 trillion in retail lending. However, as a proportion of GDP, corporate exposures are highest in Sweden, Austria, Denmark, Portugal and the Netherlands (all over 25 per cent of GDP) and retail exposures are highest in Luxembourg, Italy, the Netherlands, Belgium, France and Austria (all over 12% of GDP).

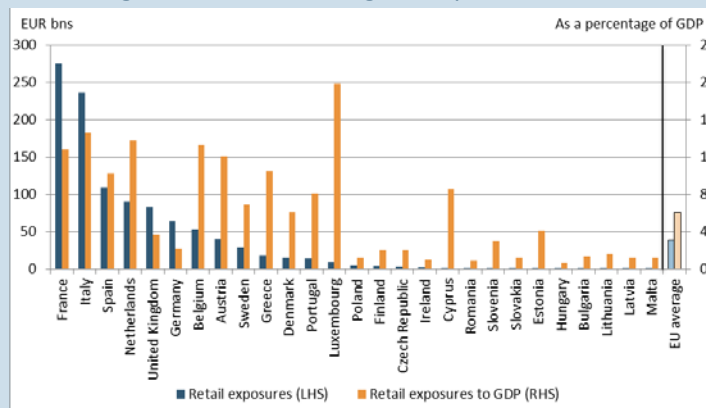
Figure 3 SME corporate original exposures in 2014Q4



Note: GDP data refers to 2014, with the exception of Luxembourg (2013).

Source: Own calculations using EBA Supervisory Data (preliminary) and Eurostat Annual National Accounts.

Figure 4 SME retail original exposures in 2014Q4



Note: GDP data refers to 2014, with the exception of Luxembourg (2013).

Source: Own calculations using EBA Supervisory Data (preliminary) and Eurostat Annual National Accounts.

²⁸ The data include both SA and IRB banks.

Interpretation and application of the SME Supporting Factor

11. In addition to the general treatment of SME exposures, the CRR has introduced a deduction in capital requirements for exposures to SMEs, by applying the SME Supporting Factor of 0.7619 to capital requirement. The purpose of the reduction is to allow credit institutions to increase lending to SMEs in the current economic context.²⁹ This reduction came into effect in January 2014, but may be reviewed by the Commission in 2016.

12. Application of the SF is limited to exposures to SMEs that satisfy all of the following eligibility criteria:

- The loan is allocated to **corporate exposures, retail exposures or exposures secured by immovable property**. Exposures in default are excluded.
- An **SME is defined according to the 2003 Commission Recommendation**³⁰ (including that turnover must be below EUR 50 million) although the balance sheet and number of employees criteria in Article 2 of the Recommendation can be ignored. The text of the Recommendation can be found in Annex 3.
- The total amount owed to the lending institution, its parent and subsidiary undertakings (including exposure in default, but excluding the claims secured on residential property shall **not exceed EUR 1.5 million**. This threshold is different from the already existing quantitative threshold of EUR 1 million amount owed for allocation of exposures to retail/corporate exposure classes.

13. Despite the specifications in the CRR, the scope of application of the SF is not always clear, and numerous questions have been submitted to the EBA via the formal Q&A on-line tool. Annex 5 amalgamates all the Q&As on SMEs and the interpretation and application of the SF, that have been to date. A short summary of the scope of implementation of the SME Supporting factor, taking into account the CRR provisions as well as all the relevant Q&As, is provided below:

Scope of application of the SF

- The allocation to exposure classes remains unchanged, irrespective of the application of the eligibility for the SME Supporting Factor. An illustration of the asset classes that can be eligible for the application of the SME Supporting Factor is presented in Table 2 below.

²⁹ This objective of the SME Supporting Factor is specified in Recital 44 of the CRR. The text of the recital can be found in Annex 2.

³⁰ Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (Annex 3)

Table 2 Exposure classes eligible for the SME support factor

A) SA Approach

| Regulatory portfolio | Total amount owed* | Turnover or balance sheet | RWA for the unsecured part | Final RW after SME Support Factor |
|----------------------------|--------------------|---------------------------|-------------------------------------|-----------------------------------|
| SA Corporate | <= EUR 1.5 million | <= EUR 50 million | 100% if unrated 20-150% if rated | 76.19% if unrated |
| SA Retail | <= EUR 1 million | <= EUR 50 million | 75% | 57.14% |
| SA Commercial real estate | < EUR 1.5 million | <= EUR 50 million | 50% ³¹ or 100% | 38.095% |
| SA Residential real estate | < EUR 1.5 million | <= EUR 50 million | 35% ³² or 100% | 26.67% |

B) IRB Approach

| Regulatory portfolio | Total amount owed* | Turnover or balance sheet |
|--|---|---------------------------|
| IRB SME Corporate (excluding in default) | < EUR 1.5 million | < EUR 50 million |
| IRB SME Retail (excluding in default) | <= EUR 1 million OR Any, in case of natural persons | < EUR 50 million |

Note: *including any exposure in default by the obligor client or group of connected clients, but excluding claims and contingent claims secured on residential property collateral

Source: EBA analysis

- Exposures in default shall be excluded. In particular, when an institution applies the transaction approach³³ for retail exposures and some of the exposures of the same SME are classified as defaulted, the supporting factor could only be applied on the performing exposures.

SME definition for the purpose of application of the SF

- The criteria set in Article 501 CRR, including the turnover criterion for the SME definition and the total amount owed, should be met on an on-going basis (Q&A 343 and Q&A 414). An institution therefore needs to have adequate information available on an on-going basis and should be able to adequately demonstrate its fulfilment to its competent authorities. Where an exposure is denominated in other currency than Euro, the institution may calculate the Euro equivalent using any appropriate set of exchange rates updated with appropriate frequency (Q&A 417).

³¹ Where the conditions under Article 125 CRR are met and unless otherwise decided by the competent authority in accordance with Article 124(2) CRR

³² Where the conditions under Article 126 CRR and unless otherwise decided by the competent authority in accordance with Article 124(2) CRR

³³ The transaction approach refers to the case when a bank treats a default of a transaction solely as a default of that particular exposure, without contagion effect to other exposures of the same borrower. In contrast, the obligor approach means that the default of any exposure of the borrower will translate in the default of all the exposures of that particular borrower.

Amount owed for the purpose of application of the SF

- Off-balance sheet exposures should not be included in the calculation of the amount owed. In case of line of credit, only the drawn amount needs to be considered when checking against the EUR 1.5 million amount (Q&A 416). However, the exposure as a whole, including its undrawn part can qualify as exposure to an SME, provided that all eligibility criteria are met.
- Regarding secured exposures, where an exposure is eligible for the application of the Supporting factor, the capital requirements are calculated by applying the SF on all exposures included in the retail, corporates or “secured by mortgages on immovable property” classes, irrespective of whether credit risk mitigation techniques with substitution effects (e.g. guarantees) have reclassified the exposure for reporting purposes in another exposure class. (Q&A 565)
- The EUR 1.5 million amount owed threshold for the application of the SME Supporting Factor is determined by excluding claims or contingent claims secured on residential property collateral on the one hand, and including any exposure in default on the other hand. This has the implication that an SME exposure can qualify for SME Supporting Factor, even when the total amount owed is well above the threshold when claims against the obligor, which are secured by residential mortgage, are not excluded. For example, if an SME, assigned to the exposure class secured by immovable property, takes a loan of EUR 2 million with the bank having a claim of EUR 1.8 million secured on residential property, this loan would be eligible for the application of the SME Supporting Factor, even though it is above the EUR 1.5 million threshold.

Impact of the SME Supporting Factor on bank capital ratios (capital relief)

14. An initial overview of the magnitude of the SME Supporting factor effect on the capital ratios of the EU banks, i.e. the capital relief associated to the implementation of the Supporting Factor, can be gauged through EBA Supervisory data³⁴. The current data covers only banks reporting to EBA, which represent the largest EU banks.³⁵ The sample is consequently to a large extent reliant on banks using IRB models, given that this tends to be the credit risk framework used by larger banks.

³⁴COREP and FINREP

³⁵ The current data available to EBA covers only a subset of banks, that meet at least one the following reporting criteria: (i) the institution is one of the three largest institutions in a Member State measured by total assets, (ii) the institution’s total assets are in excess of €30 billion, and (iii) the institution’s 4 year average of total assets is in excess of 20% of the 4 year average of a Member State’s GDP. Due to these restrictions, smaller institutions may not meet the criteria for EBA reporting, and are thus not captured in the statistics computed by the EBA.

15. The application of the SME Supporting Factor allowed banks to decrease their total risk weighted assets³⁶ on average by 1.27% in 2014Q4. This decrease in risk weighted assets can be interpreted in two ways, depending on how this decrease has been applied by the banks:

- on the one hand, it translates in decreased capital requirements, and therefore an increase in the Common Equity Tier 1 (CET1) capital ratio³⁷;
- on the other hand, in absolute terms, this increase in CET1 capital ratio means that the banks have freed up capital resources that can be redeployed.

16. The data from the banks reporting to EBA shows that the reduced capital requirements due to the application of the SME Supporting Factor has translated in an average increase of the CET1 capital ratio of the reporting banks of 0.19p.p.³⁸, with more than half of banks reporting exposures subject to the SME Supporting Factor experiencing an increase in the CET1 capital ratio below 0.2 p.p. in 2014Q4 (Table 3). The impact on other capital ratios is naturally even lower.

Table 3 Distribution of reporting banks according to the increase in CET1 capital ratio due to the application of the SME Supporting Factor

| CET1 ratio increase | Number of reporting banks | Percentage of reporting banks |
|----------------------|---------------------------|-------------------------------|
| Less than 0.2 p.p. | 86 | 60% |
| 0.2 p.p. – 0.4 p.p. | 38 | 26% |
| 0.4 p.p. – 0.6 p.p. | 10 | 7% |
| Higher than 0.6 p.p. | 10 | 7% |
| Total | 144 | 100% |

Note: Data refer to 2014Q4, the sample does not include institutions that do not report exposures subject to the SME Supporting Factor.

Source: European Banking Authority Supervisory Data (preliminary).

17. Given that the reporting banks in EBA sample have an average CET1 capital ratio of 12.5% (2014Q4) using total risk exposure amounts as weights, which is well above the current required minimum of 4.5%³⁹, the application of the SME Supporting Factor has a negligible impact in terms of reducing the capital ratio on an aggregate level for the sample. However, this aggregate view does not adequately illustrate the impact on the capital ratio on specific banks depending given their specific business models. Moreover, this figure provides no guidance on the capital impact on institutions that are not included in the EBA sample, and

³⁶ Risk weighted assets in this context are calculated as the total risk exposure amount in accordance with Article 92(3) of the Capital Requirements Regulation

³⁷ CET1 capital ratio = CET1 / Total risk exposure amount

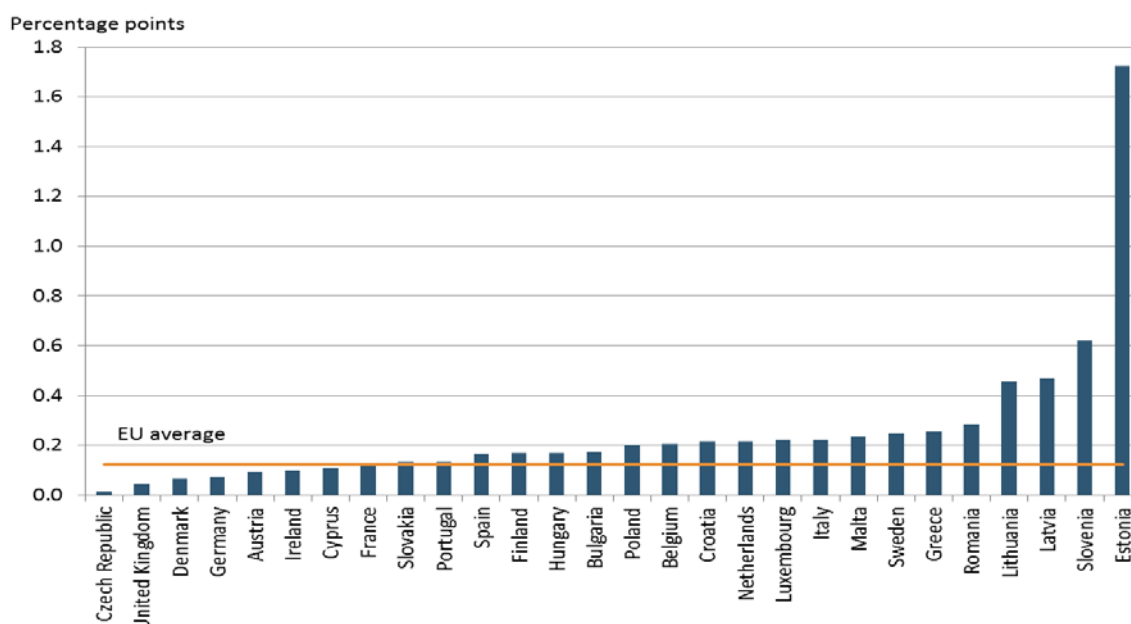
³⁸ The average is based on the full sample of banks reporting to the EBA

³⁹ The current high own funds may be an expectation of increase capital requirements, as several capital buffers are introduced in accordance with Article 160 of the CRDIV, which will start to come into full effect in 2016.

may have business models that are likely more concentrated than the ones included in the sample. A more detailed analysis may be necessary in this regard.

18. The same data by country shows that the capital relief due to the SME Supporting Factor was not evenly distributed among the EU countries (Figure 5 below). Banks in smaller countries have generally experienced a larger relief and effective increase of their capital ratios, which may reflect a higher share of SME exposures in the institutions of these countries.

Figure 5 Increase in CET1 capital ratio due to SME Supporting Factor, 2014Q4



Note: countries are ordered according to increasing impact on CET1 ratio; the sample includes all reporting institutions, including those that did not apply the SME Supporting Factor.

Source: European Banking Authority Supervisory Data (preliminary).

19. In absolute terms, the application of the SME Supporting Factor means that in total approximately EUR 10.5 billion of capital has been saved by the end of 2014 as a result of reduced capital requirements, based on preliminary supervisory data. More than half (54%) of the capital relief is concentrated in the reporting banks of Italy, France and Spain. Capital relief in the reporting banks of United Kingdom, Netherlands and Germany is 11%, 8% and 5% respectively. The concentration of capital relief in a few countries may be explained on the one hand by the larger size of the banking sector and, on the other hand, by the traditionally large SME sectors of the respective countries.

Questions

Q1: Do you have systems in place to track the reduction in capital due to the application of the SME Supporting Factor (capital relief)? Yes/No. Please explain and provide evidence.

Q2: In your experience, is the reduction in capital requirements due to the application of the SME Supporting Factor (capital relief) being used to support lending to SMEs? Yes/No. Please explain and provide evidence.

Q3: Is your internal definition of SMEs in line with the definition of SME exposures subject to the SME Supporting Factor? Yes/No. If no, how are you reconciling the internal definition of SMEs with the definition of SMEs subject to Supporting Factor? Please explain and provide specific examples.

Q4: In monitoring the total amount owed to you, your parent and subsidiary undertakings, including exposures in default, by the borrower and its group of connected clients (as defined in CRR Article 4(1)(39)), what reasonable steps do you take to ensure that amount does not exceed EUR 1.5 million in accordance with Article 501(2)(c)?

Q5: Do you see merits in having a harmonised definition of SMEs for reporting purposes? Yes/No. Please explain and provide specific examples.

4.3 Riskiness of SMEs in the European Union

20. This section of the paper provides an initial assessment of the riskiness of SMEs over a full economic cycle and sets forward a methodology to assess the consistency of own fund requirements with the riskiness of SMEs.

Riskiness of SMEs over a full economic cycle

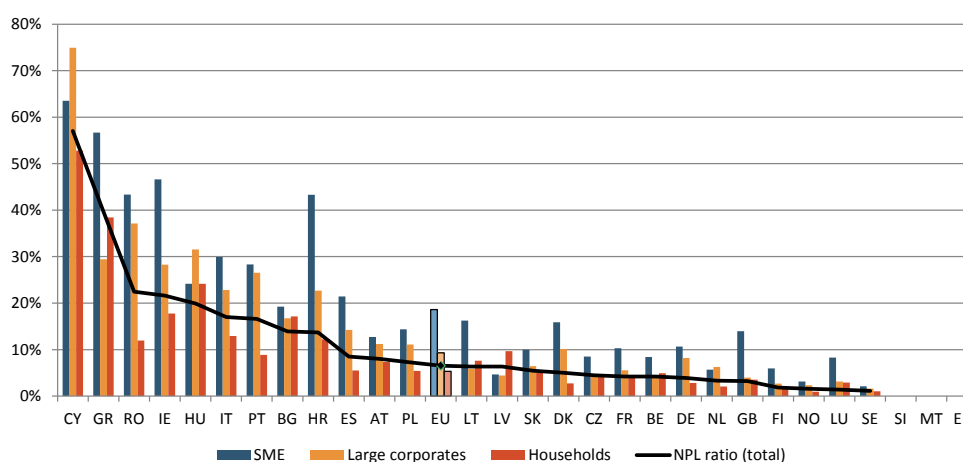
21. The aim of this section is twofold. First, to identify any structural difference in the risk profile of SMEs compared with a comparison group, constituted by large firms; second, to investigate if the risk profile of SMEs evolves differently from the one of large firms over a full economic cycle. By full economic cycle is meant a period of at least 10 years, or, in cases when less data is available, a period that starts at least before the financial crisis (2007 and onwards) may be accepted.

22. Riskiness can be defined in various ways and with different degrees of strictness. Ideally the probability of default would provide a good measure of the SME riskiness. The measurement of a PD however requires the use of a definition of default and SME definition that is common across credit institutions. While in the recent years there was significant progress in the harmonisation of the definition of default with the introduction of the CRR, the same cannot be said about SMEs (see Annex 5 for additional references). Therefore, the available PD data cannot be used in a meaningful way.

23. Other measures of asset quality can be used to assess the riskiness of SMEs. Figure 6 below provides aggregate data of non-performing loans by firm size for Q4 2014 from the EBA supervisory data.⁴⁰ The EU weighted average NPL ratio was 6.5% in December 2014, with financially stressed countries showing generally the highest NPLs. Within the NFC sector, SMEs NPL ratio is 18.6% compared to 9.3% for large corporates. According to EBA (2015), the high NPL for SMEs may indicate that SMEs suffer more in times of crisis and restructuring may be more challenging and prolonged. The EBA supervisory data has a harmonised definition on NPL only starting 2014, therefore analysis over the cycle of this indicator is not possible.

⁴⁰ The source of the data is FINREP, which, unlike COREP, requires SME definition to follow the European Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises

Figure 6 Non-performing loans to NFCs by firm size and to households



Note: SMEs is defined in accordance with the European Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises, and defines micro, small and medium enterprises.

Source: EBA (2015), Risk Assessment of the European Banking System, June 2015, based on EBA Supervisory Reporting data.

24. To conduct the analysis over the cycle, data from the European Bank for Accounts of Companies Harmonised (BACH) has been used.⁴¹ BACH provides financial information of non-financial companies monitored by the Central Balance Sheet Offices of National Central Banks. Currently 11 countries contribute to the BACH database,⁴² 7 of which have been contributing to the database for the entire reporting period 2000-2013.⁴³ The presence of a size breakdown in the BACH database allows investigating the risk profile of firms by size over time. The possibility to further distinguish between small and medium SMEs constitutes an enhancement with respect to a similar analysis presented in EBA (2012).⁴⁴

25. The riskiness of a SME – i.e. the probability that a given firm goes default – is gauged through the five financial ratios identified in Altman and Sabato (2006)⁴⁵ specifically for SMEs: profitability, leverage, activity, liquidity and coverage.⁴⁶ They have been proxied using the

⁴¹ A comprehensive description of the key features of the BACH database, as well as of its general limitations related to the differences in institutional background, accounting rules and sample composition can be found in Annex 3 of EBA (2012).

⁴² These are Austria, Belgium, Czech Republic, Germany, the Netherlands, Spain, France, Italy, Poland, Portugal and Slovakia.

⁴³ Differently Czech Republic (2002-2013), the Netherlands (2008-2013), Poland (2005-2013) and Slovakia (2005-2012) have been contributing to the database for a more limited period of time. In turn the change in the composition of countries over time may affect the value of the figures reported in this section. Replicating the analyses on a balanced sample for the period 2005-2013 does not seem to have a major effect on the results.

⁴⁴ European Banking Authority (2012), Assessment of SME Proposals for CRD IV/ CRR.

⁴⁵ Altman and Sabato (2006), Modeling Credit Risk for SMEs: Evidence from the US Market.

⁴⁶ We rely on the following BACH built-in ratios for the proxies of profitability (EBITDA/ Total assets), activity (Net turnover/ total assets), coverage (EBITDA/ interest on financial debts), leverage (Total equity/Total assets), liquidity (current assets/total assets). We use the inverse of the leverage proxy (i.e. by

closest indicator available in the BACH database (Figure 7). The country-level financial ratios have been aggregated using a weighted average of the country-level financial ratios using total assets as weights.

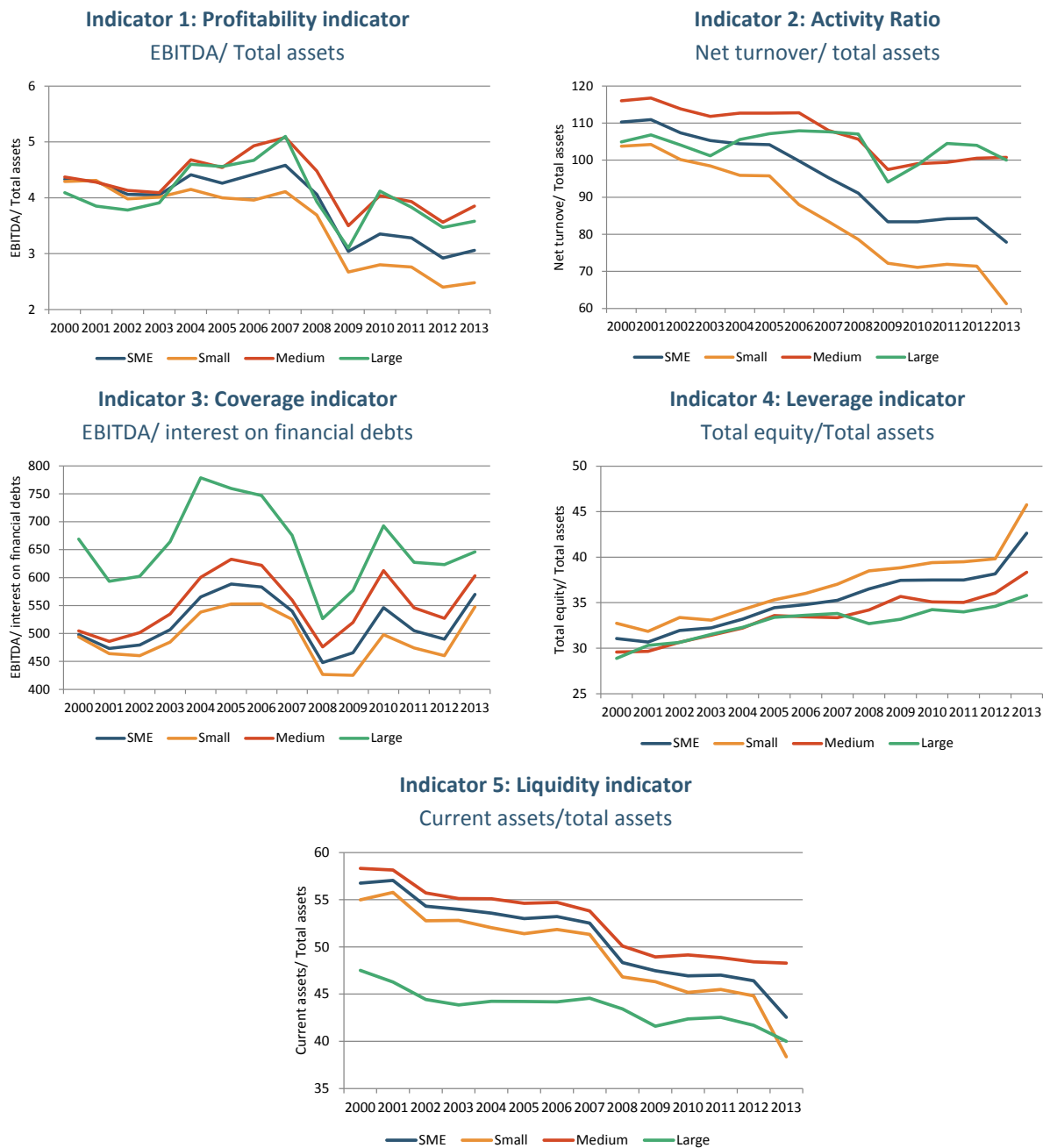
- Using the values over the period 2000-2013 we note that **profitability** ratio has dramatically collapsed for both large firms and SMEs in the period 2008-2009 and then had a partial rebound afterwards; nonetheless the profitability of neither large firms nor SMEs have closed the gap with the pre-crisis figures, both picking up in 2007. The wedge in profitability – we have use the ratio of earnings before taxes, depreciation, and amortization (EBITDA) over total assets as a proxy for – between large firms and SMEs has widened in post-crisis year; conversely difference tended to be small in pre-crisis years, with SMEs outperforming large firms in the early '00s.
- **Activity** ratio has evolved differently for large firms and SMEs in the sample period. According to BACH figures large firms' activity ratio has remained pretty stable over time: the ratio of net turnover over total assets has been almost constantly above 100%, with the exception of the crisis years 2009-10. Differently SME faced a sheer drop in their activity in the sample period: the value of net turnover over total assets has declined from 110% of 2000 to 78% of 2013. Small firms account for this sharp contraction in SME activity: the ratio has almost halved over the period 2000-2013; differently medium firms' activity has displayed a dynamic closer to the large firms' one.
- The dynamics of **coverage**, which is defined as ability to service private debt, for both large firms and SMEs has shown a common cyclical path, with two peaks episodes in 2004/05 and 2010; the financial tensions for both large firms and SMEs tightened in crisis years (2008-2009). The ability to service their private debt has proven to be a higher hurdle for SMEs; nonetheless, recent year SME coverage indicator shows pre-crisis level, while the equivalent indicator for large firms has not fully absorbed the crisis reduction and it is still below the pre-crisis values. Similarly with the discussion presented for activity, medium-sized SMEs show a pattern closer to large firms, while smaller SMEs have constantly underperformed all other peers.
- According to BACH data SMEs are less **leveraged** (and thus better capitalised) than large firms. SMEs capitalisation has steadily improved over the sample period 2000-2013, with smaller SMEs displaying the best performance. Large firms' capitalisation has shown a similar pattern, although the wedge with SMEs has widened since 2008.
- As for **liquidity**, SMEs seem to outperform larger firms. The endowment of more liquid current assets on the total assets has been constantly larger for SMEs with respect to large firms. Nonetheless SMEs liquidity has been worsening over the sample period; smaller SMEs have greatly contributed to this reduction, while medium-sized SMEs have shown a

total equity/total assets) so that all financial ratios follow the same interpretation (an increase denotes a reduced risk of insolvency).

better performance. The fast decreasing trend of SMEs liquidity has almost closed the gap with the large firm liquidity indicator, whose reduction has been less acute over time.

26. According to the evidence presented, the analysis of the five indicators does not allow to draw any final, clear conclusion about the relative riskiness of SMEs with respect to large firms. In particular, large firms seem to outperform SMEs for what concern profitability, activity and coverage. Conversely, SMEs show a better profile for both leverage and liquidity.

Figure 7 Level indicators

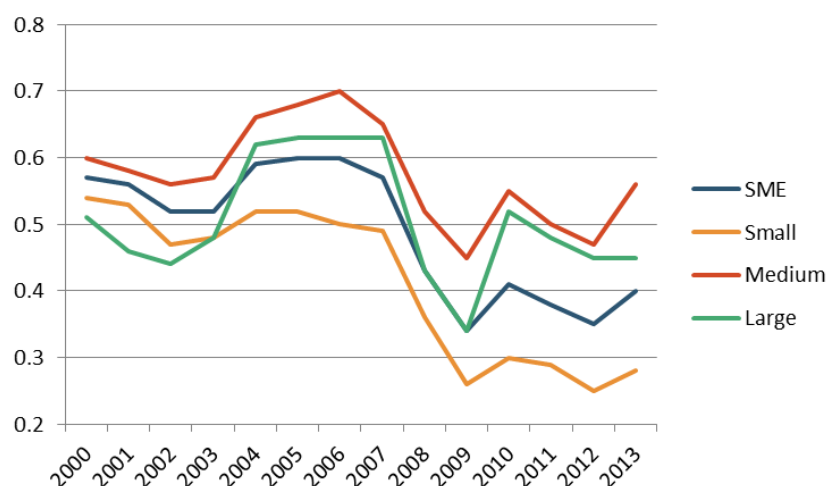


Note : Indicators are broken down by firm size: small (with annual turnover below EUR 10 million), medium (between EUR 10 and EUR 50 million) and large (rest of the sample) enterprises.

Source: Own calculations based on BACH database.

27. The crisis seems to have hit hard on the creditworthiness of both SMEs and large firms. Most indicators (profitability, activity, liquidity, coverage) fell sharply in the crisis years 2008-2009. The signs of the crisis are still vivid in the firms' accounts. Few indicators (i.e. leverage and – to a lesser extent – coverage) show recent years' values that are in line with pre-crisis level either due to recovery or less pronounced drop during the crisis.
28. On the contrary, when analysing the indicators over a full economic cycle, all indicators for SMEs riskiness show a sharp worsening, except for leverage; these indicators deteriorated more pronouncedly for SME than for large firms; even starting from values lower than the ones of large firms, some of these indicators (i.e. activity, liquidity and – to a lesser extent – profitability) have not yet rebounded to pre-crisis levels. To most extent the dynamics of these risk indicators over the cycle does not seem to present significant difference between SMEs and large firms. Indeed the latter has both known a similar deterioration in some risk profiles (i.e. profitability, coverage and – to a lesser extent – liquidity) during crisis years and not shown a full return to pre-crisis level, with coverage and activity being two exceptions.
29. To further examine the difference in creditworthiness between SMEs and large firms, all the information deriving from the five financial ratios has been collapsed into a single index, built as the simple average of the normalised financial ratios.⁴⁷ The analysis of the composite index seems to confirm the previous preliminary findings (Figure 8). SMEs tend to be riskier than large firms in “moderate, business-as-usual” times; during the recessionary phase of the cycle, the indicators point to a sheer deterioration; both findings are magnified for small SMEs; differently, medium-sized SMEs are consistently the relatively best performing, less risky players.

Figure 8 Composite index: simple average of the five financial ratios normalised using re-scaling



Source: Own calculations based on BACH database.

⁴⁷ Original indicators are expressed as percentages of various balance sheet items; therefore they are not readily comparable, because of the different unit of measurement. To tackle this issue, we normalize the financial ratio X using re-scaling, as in the following formula: $X_{re-scaled} = (X - \min(X)) / (\max(X) - \min(X))$. After the normalisation, indicators can be easily compared and aggregated at a later stage.

30. While aggregate indicators show a clear increase in riskiness for smaller firms over the cycle, the situation is more fragmented across countries. Some evidence at country level is provided by the IMF Global Financial Stability Report from October 2013⁴⁸ which conducted a study of the impact of demand and supply factor on credit growth in France, Italy, United Kingdom and Spain. The study uses two indicators of relevance to the riskiness of firms: (1) debt-to equity ratio to capture the effect of debt overhang, which serves as an indicator of riskiness of SMEs from the viewpoint of banks on the supply side, and may also constrain firms to take additional debt from the demand side, and (2) firms' return on assets to capture the firm creditworthiness and ability of firms to fund investment projects internally. The results show that credit has been constrained by debt overhang in Italy and Spain, although it is less clear whether it is due to the decision of the firm not to take additional debt or the rejection of the loans from the bank side.
31. Other factors may also affect the level of riskiness. For example, Martinho and Antunes (2012)⁴⁹ use z-scores on the national databases⁵⁰ and show that the probability of credit failure does not change with the firm size. Instead, they find differences in the z-scores of firms by branches of activity, with the largest highest probability of credit failure in the construction and real estate sectors for firms of all sizes. Additionally they find worst credit quality of large firms in the transportation sector, as well as micro firms in the restaurant and hotels and mining and quarrying businesses.

Consistency of own funds requirements with the riskiness of SMEs

32. This section of the report provides a preliminary overview of the relationship between firm riskiness and capital requirements. Further analyses will be provided in the final report.
33. When conducting an analysis of the consistency of own funds requirements for credit risk, one should be aware of the distinction between idiosyncratic risk, which is firm-specific, and systematic risk, which is dependent on the aggregate economy. Asset correlation is used as the key measure of systematic risk. As such, asset correlation is an integral part of the regulatory framework of Basel II/III through the Asymptotic Single Risk Factor (ASRF) model of Gordy (2003)⁵¹ that is the basis of the regulatory minimum capital requirements in the Internal Ratings Based (IRB) Approach of Basel II/III.
34. Analyses of the consistency of own funds requirements should explore in particular the dependence of systematic risk on firm size. Most surveyed economic literature, including

⁴⁸ IMF (2013) Global Financial Stability Report: Transition Challenges to Stability, October 2013. IMF, World Economic and Financial Surveys.

⁴⁹ Ricardo Martinho and Antonio Antunes (2012), A Scoring Model for Portuguese Non-Financial Enterprises. Financial Stability Report November 2012, Banco de Portugal.

⁵⁰ Simplified Corporate Information and Central Credit Register

⁵¹ Gordy, M. B. (2003). A risk-factor model foundation for ratings-based bank capital rules. Journal of financial intermediation, 12(3), 199-232.

Düllmann and Scheule (2006)⁵², Düllmann and Koziol (2014)⁵³, Dietsch and Petey (2004)⁵⁴, Dietsch and Petey (2007)⁵⁵, Lee, Jiang, Chiu and Cheng (2012)⁵⁶, find that asset correlations increase with firm size. Furthermore, when comparing this effect of firm size as a driver of asset correlations to the minimum capital requirements in Basel II/III⁵⁷, Düllmann and Koziol (2014)⁵⁸ find that, at least in some cases, the relative differences between capital requirements for large corporates and those for SMEs are lower in the regulatory framework than suggested by empirical values of asset correlation.

35. An empirical project has been launched to investigate the issue of the consistency of own funds requirements with the riskiness of SMEs in accordance with the EBA mandate specified in Article 501 of the CRR. The result of this empirical project, if conclusive, will be published in the final report.

Questions

Q6: Do you agree with the proposed measures of SME riskiness? Yes/No. Are some of these measures more relevant than others? Yes/No.

Q7: Are other aspects relevant in your assessment of the creditworthiness/riskiness of potential SME borrowers? Yes/No. If yes, please provide a list of those aspects and explain how you measure SME riskiness.

Q8: In your experience, are SMEs as cyclical or more/less cyclical than large enterprises?

Q9: Do you agree with the proposed methodology to assess the own funds requirements in relation to SME riskiness? Yes/No. If no, please provide alternative methodologies or indicators, if available.

Q10: Did the arrears and loss experience in 2009/2010/2011 exceed an (internal) limit? Yes/No. Were (expected/unexpected) losses adequately covered by loan loss provisions? Yes/No. Please explain and provide specific figures

⁵² Düllmann, K. and Scheule, H. (2006). Determinants of the asset correlations of German corporations and implications for regulatory capital. Unpublished Working Paper.

⁵³ Düllmann, K. and Koziol, P. (2014). Are SME Loans Less Risky than Regulatory Capital Requirements Suggest? *The Journal of Fixed Income*, 23(4), 89-103.

⁵⁴ Dietsch, M. and Petey, J. (2004). Should SME exposures be treated as retail or corporate exposures? A comparative analysis of default probabilities and asset correlations in French and German SMEs. *Journal of Banking & Finance*, 28(4), 773-788.

⁵⁵ Dietsch, M. and Petey, J. (2007). The impact of size, sector and location on credit risk in SME loans portfolios. Working paper, Universite Robert Schuman de Strasbourg.

⁵⁶ Lee, S. C., Jiang, I. M., Chiu, B. H., and Cheng, H. C. (2012). Asset Correlation and Evidence from UK Firms. *International Research Journal of Applied Finance*, 50, 50-64.

⁵⁷ The comparison was possible due to the due to the availability of banks' internal

⁵⁸ Düllmann, K. and Koziol, P. (2014). Are SME Loans Less Risky than Regulatory Capital Requirements Suggest? *The Journal of Fixed Income*, 23(4), 89-103.

4.4 SME lending trends and conditions

36. This section of the paper focuses on the analysis of the lending trends and conditions for SMEs. It also initiates a preliminary discussion on the impact of the SME SF on lending trends and conditions in the EU.

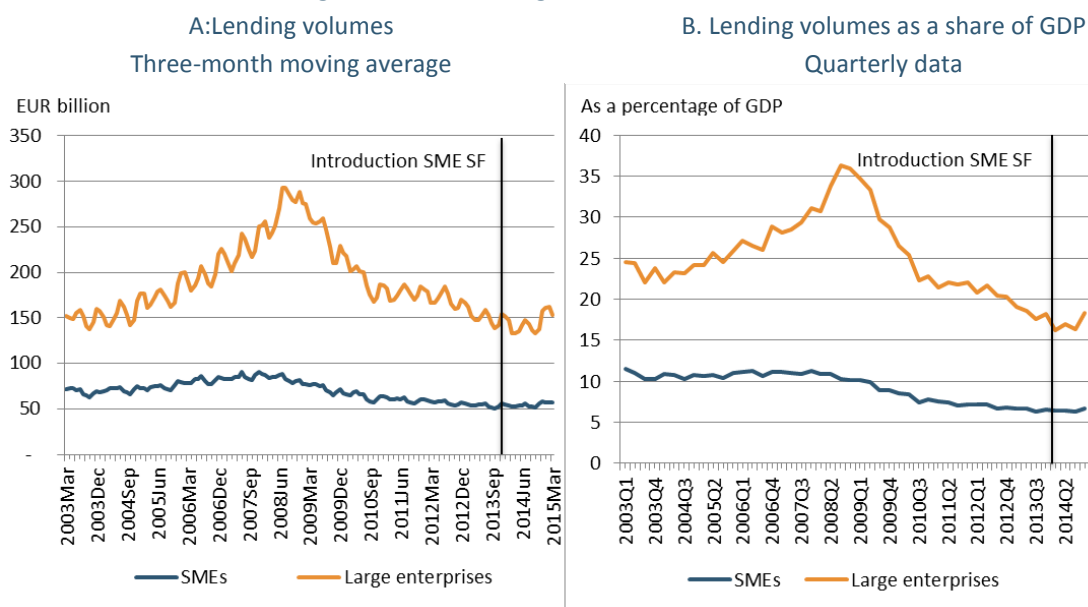
SME lending trends and conditions

37. The lending trends and conditions during the last decade have been severely marked by the global financial crisis as of 2008, which led to a general contraction of credit and deterioration of credit conditions in the EU as well as worldwide. The financing backdrop has affected companies of all size, but particularly SMEs.

Lending trends

38. The volume of new lending to SMEs in the euro area has declined since 2008, the beginning of the economic and financial crisis. As showed in Panel A of Figure 9, between 2003 and 2008, monthly new lending to non-financial corporations on loans up to and including EUR 1 million (a proxy for SME lending) in the euro area increased and peaked at about EUR 95 billion in mid-2008. Since then, consistent declines are observed up until 2012, at which point new lending appears to have stabilised at approximately EUR 54 billion (mean monthly lending for 2013/2014). As a share of GDP (Panel B of Figure 9), new lending was steady at about 11% pre-2008 but then declined consistently up until 2014 to less than 7%.

Figure 9 New lending to SMEs in the euro area

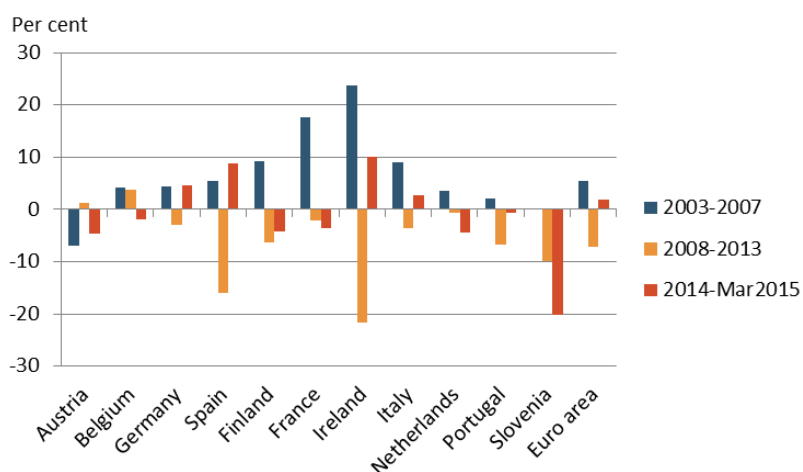


Note: New lending is defined as 'loans other than revolving loans and overdrafts, convenience and extended credit card debt' to non-financial corporations; SMEs are proxied by loans up to and including EUR 1 million. Large enterprises are proxied by loans over EUR 1 million.

Source: ECB Monetary and Financial Institutions Interest Rate Statistics and Eurostat (Quarterly National Accounts).

39. New lending to large companies, instead, show a stronger up and down movement (Figure 10). The decline was particularly pronounced in the two years following the beginning of the financial crisis. In 2014, new lending volumes have reached their pre-crisis level as of 2003/04. In this context, it is important to note that financing of larger corporates has also benefited from the access to alternative sources of financing such as bond-financing, as the role of bonds in euro area corporate financing has consistently increased during the last decades.⁵⁹
40. Besides the general EU trend, there is significant heterogeneity in the new lending across countries. Figure 10 presents the mean growth rate in annual new lending pre and post-2008, as well as after 2014 when the SME Supporting Factor was implemented. The majority of countries showed positive new lending growth between 2003 and 2007, in particular, Ireland (mean annual growth of 23.8%), France (17.5%), Italy (8.9%), Finland (9.1%) and Belgium (4.1%). Between 2008 and 2013, negative mean annual growth rates are observed for all countries (except Belgium⁶⁰ and Austria). In this regard, Ireland, Slovenia and Spain show the largest reductions in annual new lending, with mean growth rates of -21.7%, -9.9% and -15.9% respectively. Overall, countries showing the strongest rise in new lending were not necessarily those countries where the lending flow declined most.

Figure 10 Mean annual growth rates in new SME lending



Note: New lending is defined as 'loans other than revolving loans and overdrafts, convenience and extended credit card debt' to non-financial corporations; SMEs are proxied by loans up to and including EUR 1 million. Data for Slovenia not available for the period 2003-2007. Expressed as average of monthly year-on-year growth rates over the specified periods.

Source: ECB Monetary and Financial Institutions Interest Rate Statistics.

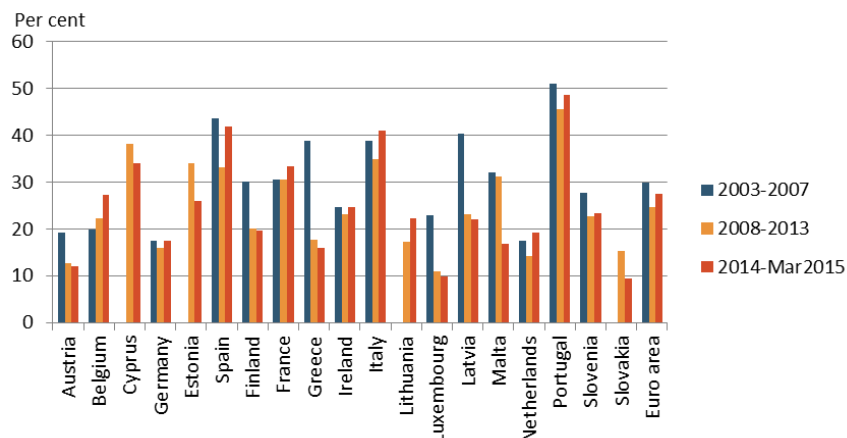
41. Since the beginning of 2014, new bank lending to SMEs has on average accounted for roughly one third (28%) of total bank loans to NFCs (non-financial corporates) in the euro. In 2014, its share has thus almost reached its pre-crisis level (30% in 2003-2007) as shown in Figure 11 below. On a country basis, this is also the case for Germany, Spain, Ireland, and Portugal. The share of SME loans even surpassed its pre-crisis level in Belgium, France, Italy, Lithuania and

⁵⁹ 760% from about EUR 500 billion in January 1999 to EUR 4.3 trillion in November 2014, according to ECB MFI statistics.

⁶⁰ In case of Belgium the growth in SME lending is largely attributed to a newly introduced public guarantee scheme

Netherlands, which was however caused by less new lending to larger corporates than to SMEs. In other countries, the share of SME loans remained below pre-crisis levels mainly due to an increase in new lending to larger corporates while lending to SMEs was less strong in 2014.

Figure 11 New bank lending to SMEs as a share of total bank loans to enterprises

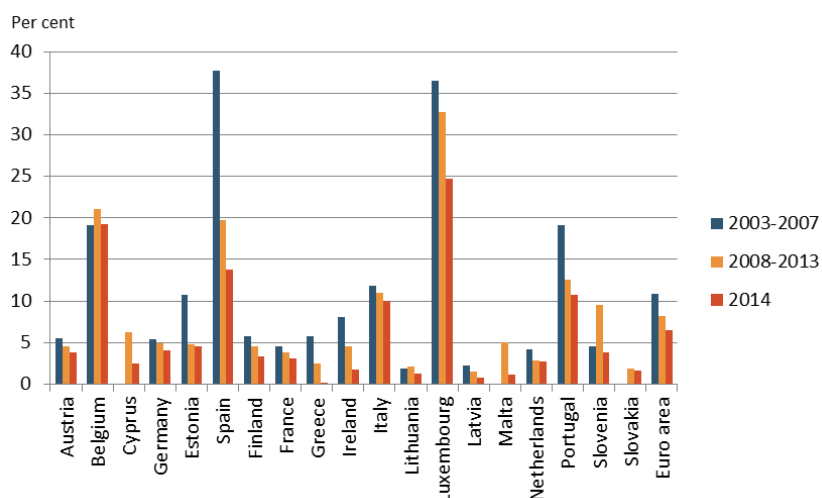


Note: New lending is defined as ‘loans other than revolving loans and overdrafts, convenience and extended credit card debt’ to non-financial corporations; SMEs are proxied by loans up to and including EUR 1 million.

Source: ECB Monetary and Financial Institutions Interest Rate Statistics.

42. The majority of member states show also a reduction in the share of new SME lending to GDP between the average for 2008-2013 and 2014 (Figure 12). The largest percentage point declines are registered in Spain, Slovenia, Cyprus and Ireland. In contrast, the change between the periods 2003-2007 and 2008-2013 is relatively more stable across countries, with the exception of Spain and Portugal which show large declines and Slovenia which shows large increases.

Figure 12 New annual SME lending to GDP ratio, selected years



Note: New lending defined as ‘loans other than revolving loans and overdrafts, convenience and extended credit card debt’ to non-financial corporations; SMEs are proxied by loans up to and including EUR 1 million. GDP data for Luxembourg refers to 2013.

Source: ECB Monetary and Financial Institutions Interest Rate Statistics and Eurostat (Quarterly National Accounts).

43. Given the above trends in lending flows, lending stocks have been in decline as well. Total volume of outstanding loans both to small and large companies, showed in Figure 13, declined in January 2015 by approximately 12% (down to EUR 4.3 trillion) compared to the peak in January 2009 (EUR 4.9 trillion).⁶¹ As the data does not differentiate between small and large loans, the actual share of SMEs in the total outstanding loans is not known. Given however a higher decrease in new SME lending compared to large corporates, it is expected that SME share in outstanding loans also decreased.

44. It appears that the decreases in post-crisis lending stocks are larger in countries which experienced the highest pre-crisis expansions. This relationship can be observed in Figure 14, which shows on the X-axis the percentage increase in stocks in January 2009 relative to January 2003. Y-axis is the percentage decrease in stocks in January 2015 relative to January 2009. For example, Ireland, Spain and Slovenia show both the largest pre-crisis expansions and subsequent post-crisis contractions.

Figure 13 Monthly outstanding loans to enterprises in the euro area

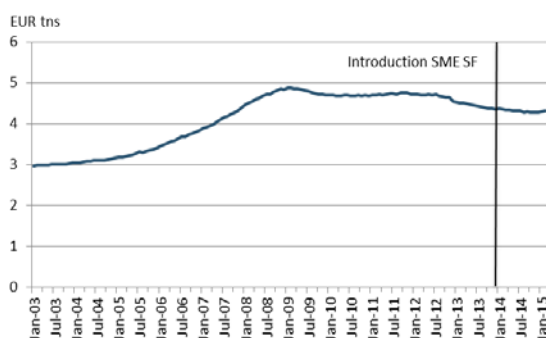
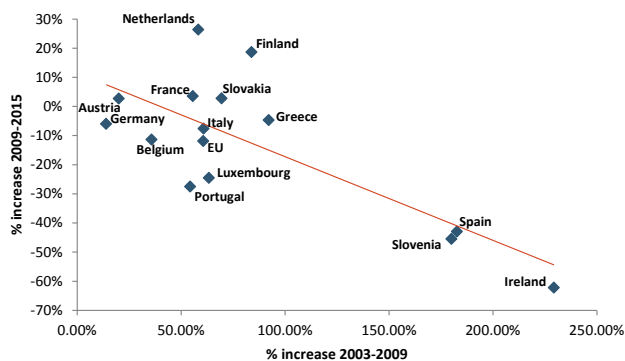


Figure 14 Change in outstanding loans to enterprises, pre and post-crisis, euro area



Note: Outstanding loans are defined as 'outstanding amounts at the end of the period (stocks)' for all loan amounts. For Figure 14, X-axis is the percentage change in stocks in January 2009 relative to January 2003. Y-axis is the percentage decrease in stocks in January 2015 relative to January 2009. For Slovenia and Slovakia, the base year is 2004 and 2006 respectively due to missing data for these countries before these dates. Data are monthly.

Source: ECB Monetary Financial Institutions Statistics.

45. The decrease in lending volumes is also confirmed by increasing rejection rates. Table 4 presents bank rejection rates pre and post-crisis for a selection of countries. Between 2007 and 2010, the mean rejection rate increased sharply from 3.2% to 12.9%. Furthermore, with the exception of Sweden, rejection rates increased in all countries, with Bulgaria, Ireland and Latvia showing the largest deteriorations (each showing increases of over 20 percentage points between 2007 and 2010). By 2014, the mean rejection rate increased to 18.8%, suggesting that credit constraints remain an issue for European SMEs. A number of countries show further and

⁶¹ Stock data includes lending to all non-financial corporations (includes larger firms). It is not possible to differentiate between SMEs and large firms in this data series.

large deteriorations between 2010 and 2014, most notably Greece, Italy and the Netherlands, who show rejection rate increases of 28.9, 20.5 and 18.p.p. respectively. However, improvements are observed in the majority countries between 2010 and 2014. In this regard, Bulgaria, Luxembourg, Denmark and the United Kingdom show the largest reductions in bank rejection rates (down 11.1, 10.7, 9.4 and 6.9 percentage points respectively).

Table 4 Trends in unsuccessful SME bank loan applications (as a percentage of total bank loan applications)

| | 2007 | 2010 | 2011 | 2013 | 2014 |
|-------------------|------------|-------------|-------------|-------------|-------------|
| Netherlands | 6.8 | 22.5 | 34.1 | 41.4 | 43.0 |
| Greece | 0.7 | 10.8 | 25.4 | 39.7 | 39.7 |
| Lithuania | 1.8 | 21.2 | 13.0 | 21.2 | 38.2 |
| Latvia | 4.3 | 26.4 | 0.0 | 24.9 | 30.2 |
| Ireland | 1.0 | 26.6 | 26.7 | 17.0 | 28.3 |
| Bulgaria | 3.1 | 35.5 | 11.1 | 10.3 | 24.4 |
| Italy | 1.2 | 4.9 | 9.7 | 15.3 | 22.9 |
| Poland | 3.7 | 4.3 | 12.8 | 12.2 | 19.2 |
| Slovakia | 3.7 | 9.2 | 16.4 | 18.6 | 17.5 |
| Sweden | 8.7 | 6.1 | 1.6 | 10.3 | 16.8 |
| Spain | 3.0 | 13.2 | 15.1 | 18.0 | 14.7 |
| United Kingdom | 5.6 | 20.8 | 24.4 | 13.9 | 13.9 |
| Germany | 6.7 | 8.2 | 7.0 | 1.8 | 13.2 |
| Finland | 0.0 | 0.2 | 1.5 | 10.1 | 12.7 |
| France | 2.0 | 7.0 | 10.7 | 13.2 | 11.8 |
| Malta | 0.0 | 2.2 | 0.0 | 0.0 | 9.7 |
| Denmark | 3.7 | 18.5 | 15.1 | 18.8 | 9.1 |
| Belgium | 2.2 | 5.7 | 8.0 | 9.8 | 6.6 |
| Cyprus | 0.0 | 4.2 | 15.1 | 25.8 | 4.6 |
| Luxembourg | 6.0 | 10.7 | 0.0 | 0.0 | 0.0 |
| <i>EU Average</i> | <i>3.2</i> | <i>12.9</i> | <i>12.4</i> | <i>16.1</i> | <i>18.8</i> |

Note: Unsuccessful applications refers to either a loan rejection by the bank or that the terms of any loan offered were such that the respondent refused the offer (e.g. if interest rates too high).

Source: Eurostat, Access to Finance Survey for years 2007 and 2010; European Commission, Survey on the Access to Finance of Enterprises for years 2011, 2013 and 2014.

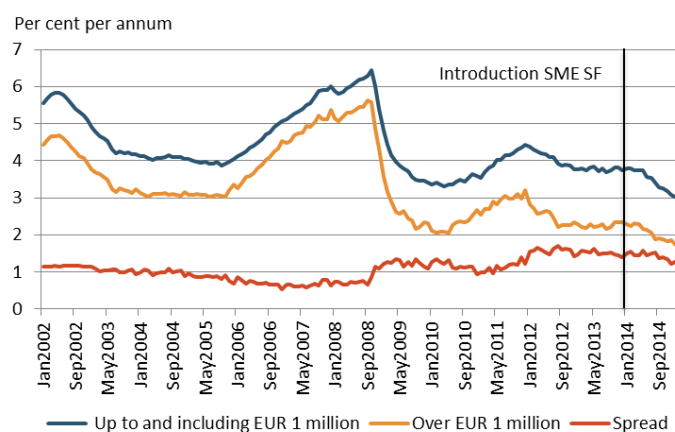
Lending conditions

46. As far as **lending conditions** are concerned, interest rates are higher for SMEs than for larger firms. This difference has been exacerbated by the financial crisis and has not been resorbed since. In accordance to ECB MFI Statistics (Figure 15), the most comprehensive dataset for interest rates, bank interest rates are an average of 1.1 point higher for loans up to and including EUR 1 million (proxy for SME loans) than for loans over EUR 1 million (proxy for loans to large companies). This spread has worsened since the beginning of the financial crisis. It has

risen from an average of 0.89 point up until 2008 to an average of 1.34 point since 2009. However, since 2014, the spread has declined.

47. Additional evidence on the differences across countries is provided in Figure 16. It presents examples for the largest countries and shows that the spreads vary across countries, with the largest spreads identified in Spain and Italy, which may indicate different situations in different countries, taking into account that interest rates may reflect many factors both on the demand side of the loan (e.g. how developed are other sources of financing, riskiness of the borrower), and on the supply side of the loan (e.g. how 'valuable' is that client for the bank).

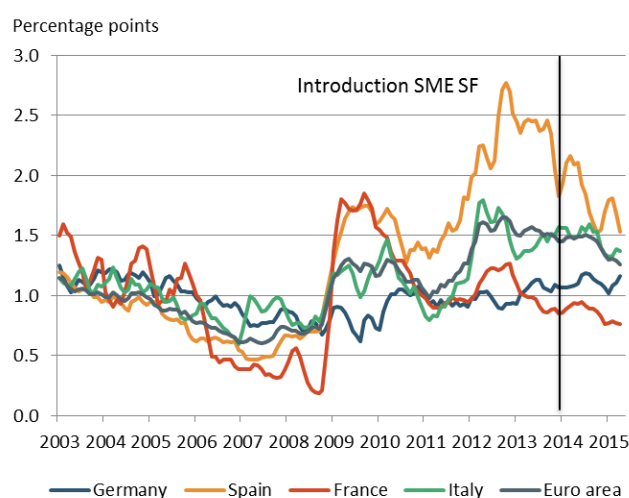
Figure 15 Bank interest rates to non-financial corporations in the euro



Note: The interest rate data presented in the graph does not take into account the cost of funding

Source: ECB Monetary and Financial Interest Rate Statistics.

Figure 16 Interest rate spread between SMEs and larger non-financial corporations in selected countries

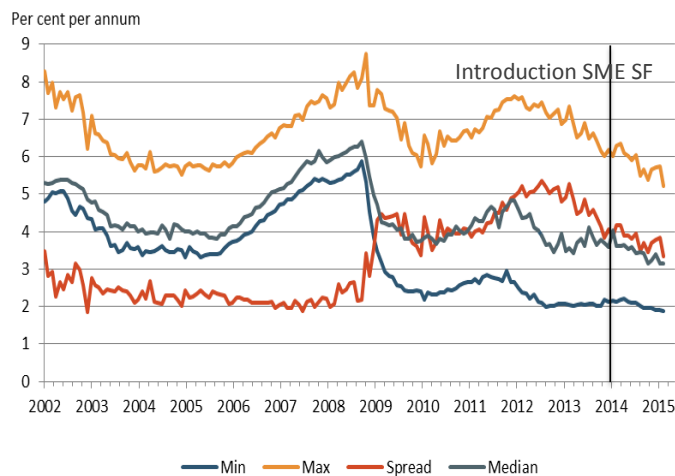


Note: SMEs are proxied by loans up to and including EUR 1 million. Expressed as three-month moving averages.

Source: ECB Monetary and Financial Institutions Interest Rate Statistics

48. Interest rates charged to SMEs have been increasingly diverging within the Euro area since the beginning of the financial crisis. As shown in Figure 17, from 2002 to 2008, the average spread between the highest and the lowest national rates is 2.3 points. Since 2009, it has gone up to an average of 4.3 points. In addition, while the Euro area median interest rate was close to the minimum rate before the crisis, it has deviated from it since 2009, indicating that the upper rates concern more countries than before. However, both the minimum and the maximum rates have declined considerably since the beginning of the financial crisis. The changing interest rate environment in the euro area has to be considered in this context.

Figure 17 Bank interest rates to SMEs in the euro area

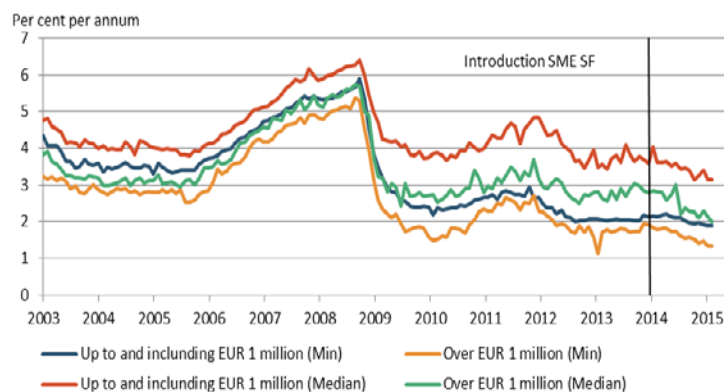


Note: SME loans proxied by loans up to and including EUR 1 million; The interest rate data presented in the graph does not take into account the cost of funding.

Source: ECB Monetary and Financial Institutions Interest Rate Statistics

49. It is also worth noting that interest rates charged to SMEs seem not to be able to fall below 2% whatever the economic environment is (Figure 18). This is specific to SMEs as loans over EUR 1 million faced lower interest rates in some countries briefly in 2009-2010 and on an on-going basis since 2012.

Figure 18 Bank interest rates to non-financial corporations in the euro area, by loan size

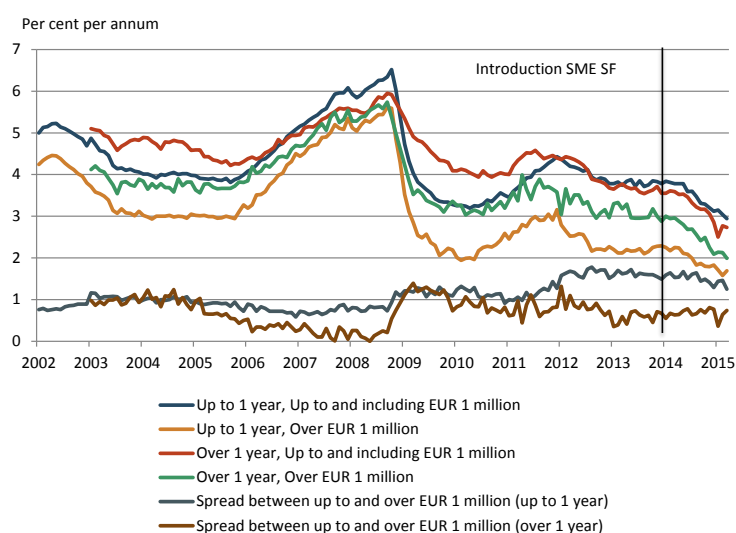


Note: The interest rate data presented in the graph does not take into account the cost of funding.

Source: ECB Monetary and Financial Institutions Interest Rate Statistics.

50. Broken down by maturity in order to differentiate short-term (up to one year) from long-term lending (over one year), statistics show that bank interest rates charged to SMEs are higher in any case and that the financial crisis has widened the spread with larger firm for both short-term and long-term lending. However, since 2014 the spread has declined, as shown in Figure 19. Short-term lending seems to face higher interest rates charged to SMEs, and this spread has grown stronger since 2012 than the one within long-term lending. The compilation of short-term lending rates to non-financial corporations needs to account for two technical factors: the importance of overdrafts as a main source of financing for firms in some large euro area economies and the computation of an estimate of the share of long-term loans issued at floating rates, which are similar to short-term loans.

Figure 19 Bank interest rates to non-financial corporations in the euro area, by maturity



Note: The interest rate data presented in the graph does not take into account the cost of funding.
Source: ECB Monetary and Financial Institutions Interest Rate Statistics.

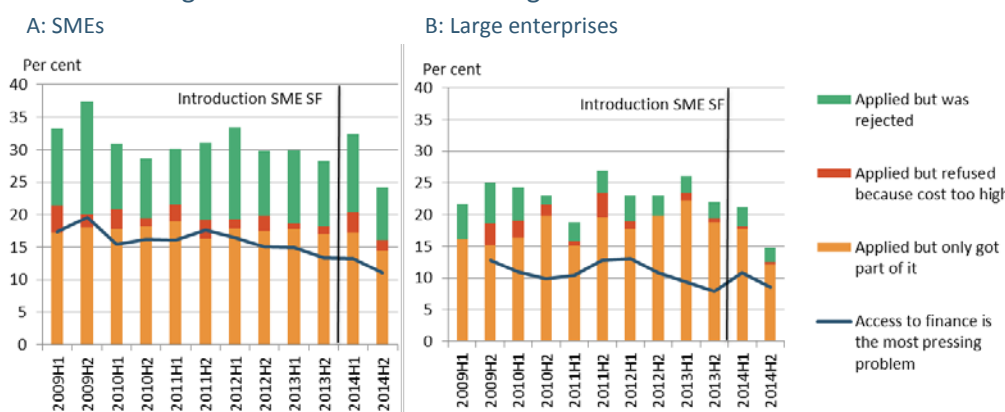
51. When looking at each country individually, it appears that most of them follow a similar pattern for bank interest rates in general: a slight decrease from 2002 to 2005 is followed by a fast increase from 2006 to 2008, then interest rates plummet from the beginning of the financial crisis to mid-2010, and finally a short bump in 2011 precedes a steady decrease since then. However, the intensity of these general trends varies materially across countries and diverging patterns exist. The spread between interest rates charged to non-financial corporations between smaller and larger loans shows large cross-country variability, with countries such as Germany, Austria or Finland displaying a largely flat trend, while other such as Spain, Ireland or Italy display a more upward trend.

52. From the demand-perspective, survey data on access to finance complement statistics on bank interest rates to provide a broader picture of lending conditions. At the European level, the Bank Lending Survey and the SME Access to Finance survey monitor credit standards and conditions to enterprises, including SMEs.

53. Over the recent years, in general access to finance has remained of greater concern to SMEs than to large enterprises, mainly because SMEs depend very much on bank financing. On average, as reported by euro area SMEs, access to finance moved down over years as the most pressing problem. In absolute terms 13% of SMEs considered it the most important in 2014, while in 2009 it was almost 20%. However, there are great disparities by countries. In distressed countries such as Greece, Ireland, Spain and Portugal, access to finance is a very pressing problem for SMEs, while in Germany and Austria less than 10% of SMEs reported “access to finance” as the most pressing problem.

54. According to the ECB’s survey on access to finance of small and medium-sized enterprises (SAFE), in 2009-2014 about 30% of euro area SME did not get the full finance they needed, compared to 20% for larger companies (Figure 19). In the most recent survey round 12% of SME loan applications were rejected and 17% of companies received less than they applied for. In addition 3% declined the loan offer from the bank because they found the conditions unacceptable.

Figure 20 Obstacles to receiving a bank loan in the euro area



Note: An enterprise is classified as SME if its number of employees is lower than 250. Application outcomes are expressed as a percentage of all SMEs that applied for a bank loan in panel A, and of all large enterprises in panel B. Access to finance as the most pressing problem is expressed as a percentage all SMEs in panel A, and of all large enterprises in panel B.

Source: European Central Bank Survey on Access to Finance.

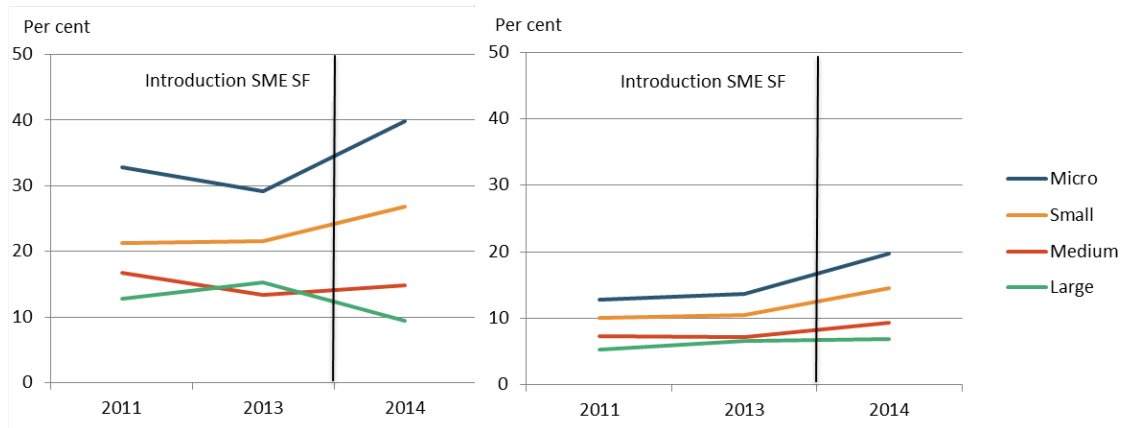
55. The obstacles to finance vary also by firm size within the SME sector. The largest increase in obstacles is seen for micro and to a lesser extent small enterprises. Figure 21 shows that, in case of medium enterprises, the share of applicants that applied for a loan but refused because the cost was too high, that applied but were rejected, those that applied but only got a limited part of it actually decreased both in 2013 and 2014. Looking at the full sample of SMEs, the obstacle to finance, which includes also firms discouraged to apply for a loan, has increased to firms of all sizes, with high increase in obstacles in micro and small companies.

Figure 21 Financing obstacles in the European Union by enterprise size

Net percentage of respondents (a positive number denotes an increase)

A: Enterprises that applied for a loan

B: All enterprises

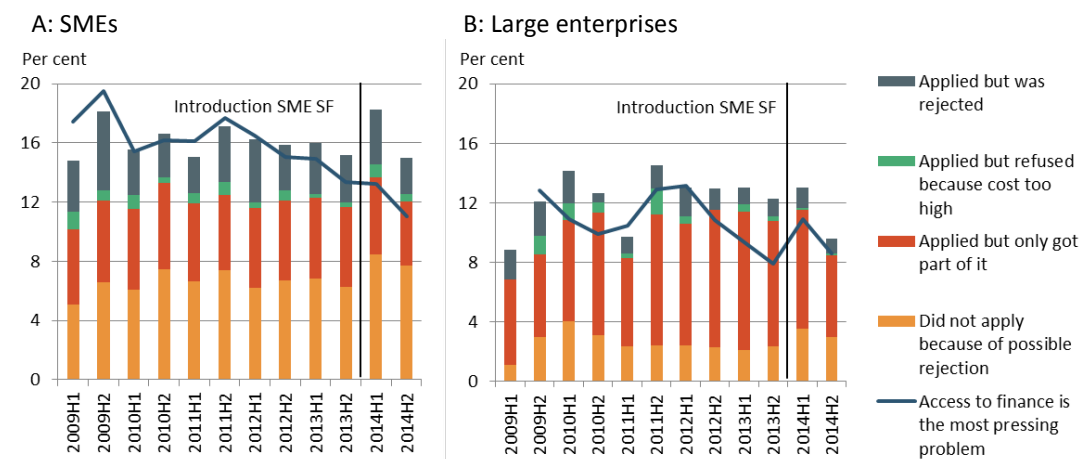


Note: Financing obstacles refer to applicants that applied for a loan but refused because the cost was too high, that applied but were rejected, those that applied but only got a limited part of it. For panel B, it also includes discouraged applicants (those that did not apply for fear of rejection). Micro refers to enterprises with less than ten employees, small refers to companies between ten and 50 employees, medium to companies between 50 and 250, and large to companies over 250 employees.

Source: European Commission Survey on Access to Finance of Enterprises.

56. Overall, approximately 8% of all SMEs were too discouraged to apply for a loan, because of anticipated rejection. Taken together with the loan applications that were either rejected or only partially served or refused by the SME, the recalculated results show that approximately 16% of SMEs experience some issues with bank loan financing, compared to 10% of large corporates (Figure 22). Moreover, even if, in absolute terms, general access to finance moved down over years as the most pressing problem, aggregated SMEs issues with bank loan financing seem to be rather stable.

Figure 22 Obstacles to receiving a bank loan and discouraged borrowers in the euro area

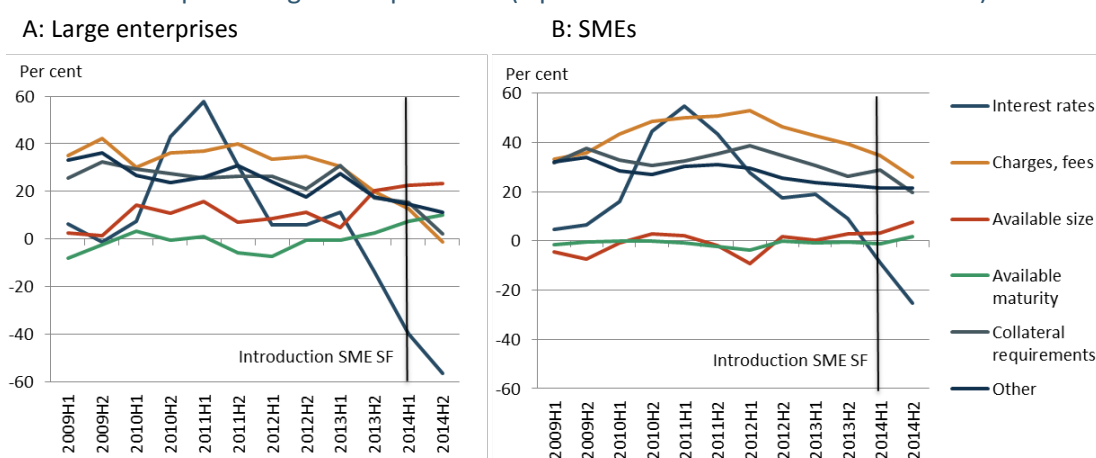


Note: Expressed as a percentage of all SMES for panel A, and all large enterprises for panel B. An enterprise is classified as SME if its number of employees is lower than 250.

Source: European Central Bank Survey on Access to Finance of Enterprises and EBA calculations.

57. Turning to more specific loan conditions, on average, as reported by the euro area SMEs, charges and fees were substantially increasing over the whole 2009-2014 period. As shown in Figure 23, collateral requirements were also increasing, to some extent at a slighter pace. Maturity was the least changing factor over the 11 survey rounds, in net terms mostly marginally decreasing. Size of the loan was more volatile, switching between decreasing and increasing periods. Interest rates first were increasing at accelerated pace, then were still evaluated as increasing however at diminishing speed, to finally decrease in net terms in the last survey round. Again, there are great differences across countries in pace or direction of changes for the specific lending conditions.

Figure 23 Changes in terms and conditions of banks loans granted to euro area enterprises
Net percentage of respondents (a positive number denotes an increase)



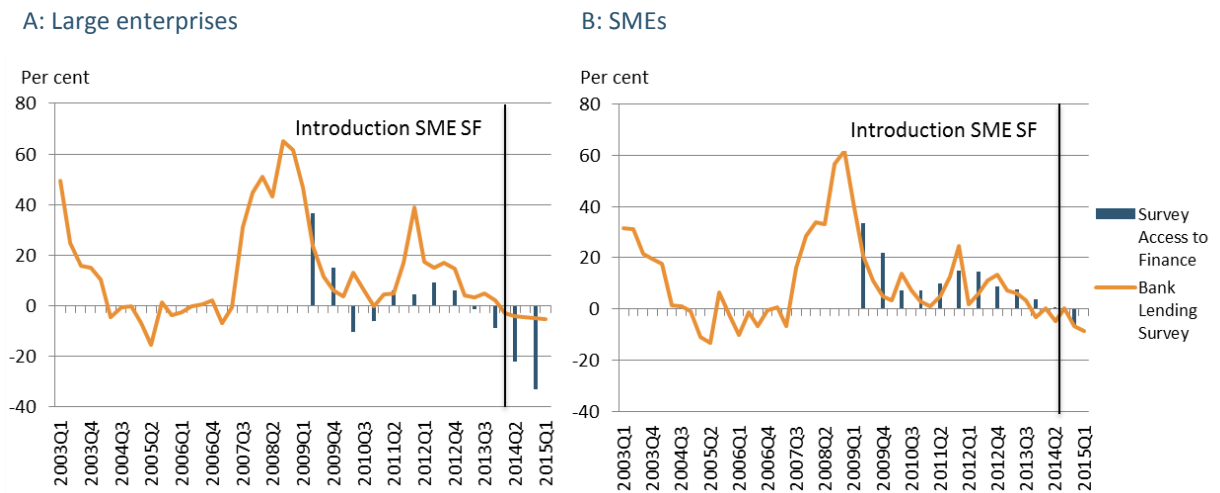
Note: Expressed as a percentage of enterprises that had applied for bank loans (including subsidised bank loans), credit lines, bank overdrafts or credit card overdrafts. An enterprise is classified as SME if its number of employees is lower than 250.

Source: European Central Bank Survey on Access to Finance of Enterprises data.

58. Unfortunately, the important limitation of the SAFE survey data is the coverage period – data collection started only in 2009, so it is not possible to analyse the situation over the full economic cycle. However, some longer data series of Bank Lending Survey (BLS) could be compared with SAFE results. Combining those two sources brings also an opportunity to look at the SME financing conditions and trends from both sides – from the banks' point of view (BLS) and from the SMEs' one (SAFE).

59. Figure 24 shows that the perceptions on the tightening of credit supply of the banks responding to BLS survey and SMEs and large companies responding to SAFE survey. It can be noticed that SMEs views are largely in line with the banks' view on the tightening of credit standards for SME financing after the crisis, and sometimes even show a more pessimistic view of the situation than banks. In contrast, in case of large companies, although in general the perceptions move in the same direction, the large companies' view that credit supply is tightening is less pronounced compared to the views of the banks on tightening of credit standards on loans to large companies. The clear co-movement of the responses from SAFE and BLS for both SMEs and large companies may indicate that the limited financial availability was a result of tightened lending conditions.

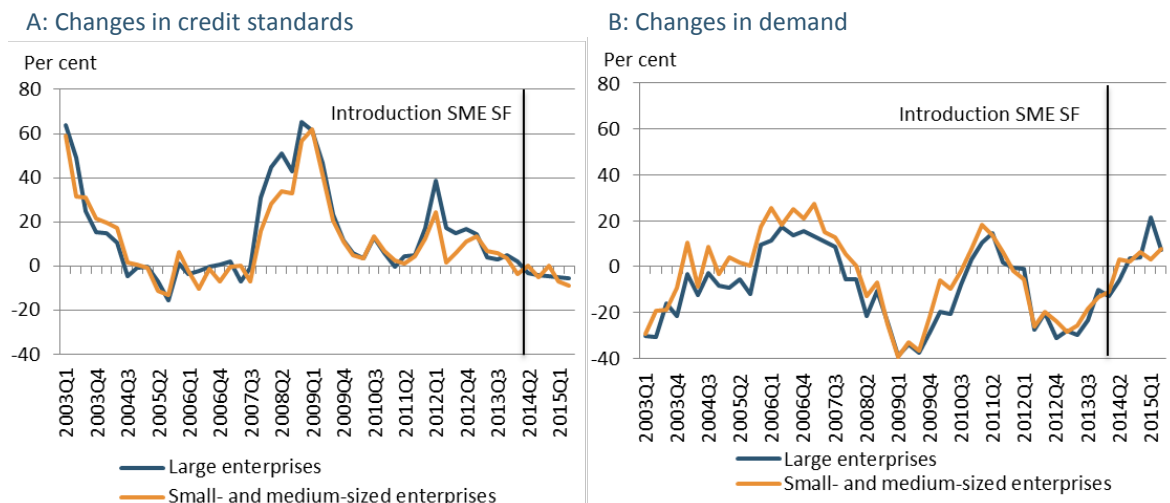
Figure 24 Developments in bank loan supply in the euro area
Net percentage of respondents (an increase denotes tightening)



Note: For Survey on Access to Finance of Enterprises (SAFE) an increase denotes a decrease in financing availability. For Bank Lending Survey (BLS) an increase denoted a tightening in credit standards. SAFE results concerns previous six months, while BLS refers to the previous three months. SAFE classifies an enterprise as SME if its number of employees is lower than 250, while BLS considers as SMEs those enterprises whose annual net turnover is less than EUR 50 million.

Source: European Central Bank Survey on Access to Finance of Enterprises and European Central Bank Bank Lending Survey.

Figure 25 Changes in credit standards and in demand for loans or credit lines
Net percentage of respondents



Note: Three-month backward looking. In panel A, a positive value denotes a tightening in credit standards. Net percentages are defined as the difference between the sum of the percentages of banks responding “tightened considerably” and “tightened somewhat” and the sum of the percentages of banks responding “eased somewhat” and “eased considerably”. In panel B, a positive value denotes increased demand. Net percentages are defined as the difference between the sum of the percentages of banks responding “increased considerably” and “increased somewhat” and the sum of the percentages of banks responding “decreased somewhat” and “decreased considerably”.

Source: ECB Bank Lending Survey.

60. Similarly, according to the Bank Lending Survey data, the economic outlook for credit conditions has improved only recently from the banks' perspective, with a larger number of banks indicating that the credit standards have been eased both for large companies and SMEs only in 2014 and 2015 (Figure 25). Banks' perceptions of the demand for credit also show more optimism after 2014, when more banks thought the demand is increasing, relative to banks that thought it is going down. Before 2014 however, the view on credit demand has been shifting up and down, with peaks in demand before the crisis in 2007 and after the crisis in 2011, with subsequent drops during the crisis and after 2011.

61. To be noted, additional financial assistance programmes were also introduced during this period. In August 2012, the European Central Bank (ECB) announced that it would undertake outright monetary transactions (OMT) in secondary, sovereign bond markets, aimed "at safeguarding an appropriate monetary policy transmission and the singleness of the monetary policy". According to a recent study⁶², this measure had an immediate positive impact on access to finance in stressed countries during the first six months after the announcement of the ECB's OMT Program.⁶³

Consistency of own funds requirements with lending trends and conditions given the SF

62. This section provides a brief overview of the potential impact of the SME Supporting Factor (SF) on SME lending trends and conditions. It starts by briefly reviewing the literature on the association between bank capital requirements and lending to the economy, and then shows descriptive statistics on new SME bank lending comparing the period before and after the introduction of the SF. Further analysis will be provided in the final report.

The effects of capital requirements on bank lending: theory and practice

63. The aim of stringent capital regulation is to increase banks' resilience to future financial downturns and thus reduce the likelihood of a banking crisis which, as both past history and recent events show, generates substantial economic costs. While having better-capitalised banks may enhance financial stability by increasing banks' buffers against losses and reducing their risk-taking incentives, there is however a long-standing debate between policymakers and academics about the costs that these increased capital requirements may entail.⁶⁴ In brief, higher capital requirements may lead banks to reduce asset size which can imply a reduction in the supply of positive net present value loans. This effect may be particularly pronounced when supplying credit to riskier and more bank-dependent borrowers such as SMEs. In

⁶² Annalisa Ferrando, Alexander Popov and Gregory F. Udell (2015), Sovereign stress, unconventional monetary policy, and SME access to finance, ECB Working Paper Series. No 1820 / June 2015.

⁶³ This effect is particularly strong after the exclusion from the control group of German firms, which experienced a remarkable short-run improvement in credit access during the period due to a return in confidence in the domestic banking system

⁶⁴ An overall assessment of the benefits and costs of Basel III are reported in the BCBS Long-term Economic Impact study i.e., the LEI report (BCBS, 2010). This study suggests that the economic costs associated with tighter capital and liquidity standards are considerably lower than the potential benefits in terms of reducing the probability of banking crises and associated banking losses. Similar conclusions are obtained by Miles et al. (2013) and Angelini et al. (2015).

addition, if it is expensive for banks to hold additional capital, this higher cost of equity may be passed on to the borrowers in the form of higher lending rates, which in turn can reduce credit demand. The objective of optimal capital regulation is therefore to balance this trade-off: (i) protect the financial system against moral hazard and the cost of bank failures, and (ii) encourage banks to keep lending.⁶⁵

64. The relationship between minimum capital requirements and bank lending has been extensively examined in the academic literature since the introduction of Basel I in 1988. Focusing on a unique dataset from the UK where the regulator imposed time-varying bank-specific capital requirements, and using a broad range of methodologies over distinct time periods, Francis and Osborne (2009), Noss and Tofano (2014) and Bridges et al. (2014) find that a 1% increase in capital requirements leads to a short-term average lending contraction of 1.2% to 4.5%. Using the same setting, Aiyar et al. (2014a, 2014b) point towards a credit growth reduction by regulated banks of 4.6% to 8%. Similarly, The FSB/BCBS Macroeconomic Assessment Group (BIS, 2010) estimates that a 1% increase in capital requirements causes a decline of 1.4% in lending volumes when analysing a sample of 15 different countries. Brun et al. (2013) examine the impact of capital requirements on bank lending exploring French loan-level data and the transition from Basel I to Basel II. They find that a 2 percentage point reduction in capital requirements was associated with an increase in aggregate corporate lending by 1.5% and a rise of aggregate investment by 0.5%. Finally, Messonnier and Monks (2015) explore the European Banking Authority (EBA) recapitalisation exercise announcement of 2011-2012 that required banks to have higher capital ratios than expected in transition to Basel III. Using data for 250 large banks in the euro area, they find that banks forced to increase its Core Tier 1 ratio by 1% had an annualised loan growth (over the 9 month period of the exercise) that was 1.2% lower than unconstrained banks. To sum up, empirical evidence suggests that reductions in individual bank lending are indeed one of the main short-run costs of binding risk-based capital requirements.⁶⁶

⁶⁵ Angelini, P., Clerc, L., Cúrdia, V., Gambacorta, L., Gerali, A., Locarno, A., ... & Vlček, J. (2015). Basel III: Long-term Impact on Economic Performance and Fluctuations. *The Manchester School*, 83(2), 217-251.

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Miles, D., Yang, J., & Marcheggiano, G. (2013). Optimal Bank Capital. *The Economic Journal*, 123(567), 1-37.

⁶⁶ Aiyar, S., Calomiris, C. W., & Wieladek, T. (2014). Does Macro-Prudential Regulation Leak? Evidence from a UK Policy Experiment. *Journal of Money, Credit and Banking*, 46(1), 181-214.

Aiyar, S., Calomiris, C., & Wieladek, T. (2014). How does credit supply respond to monetary policy and bank minimum capital requirements?. Bank of England Working Paper No. 508.

BIS MAG - Macroeconomic Assessment Group (2010). Assessing the macroeconomic impact of the transition to stronger capital and liquidity requirements – Final Report.

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Brun, M., Fraise, H., & Thesmar, D. (2013). The real effects of bank capital requirements. HEC Paris Working Paper No. 988.

Mésonnier, J. S., & Monks, A. (2015). Did the EBA Capital Exercise Cause a Credit Crunch in the Euro Area?. *International Journal of Central Banking*. 11(3), 75-117.

Noss, J., & Toffano, P. (2014). Estimating the impact of changes in aggregate bank capital requirements during an upswing. Bank of England Working Paper No. 494.

65. If capital is indeed expensive and banks are unwilling to raise additional equity, tighter capital requirements may also lead to higher interest rates on lending. In fact, if the required return-on-equity and cost of bank debt do not adjust accordingly, banks may increase lending spreads to compensate the higher funding costs (Angelini et al, 2015) i.e., an increase in capital requirements may induce banks to appropriate a sizeable share of their borrowers' profits. While this problem can be mitigated if a borrower also has some access to market-based funding, many firms, predominantly SMEs, have no access to this form of financing and thus are particularly vulnerable. With respect to the impact of increased capital requirements on lending rates, the BCBS (2010) LEI report estimates that a 1% cent increase in Tier 1 capital yields a 0.13% long-term increase in lending spreads when using a sample of 13 OECD countries. This estimate is in line with King (2010) which also analyses banks in 13 OECD countries, Kashyap et al. (2010) for the US and Slovik and Cornede (2011) that consider the euro area, Japan and the US. Miles et al. (2013) show a more modest effect in the UK: the long-term increase in lending spreads caused by a 1% increase in the capital requirement is equal to a 0.8 basis point, smaller by a factor of 16 than the estimate by BCBS (2010). In short, all the above studies suggest that more stringent capital requirements are likely to result in increases in the borrowing costs faced by bank customers. While the magnitude of this effect differs with the countries analysed and the methodologies used, the results point towards an increase in lending spreads of between 0.8 and 15 basis points for a 1% increase of capital requirements. Estimates are however significantly larger in an industry study carried out by the Institute of International Finance (2011).⁶⁷

Descriptive statistics on SME lending before and after the introduction of the SF

66. Descriptive statistics on SME lending comparing the pre-crisis period with the period around the implementation of the SF provide a first insight into changes in lending that are potentially related to the implementation of the SF in the beginning of 2014⁶⁸. Table 5 examines whether lending trends have changed since the beginning of 2014 by comparing the volume of new lending before and after the introduction of the SF. While new lending volumes increased in the post-SF period in Germany, Spain, Ireland, Italy, Slovakia and Lithuania, they declined in Austria, Belgium, Estonia, Netherlands, Portugal, Slovenia, Cyprus, Finland, France and Luxembourg. In the euro area as a whole, new bank lending slightly went up. As discussed above, these changes cannot be solely attributed to the implementation of the SF.

⁶⁷ Kashyap, A. K., Stein, J. C., & Hanson, S. (2010). An analysis of the impact of 'substantially heightened' capital requirements on large financial institutions. University of Chicago and Harvard Working Paper.

King, M. R. (2010). Mapping capital and liquidity requirements to bank lending spreads. Bank for International Settlements Working Paper No. 324.

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Slovik, P., & Cournède, B. (2011). Macroeconomic Impact of Basel III. OECD Publishing No. 844.

⁶⁸ Some countries introduced the SF at an earlier point in time (e.g. Spain in September 2013). While this has not yet been considered at this stage, it will be accounted for in the final report.

Table 5 Sum of new bank loans to SMEs per country in the pre- and post-SF period

| in EUR bn | AT | BE | CY | DE | EE | ES | FI | FR | GR | IE | IT | LT | LU | LV | MT | NL | PT | SI | SK | Euro area |
|----------------|------|-------|-----|-------|-----|-------|-----|-------|------|-----|-------|-----|------|------|------|------|------|-----|-----|-----------|
| pre-SF period | 17.1 | 101.2 | 1.3 | 146.7 | 1.2 | 169.4 | 9.3 | 196.5 | n.a. | 4.5 | 203.7 | 0.4 | 18.0 | n.a. | n.a. | 23.2 | 23.7 | 2.4 | 1.6 | 818.7 |
| post-SF period | 15.6 | 97.1 | 0.5 | 152.5 | 1.1 | 182.8 | 8.5 | 172.5 | n.a. | 4.7 | 205.7 | 0.7 | 14.1 | n.a. | n.a. | 22.4 | 23.0 | 1.7 | 1.6 | 820.5 |

Note: Period pre-SME Supporting Factor: November 2012 to December 2013; period post-SME Supporting Factor: January 2014 to March 2015. The dates have been chosen to display time periods of about equal length.

Source: ECB Monetary and Financial Interest Rate Statistics.

67. Overall, at this stage there is no clear-cut answer to whether the SF fostered new lending to SMEs. As the SF operates via reduced capital requirements for SME loans, this factor may only have an indirect impact on lending volumes via pricing since banks manage their loan portfolios via internal funds transfer prices. In brief, interest rates should cover not only interest rate risk but also liquidity risk, a premium for maturity mismatches and refinancing costs (of capital). As long as these risks are adequately priced, SME loans should be profitable as banks have more flexibility in price setting (compared to money and capital markets) and thus lending to SMEs should be granted.

68. A formal empirical study is underway to identify the credit supply effects related to the introduction of the SF in the EU. The main findings will be included in the final report.

69. At individual country level, a study attempting to assess the impact of the introduction of the capital reduction factor for SME loans has been conducted in Spain. The study finds that following the introduction of the reduced capital requirements, the lending to SMEs have increased both to the existing and new SME bank clients. More details on the study are provided in Box 2.

Box 2 Impact of regulatory changes on SME lending: Spanish case

Law on Support to Entrepreneurs anticipated by three months the entry into force of the European capital regulations relating to the treatment of capital requirements for SMEs, by reducing capital requirements for new and existing loans, excluding unpaid positions, to all SMEs by 25%. To analyze whether SMEs were the type of firms who benefited most from the freeing up of funds that regulatory changes entailed a model that compares the change in the credit committed to a SME in the financial system before and after September 2013 to that granted to a large corporation was developed. The results of this analysis were presented in Bank of Spain Financial Stability Report 05/2014.

The exercise takes into account both observable, and non-observable characteristics of the firms and non-observable characteristics of the bank that may influence the credit obtained by the firm. The regression also includes controls for macroeconomic variables. Foreseeably, before the entry into force of the regulatory change, being classified as an SME or not (that is being a corporate) implied no differential effect.

Two approaches were used:

1. Local approach considers the exclusive relationship between each firm and the habitual bank that provides it with financing. It tests whether, following the regulatory change, banks are granting more credit to their habitual customers. Firms with defaults have been stripped out of the statistical exercise, since the rebate on capital requirements is not applicable to them. Furthermore, to avoid potential distortions owing to the particular behaviour of the construction and real estate development sector, these firms are also excluded from the study. The estimated model is the following:

$$\Delta \text{Ln}(\text{Commitment}_{ijt}) = \alpha + \beta \text{SME}_{ij} + \text{Firm Controls}_i + d_{isp} + \eta_j + \varepsilon_{ijt}$$

where Commitment_{ijt} is the total committed credit by bank j to firm i from 2011:Q4 to period t ; SME_{ij} is a dummy variable that takes the value of one if the company i is considered a SME to bank j and 0 otherwise; d_{isp} is a set of sector and province dummies; Firm Controls_i includes a set of firm characteristics large enough to avoid possible biases (leverage ratio, liquidity ratio, ROA, past defaults, ...); η_j are bank fixed effects; and ε_{ijt} is the error term. All firm variables referred to the end of 2011.

2. Aggregate approach analyses the change in the total volume of bank credit obtained by a firm. This approach tests whether SMEs obtain more loans from their habitual bank or from others. The proposed model is the following:

$$\Delta \text{Ln}(\text{Commitment}_{it}) = \alpha + \beta \text{SME}_i + \text{Firm Controls}_i + d_{isp} + \eta_{ij} + \varepsilon_{it}$$

where Commitment_{it} is the total committed credit of firm i from 2011:Q4 to period t ; SME_i is a dummy variable that takes the value of one if the company i fits with the definition of SME under the new regulatory regime and 0 otherwise; isp is a set of sector and province dummies; Firm Controls_i includes the same a set of firm characteristics as the local model; η_{ij} are lead bank fixed effects; and ε_{it} is the error term.

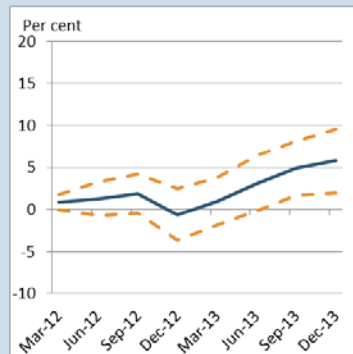
The results presented in the Figure 26 below should be interpreted with all due caution. As indicated, certain information shortcomings remain which prevent the set of companies subject to the measure from being precisely defined.

Commencing with the first (local) approach, Panel A shows the relative growth of credit to SMEs, regarding large corporations, for the different periods analysed. It can be seen how this coefficient is statistically significant as from 2013Q3 and reaches a value of 5.8% at the end of that year. Using the aggregate approach, Panel B shows that the relative growth of credit for SMEs versus other corporates shifts from not being statistically significant before the reform to being so after it. Moreover, the discrete estimation of this parameter in December stands at 7.9%, higher than that found under the local approach. This suggests that banks other than those that were already working with any specific SME (financing this firm) have begun to grant new credit, apart from the fact that SMEs are drawing down more credit from their traditional banks, as shown by the analysis at the local level.

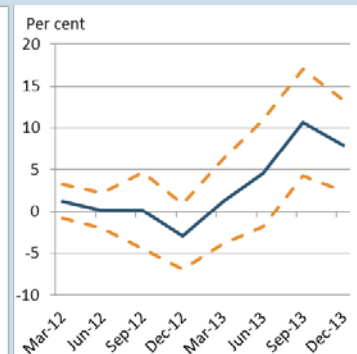
Accordingly, and bearing in mind the limitations proper to this type of analysis, the results suggest that after 2013Q3, when regulatory changes took place, credit to SMEs compared to large corporations continued to grow albeit at a markedly slower pace than in the period from 2012Q4 to 2013Q3. These results do not differ significantly if listed companies, which may have obtained financing through other channels than banks, are excluded from large corporations.

Figure 26 Relative growth of SMEs credit versus large firms.

A: Local focus estimated effect



B: Global focus estimated effect



Note: the dashed lines denote the confidence interval.

Source: Bank of Spain (2014), Analysis of the impact on lending of the new capital requirements and the change in the definition of SMEs, Bank of Spain Financial Stability Report 05/2014

Questions

Q11: Do you agree with the above interpretation of statistical data on lending trends and conditions? Yes/No. If no, please explain.

Q12: Since 1 January 2014, have you changed your SME credit lending and assessment policies and procedures, specifically as a result of the introduction of the Supporting Factor? Yes/No. If yes, please explain and provide specific examples.

Q13: Have changes to your SME credit lending and assessment policies and procedures been driven by other factors (e.g. competition from alternative sources of SME financing as described in section 4.1)? Yes/No. Please explain and provide specific examples.

Q14: In your experience, is there an impact of the SME supporting factor on the volume of SME lending compared to other loans? Yes/No. Please explain and provide evidence.

Q15: In your experience, is there an impact of the SME supporting factor on the pricing and overall conditions of SME lending compared to other loans? Yes/No. Please explain and provide evidence.

Q16: Do you consider SMEs are a consistent group when it comes to access to credit or should a distinction be made between different types of SMEs (e.g. micro, small and medium ones)? Yes/No. Should other criteria also be considered (e.g. sector of economic activity or further detail by size type)? Yes/No. Please explain and provide specific examples.

Annex 1 - Summary of questions

4.1 Market development and sources of SME financing

No questions

4.2 Regulatory treatment of SMEs and the SME Supporting Factor

Q1: Do you have systems in place to track the reduction in capital due to the application of the SME Supporting Factor (capital relief)? Yes/No. Please explain and provide evidence.

Q2: In your experience, is the reduction in capital requirements due to the application of the SME Supporting Factor (capital relief) being used to support lending to SMEs? Yes/No. Please explain and provide evidence.

Q3: Is your internal definition of SMEs in line with the definition of SME exposures subject to the SME Supporting Factor? Yes/No. If no, how are you reconciling the internal definition of SMEs with the definition of SMEs subject to Supporting Factor? Please explain and provide specific examples.

Q4: In monitoring the total amount owed to you, your parent and subsidiary undertakings, including exposures in default, by the borrower and its group of connected clients (as defined in CRR Article 4(1)(39)), what reasonable steps do you take to ensure that amount does not exceed EUR 1.5 million in accordance with Article 501(2)(c)?

Q5: Do you see merits in having a harmonised definition of SMEs for reporting purposes? Yes/No. Please explain and provide specific examples.

4.3 Riskiness of EU SMEs over a full economic cycle and consistency of own funds requirements with the SME riskiness

Q6: Do you agree with the proposed measures of SME riskiness? Yes/No. Are some of these measures more relevant than others? Yes/No.

Q7: Are other aspects relevant in your assessment of the creditworthiness/riskiness of potential SME borrowers? Yes/No. If yes, please provide a list of those aspects and explain how you measure SME riskiness.

Q8: In your experience, are SMEs as cyclical or more/less cyclical than large enterprises?

Q9: Do you agree with the proposed methodology to assess the own funds requirements in relation to SME riskiness? Yes/No. If no, please provide alternative methodologies or indicators, if available.

Q10: Did the arrears and loss experience in 2009/2010/2011 exceed an (internal) limit? Yes/No. Were (expected/unexpected) losses adequately covered by loan loss provisions? Yes/No. Please explain and provide specific figures.

4.4 SME lending trends and conditions and impact of the SME Supporting Factor on lending trends and conditions

Q11: Do you agree with the above interpretation of statistical data on lending trends and conditions? Yes/No. If no, please explain.

Q12: Since 1 January 2014, have you changed your SME credit lending and assessment policies and procedures, specifically as a result of the introduction of the Supporting Factor? Yes/No. If yes, please explain and provide specific examples.

Q13: Have changes to your SME credit lending and assessment policies and procedures been driven by other factors (e.g. competition from alternative sources of SME financing as described in section 4.1)? Yes/No. Please explain and provide specific examples.

Q14: In your experience, is there an impact of the SME supporting factor on the volume of SME lending compared to other loans? Yes/No. Please explain and provide evidence.

Q15: In your experience, is there an impact of the SME supporting factor on the pricing and overall conditions of SME lending compared to other loans? Yes/No. Please explain and provide evidence.

Q16: Do you consider SMEs are a consistent group when it comes to access to credit or should a distinction be made between different types of SMEs (e.g. micro, small and medium ones)? Yes/No. Please explain and provide specific examples.

Annex 2 – Selected recitals and articles from the Regulation (EU) No 575/2013 (Capital Requirement Regulations)

REGULATION (EU) No 575/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 June 2013 on prudential requirements for credit institutions and investment firms

[...]

- (44) Small and medium-sized enterprises (SMEs) are one of the pillars of the Union economy given their fundamental role in creating economic growth and providing employment. The recovery and future growth of the Union economy depends largely on the availability of capital and funding to SMEs established in the Union to carry out the necessary investments to adopt new technologies and equipment to increase their competitiveness. The limited amount of alternative sources of funding has made SMEs established in the Union even more sensitive to the impact of the banking crisis. It is therefore important to fill the existing funding gap for SMEs and ensure an appropriate flow of bank credit to SMEs in the current context. Capital charges for exposures to SMEs should be reduced through the application of a supporting factor equal to 0.7619 to allow credit institutions to increase lending to SMEs. To achieve this objective, credit institutions should effectively use the capital relief produced through the application of the supporting factor for the exclusive purpose of providing an adequate flow of credit to SMEs established in the Union. Competent authorities should monitor periodically the total amount of exposures to SMEs of credit institutions and the total amount of capital deduction.

[...]

Article 501

Capital requirements deduction for credit risk on exposures to SMEs

1. Capital requirements for credit risk on exposures to SMEs shall be multiplied by the factor 0.7619.

2. For the purpose of this Article:

(a) the exposure shall be included either in the retail or in the corporates or secured by mortgages on immovable property classes. Exposures in default shall be excluded;

(b) an SME is defined in accordance with Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (1). Among the criteria listed in Article 2 of the Annex to that Recommendation only the annual turnover shall be taken into account;

(c) the total amount owed to the institution and parent undertakings and its subsidiaries, including any exposure in default, by the obligor client or group of connected clients, but excluding claims or contingent claims secured on residential property collateral, shall not, to the knowledge of the institution, exceed EUR 1.5 million. The institution shall take reasonable steps to acquire such knowledge.

3. Institutions shall report to competent authorities every three months on the total amount of exposures to SMEs calculated in accordance with paragraph 2.

4. The Commission shall, by 28 June 2016, report on the impact of the own funds requirements laid down in this Regulation on lending to SMEs and natural persons and shall submit that report to the European Parliament and to the Council, together with a legislative proposal, if appropriate.

5. For the purpose of paragraph 4, EBA shall report on the following to the Commission:

(a) an analysis of the evolution of the lending trends and conditions for SMEs over the period referred to in paragraph 4;

(b) an analysis of effective riskiness of Union SMEs over a full economic cycle;

(c) the consistency of own funds requirements laid down in this Regulation for credit risk on exposures to SMEs with the outcomes of the analysis under points (a) and (b).

Annex 3 – Selected articles from the Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises

COMMISSION RECOMMENDATION of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises

Article 1

1. This Recommendation concerns the definition of micro, small and medium-sized enterprises used in Community policies applied within the Community and the European Economic Area.
2. Member States, the European Investment Bank (EIB) and the European Investment Fund (EIF), are invited:
 - (a) to comply with Title I of the Annex for their programmes directed towards medium-sized enterprises, small enterprises or microenterprises;

[...]

ANNEX

TITLE I

DEFINITION OF MICRO, SMALL AND MEDIUM-SIZED ENTERPRISES ADOPTED BY THE COMMISSION

Article 1

Enterprise

An enterprise is considered to be any entity engaged in an economic activity, irrespective of its legal form. This includes, in particular, self-employed persons and family businesses engaged in craft or other activities, and partnerships or associations regularly engaged in an economic activity.

Article 2

Staff headcount and financial ceilings determining enterprise categories

1. The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million.
2. Within the SME category, a small enterprise is defined as an enterprise which employs fewer than 50 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 10 million.
3. Within the SME category, a microenterprise is defined as an enterprise which employs fewer than 10 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 2 million.

[...]

Annex 4 –Data considerations: SME definition and data sources

Any analysis focused on SMEs encounters obstacles when it comes to timely and qualitative data. These obstacles are encountered due to, on the one hand, the diversity of SME definitions applied in different countries and institutions and, on the other hand, due to the fragmented statistical data. In combination these two limitations often do not allow having conclusive results and requires a pragmatic interpretation of data. This Annex provides an overview of the SME definitions and data sources used in this paper.

SME definition

There is no common SME definition applied across the entire EU. Different SME definitions are used in the EU Member States depending on the purpose and data availability, thus creating difficulties in having a common concept of an SME.

In the EU, we can identify the following SME definitions:

- **SME definition in accordance with the 2003 EU Recommendation (EU definition)** – This definition was set by the European Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises, and defines micro, small and medium enterprises (or SMEs⁶⁹) based on the number of employees and turnover or balance sheet size (Annex 3). According to this Recommendation, Member States, the European Investment Bank (EIB) and the European Investment Fund (EIF), are invited to apply this definition for their programmes directed towards medium-sized enterprises, small enterprises or microenterprises. This definition is used when analyzing SME sources of finance (section 4.1), lending trends and conditions (4.3) and SME riskiness (4.4). However, given the limited data availability, it is often the case that proxies are used instead, such as the size of loan to approximate the size of the borrower (in these cases, a note explaining the proxy is provided). The same general definition is applied in the discussion of the general treatment of SMEs in the CRR in section 4.2.
- **Country specific and bank specific SME definitions** – In practice, the SME definition applied varies with the size of the country in which the institution is domiciled or the institution applying the definition. According to EBA (2012)⁷⁰, for example, internationally active banks appear to often have different SME definitions for each and every country in which they operate, while non-internationally active smaller banks (typically using the SA) tend to share a

⁶⁹ To be noted, micro enterprises are included in the definition of SMEs, although they are not allocated a letter in the abbreviation.

⁷⁰ European Banking Authority (2012), Assessment of SME Proposals for CRD IV/ CRR

common definition with other banks in their jurisdiction. Bank-specific definitions are used for the empirical analysis bank SME portfolios in Box 2 (section 4.2).

- **Exposures subject to SME Supporting Factor** – In view of the introduction of the capital discount to eligible SME exposures, certain criteria were set to ensure a consistent application of the factor in accordance with *Article 501 of the CRR (Annex 2)*, resulting in a definition that is more slightly different compared to the EU definition and *defines an exposure, rather than an entity*. In order for an exposure to be eligible for the SME SF, the borrower should meet all the requirements of the EU SME definition (except employment headcount and balance sheet size criteria), but also includes two other conditions: the exposure class and the total amount owed to the institution and its subsidiaries and parent undertakings by the client or the group of clients, as shown in the table below. This definition is used in the context of the application of the SME Supporting Factor to SME exposures in section 4.2 of the paper.

Table 6 Comparison of EU SME definition and definition of exposures subject to the SME Supporting Factor

| | Criteria | EU SME definition | Definition of exposures subject to the SME Supporting Factor |
|---------------------------------|--|-------------------|--|
| 2003 EU Recommendation criteria | Turnover does not exceed EUR 50 million | ✓ | ✓ |
| | Balance sheet size does not exceed EUR 50 million | OR ✓ | ✗ |
| | Employs less than 250 people | ✓ | ✗ |
| | Other criteria in accordance with the Recommendation | ✓ | ✓ |
| | Exposure belongs to exposure classes Corporate, Retail or Secured by immovable property according to Article 501 CRR | ✗ | ✓ |
| | Amount owed to institution, its parent undertakings and subsidiaries by the borrower and its group of connected clients (as defined in CRR Article 4(1)(39)) does not exceed EUR 1 million according to Article 501 CRR) | ✗ | ✓ |

Source: compiled based on European Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises and Article 501 of the CRR. Please refer to the original documents for a more detailed account of the definitions applied.

Data sources and quality issues

Statistics on small and medium enterprises at the European Union level tend to be fragmented. Issues of cross-country comparability are compounded with the various definitions of SME,

limited historical data and uneven country coverage. Furthermore, the data still appear preliminary in some cases.

Against this background, the paper draws from existing data sources to measure SME riskiness over a full economic cycle together with SME lending trends and conditions (Table 7). Harmonised datasets at the European level are given preference as they follow common guidelines, enabling comparability across countries. When available, data from credit registers are used for individual case studies.

The identification of SMEs varies across sources, as detailed in section 4. For example, the ECB Survey of Access to Finance classifies SMEs as those enterprises whose number of employees is lower than 250, while the ECB Bank Lending Survey considers as SMEs those enterprises whose annual net turnover is less than EUR 50 million. In some instances, there is no separate breakdown for SMEs, such in the ECB Monetary and Financial Statistics. In those instances SMEs are proxied by non-financial corporations with a loan size below EUR 1 million.

Survey data are used to complement the discussion on SME lending conditions based on interest rates statistics. Soft data contribute to monitor the evolution of credit standards and conditions, and are extensively used in the literature. However, some survey samples might not be representative, as the absence of SME bank loan rejections in some countries seem to suggest.

Different samples and SME definitions may lead to different conclusions. Due caution should be applied when comparing different data sources and interpreting the data.

Table 7 Overview of data sources

| Source | Dataset | Area | Caveats |
|---------------------|--|--|--|
| EBA | Supervisory data (Common Reporting Framework) | - Capital relief due to the SME Supporting Factor - SME lending | - Limited historical data: as of 2014Q1 - Still outstanding data quality issues |
| ECB | Monetary and Financial Institutions statistics | SME lending trends and conditions | - Limited country coverage: euro area countries for trends - No SME breakdown (proxied by non-financial corporation under EUR1mn) |
| European Commission | Survey on Access to Finance of Enterprises | SME lending conditions | Limited historical data: annual in 2009, 2011, 2013 and 2014 |
| ECB | Survey on Access to Finance of Enterprises | SME lending conditions | - Limited country coverage: euro area - Limited historical data: semi-annual data from 2009H1 to 2014H2 |

| | | | |
|--|--|-----------------------------|--|
| ECB | Bank Lending Survey | SME lending conditions | Limited country coverage: Estonia, Ireland, Austria and Finland not available for some measures |
| Eurostat | Access to Finance survey | SME lending conditions | Limited historical data: 2007 and 2010 (one-off survey) |
| Eurostat | Economy and Finance database | Size of SMEs in the economy | |
| European Committee of Central Balance Sheet Data Offices | Bank for Accounts of the Companies Harmonized (BACH) | SME riskiness | <ul style="list-style-type: none"> -Limited country coverage: 11 countries -Limited historical data for some countries -Limited selection of financial ratios |

Annex 5 – Summary of published Q&As related to the interpretation and application of the SME Supporting Factor (Art 501 CRR)

| Q&A | Public ation date | Topic | Question | Response |
|-----|-------------------------|---|--|--|
| 27 | | SME Definition | How is SME defined? | Recommendation 2003/361/CE of 6 May 2003 provides guidance on SME definition. For purposes of Article 501, and as set out in detail in paragraph 2 point b thereof, they are required to use the definition set out in that Recommendation. |
| 343 | 31/01 /2014 | Conditions for application of the SME Support Factor | When is the turnover recorded: (i) at inception of the loan or (ii) on an on-going basis? What level of documentation/proof is required, if any? | Since the possible relief in capital requirements under Article 501 of the CRR is limited to exposures to SMEs, it needs to be ensured that this privilege is not extended inappropriately. An institution therefore needs to have adequate current information available on an on-going basis and should be able to adequately demonstrate the fulfilment of this requirement to its competent authorities. |
| 416 | 31/01 /2014 | The meaning of the "amount owed to the institution" | How should institutions understand the "amount owed to the institution" under Article 501(2)(c) in case of off-balance sheet exposures to customers that haven't yet been used: Exposure value (as understood in Article 111) or the nominal value (e.g. credit line)? | In the case of a line of credit, only the drawn amount needs to be considered when checking if the EUR 1,5 million limit is complied with. Provided that all conditions of Article 501(2) of the CRR are met, the exposure as a whole including its undrawn part can qualify as exposure to an SME. |
| 414 | 28/03 /2014 | Conditions for application of the SME Support Factor | Should an institution stop using the factor 0.7619 as soon as the amount owed to the SME enterprise exceeds 1.5m EUR? | The conditions specified in Article 501(2) should be met on an on-going basis. Accordingly, if, or as soon as the total amount defined in Article 501(2)(c) exceeds, for a given client or group of connected clients, EUR 1,5 million to the |

| Q&A | Public ation date | Topic | Question | Response |
|------|-------------------------|--|--|--|
| | | | | knowledge of the institution, the institution should stop using the factor of 0.7619. |
| 257 | 04/04 /2014 | Calculation of capital requirements for SME under CRR art. 501 | Should the factor of 0.7619 apply to capital requirements or to risk weighted assets? | Capital requirements for credit risk refers to the <u>risk-weighted exposure amounts</u> set out in Article 92(3)(a) of Regulation (EU) No 575/2013 (CRR). Institutions should therefore calculate risk weighted exposure amounts for their qualifying SME exposures and then multiply these by the factor specified in Article 501(1) of the CRR (0.7619). The reduced amount of risk weighted exposure amount should then be used in the calculation according to Article 92(3)(a) of the CRR. |
| 417 | 28/05 /2014 | Conversion of the total amount owed to institution from national currency to EUR | Which exchange rate should the institution use to convert the amount owed to institution (mentioned in Article 501 point 2) and measure if that amount doesn't exceed EUR 1.5 million? Should it be converted to EUR each day with exchange rate from this day or should the exchange rate be fixed, for example from the day when the product was sold? | This is an on-going condition. Where an exposure is denominated in a currency other than the Euro, an institution may calculate the euro equivalent using any appropriate set of exchange rates, updated with an appropriate frequency, provided its choice has no obvious bias and the approach used to choose the appropriate set of exchange rates is consistently applied (e.g. Euro spot exchange rate published on the ECB website). |
| 2565 | 04/07 /2014 | Treatment of SME-supporting factor in the case of secured exposures | How should the SME-supporting factor be treated relating to secured exposures: a) Including all collaterals, i.e. also for guarantees. b) Only for those collaterals which cause no risk transfer; c) Only for the non-secured part? | Pursuant to Article 501(2)(a) of the CRR, in order to meet the eligibility requirements, the exposures shall always be included either in the 'retail' or in the 'corporates' or 'secured by mortgages on immovable property' classes irrespective of whether credit risk mitigation techniques with substitution effects (e.g. guarantees) are reclassified for reporting purposes to another exposure class. |

Note: More details on the questions and answers provided are available on the EBA website.