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European Investment Bank (EIB), Luxembourg

Suggested Citation: Wagenvoort, Rien (2003): SME finance in Europe: introduction and overview, EIB Papers, ISSN 0257-7755, European Investment Bank (EIB), Luxembourg, Vol. 8, Iss. 2, pp. 11-20

This Version is available at: http://hdl.handle.net/10419/44826

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ABSTRACT

Introducing the topic of SME finance and summarising

the main findings of the contributions to this edition of the EIB Papers, this overview stresses the importance of relationship banking for the supply of SME credit; points out the differences and similarities in the capital structure of firms across size classes and across Europe; observes that while there is little evidence of widespread SME credit rationing, financial market imperfections may nevertheless curb SME growth; and highlights that the changes in Europe's financial landscape - including bank consolidation and Basel II - promise to foster SME finance.

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SME finance in Europe: introduction and overview

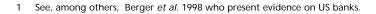
Noise proves nothing. Often a hen who merely laid an egg cackles as if she had laid an asteroid. Mark Twain

1. Introduction

Europe's financial landscape is experiencing sweeping changes, driven by a variety of factors, notably the introduction of the euro, deregulation and liberalisation aimed at creating the Single Market for financial services, progress in information and communication technology, increasing wealth, and population ageing. These changes - in particular the restructuring, consolidation, and reorientation of banking - are likely to affect the financing of small and medium-sized enterprises (SMEs). But are these changes a blow or a blessing for SME finance?



Other features of Europe's financial landscape have raised concerns about a possible deterioration of conditions for SME finance. Firstly, consolidation in national banking markets has reduced the number of banks and has in many EU countries, especially in the smaller ones, increased the market share of the top-five largest institutions (see, among others, ECB 2002). This may be detrimental to SME lending since there is evidence that large banks devote a lesser proportion of their assets to small business loans in comparison to small, often regional banks.¹ Secondly, there is evidence (Davis, this volume) that capital markets and institutional investors are gaining ground over banks. Institutional investors are in competition with banks when collecting savings in the economy, but they tend to lend less to SMEs than banks do. Thirdly, a new capital adequacy framework for banks (Basel II) is in the making. The thrust of Basel II is to better align capital charges and, by extension, interest rates on loans with underlying credit risks. As SME lending is often perceived, rightly or wrongly, as particularly risky, many observers - in particular SMEs themselves - have been vocal in warning against a (further) deterioration of SME finance.





Rien Wagenvoort

The contributions in this edition of the *EIB Papers* are firmly set against the backdrop of challenges to SME finance in general and, in particular, concerns that the creation of Europe's new financial architecture will leave SMEs out in the cold. The common feature of all contributions is that they examine the structure of SME finance and analyse whether SMEs are finance constrained. *Rien Wagenvoort* approaches these issues from a Europeanwide perspective whereas *Luigi Guiso*, *Ulrich Hommel* and *Hilmar Schneider*, and *Michel Dietsch* each undertake a country case study, covering Italy, Germany, and France, respectively.

The remainder of this overview paper is organised as follows: Section 2 sets the stage for summarising the main messages of the various contributions by explaining why financing of SMEs tends to be more challenging than financing of large firms. Reflecting these challenges, small businesses often have no other choice than to rely on bank relationships for their external financing while large firms may turn to banks as well as capital markets. We will also elaborate on the benefits and costs of relationship banking and briefly consider the impact of bank competition on relationship banking. In Section 3, we discuss the capital structure of the average European firm across different size classes and review similar results for Italy, Germany, and France. In Section 4, we evaluate whether SMEs in Europe suffer from credit constraints and whether financial market imperfections hamper the growth of companies. Section 5 begins with a brief empirical description of relationship banking in the three countries covered here and continues with an evaluation of the impact of bank consolidation on relationship banking in France. The implications of Basel II are discussed in Section 6. Finally, Section 7 concludes.

2. The challenges of SME lending, relationship banking, and credit rationing

Since SMEs are often less transparent than large firms, their financing is more challenging. Information and control problems are crucial for understanding the financing of firms. In comparison to large enterprises, SMEs are often more information opaque. This makes the financing of SMEs especially challenging since asymmetric information may create adverse selection and moral hazard problems. As a result of these problems, firms may be credit rationed (Stiglitz and Weiss 1981), meaning that they do not get as much credit as they want although they are willing to meet the conditions set by the lender on equivalent credit contracts. SMEs in Europe often complain about financing problems and the behaviour of their banks.

One way of reducing asymmetric information is to build a long relationship with creditors. One can speak of relationship banking as opposed to transaction banking when the following three conditions are met: "(i) The intermediary gathers information beyond readily available public information; (ii) information gathering takes place over time through multiple interactions with the borrower, often through the provision of multiple financial services; (iii) the information remains confidential (proprietary)"². Relationship banking may create value as it can stimulate the channelling of information on the borrower to the lender. Firstly, a firm may disclose information to the intermediary without making strategic knowledge known to competitors. Secondly, a firm can signal its quality to the lender over time by establishing a solid track record in meeting debt service obligations. Finally, at least in theory, relationship banking allows intertemporal

Boot (2000, p. 10). Boot argues that relationship intermediation would be a more appropriate term than relationship banking as other non-bank financial institutions such as venture capitalists, finance companies etc. engage in similar activities.

smoothing of financing costs (Petersen and Rajan 1992). For instance, a bank may subsidise a firm at the beginning of a product cycle and receive compensation for initially accepting a low interest rate when product sales have matured.

While possibly mitigating information asymmetries, relationship banking has its own drawbacks. One is that relationship banking introduces a soft-budget constraint: lenders with outstanding claims on a firm that is on the verge of bankruptcy may be willing to provide additional finance to this firm at terms that would be unacceptable for new lenders. Borrowers aware of such a weakness of lenders may have perverse incentives *ex ante*.

Another problem of relationship banking is that the borrower may become captive of its lender if the latter increases its power over time due to its information monopoly. In contrast with the intertemporal smoothing argument mentioned above, finance conditions may actually deteriorate when the bank-firm relationship lasts. For instance, Degryse and Van Cayseele (2000) find for small European businesses that interest rates on loans tend to increase with the duration of a bank-firm relationship. One can think of several solutions to solve this hold-up problem: a firm may choose to borrow from more than one bank at the same time (multiple banking) and/or may insist on a termination clause in the credit contract that protects the firm from future abuse by the lender (von Thadden 1995).

What is the effect of competition in banking on relationship banking? There are two opposing forces. On the one hand, competition may stimulate relationship intermediation, as investment in information acquisition gives the bank an opportunity to create a competitive advantage vis-à-vis other lenders. On the other hand, competition in banking may rule out intertemporal smoothing of the cost of credit and, hence, take away one of the benefits of relationship banking.

Overall, if relationship banking cannot solve the problems stemming from asymmetric information, the outcome may be finance constraints, which in turn could result in underinvestment in the economy. Before looking at the empirical evidence for credit rationing and, more generally, for growth-impeding finance constraints, we will shed some light on the capital structure of SMEs.

3. Capital structure of the average firm across size classes

In analysing the capital structure of firms, Wagenvoort distinguishes five different size classes: very small, small, medium-sized, large, and very large firms. To motivate this analysis, one needs to bear in mind that a possible lack of external financing for small businesses could show up on the liability side of their balance sheet. Looking over a long period and at Europe as a whole, the ratio of equity to total liabilities is broadly similar across size classes and, therefore, leverage is more or less the same for a typical SME and a typical large firm. The ratio of financial debt to total liabilities, which mainly contains bank loans in the case of SMEs,³ is also roughly equal across size classes.

However, Wagenvoort also shows that there are striking differences in the capital structure of the average SME across EU countries. The three country studies confirm this result. Guiso shows that the financial debt of small Italian firms in proportion to their total

On average, capital structure of European firms is similar across size classes, but large differences across countries exist.

³ For large firms financial debt also contains commercial paper and bonds.

assets is substantially lower than for large Italian firms. Guiso carefully explains that this difference is because many small firms do not have any loans outstanding at financial institutions. Indeed, conditional on having financial debt, the financial debt ratio and the maturity structure of financial debt are broadly similar across size classes. In sharp contrast with the Italian case, Hommel and Schneider find that the *Mittelstand* (i.e. German small and medium-sized enterprises) is much more indebted than large German firms. Two-thirds of German firms operate with an equity ratio lower than 20 percent, and 41 percent of German firms report equity ratios below 10 percent. This compares to a European average equity ratio of around one-third (see Wagenvoort). Dietsch finds a similar equity ratio for French companies regardless of their size. Overall, while the average European, French, and Italian SME does not appear to be undercapitalised, German SMEs are.

Wagenvoort also analyses how firms' capital structure changes over time. He finds that the dynamics of the financial debt ratio are very different for the average firm in the small and medium size classes in comparison to the average firm in the large and very large size classes. More specifically, SMEs appear to be less flexible than larger firms in adjusting the structure of their balance sheets to changing growth opportunities. In particular, the financial debt ratio increases (falls) at a slower rate in growing (shrinking) small firms than in growing (shrinking) large firms. Our interpretation of this result is that small firms have less flexibility in adjusting financial debt in response to changing growth conditions.

4. Finance constraints

Credit rationing of European SMEs is not a widespread phenomenon. Is this lack of flexibility due to credit rationing? The three country case studies draw a firm conclusion: SME credit rationing is not a widespread phenomenon in Italy, France, and Germany. Guiso builds a model that can explain why some small firms carry financial debt whereas others do not. The empirical results show that those firms without bank loans are often the ones that finance a relatively high proportion of their assets with equity. Guiso argues that a negative relationship between the equity ratio and the probability of carrying financial debt stands in sharp conflict with the rationing hypothesis since a credit rationed firm is unlikely to substitute equity for financial debt. The absence of financial debt on the balance sheet of many Italian firms is thus mainly because they do not want to borrow, not because lenders do not want to lend. However, Guiso finds that when credit constraints are binding, size and lack of equity seem to play a key role. So, credit rationing happens more often with smaller firms than with larger firms. Dietsch observes that, except for very small French firms with an annual turnover of less than EUR 2 million, French SMEs do not increase bank borrowing when their credit status improves. In contrast with small and medium-sized firms, very small firms with a solid credit standing do raise more loans than their peers of equal size but lower credit standing. In light of this, Dietsch concludes that credit rationing is only relevant for very small firms with unfavourable credit ratings, and he shows that relatively few firms in France have these characteristics. Hommel and Schneider arque that the virtual standstill of credit growth in Germany in 2002 can mainly be attributed to the current cyclical downturn of the German economy. Whether, in addition, the Mittelstand suffers from structural adverse supply-side effects remains to be determined. However, given the large equity gap in German companies, lack of equity is the main finance constraint and additional debt does not seem to be the optimal way forward in Germany.

A few qualifying remarks are worth making. One needs to bear in mind that the Stiglitz and Weiss definition of credit constraints implies that a firm is only considered to be rationed if

lenders reject the demand for loans although the borrower is willing to pay the going interest rate (and to meet other conditions) on equivalent loans made to others borrowers of the same quality. In other words, according to this definition a firm is not considered credit rationed if it does not want to borrow at the requested interest rate even when the conditions imposed by the bank are too demanding relative to the true creditworthiness of the borrower. In this respect it is worthwhile observing that interest rates on bank loans are in general substantially higher for SMEs than for large firms.⁴ Both the empirical findings of Dietsch and Wagenvoort suggest that from a portfolio credit risk viewpoint this may not be justified. It is true that on an individual basis smaller firms are riskier than larger firms because the expected default probability is negatively related to firm size. Banks in general use this argument to defend a higher risk premium on small business loans. But a portfolio of loans to small firms is not necessarily riskier than a portfolio of loans to large companies. Dietsch finds that default correlations are lower within the group of SMEs than within the group of large firms. Lower default correlations can offset the higher individual default probabilities within a pool of credits. Indeed, firm-specific risk can be diversified as opposed to systematic risk. According to Dietsch, large firms are more sensitive to the systematic factor (the general state of the economy) than small firms. This may be surprising as small firms are usually less diversified than large firms. However, SMEs may show greater flexibility in the transformation of their business when macroeconomic conditions deteriorate or improve. Large firms are often locked in to existing organisational structures and technologies.

In sum, the higher interest rates observed on SME loans seem difficult to justify on credit risk grounds only. It could be that SMEs pay high interest rates for wrong reasons. Banks may succeed in over-charging SMEs due to limited competition in (local) banking markets and the lock-in effect mentioned above. Therefore, due to finance constraints, under-investment by SMEs may happen on a large scale while credit rationing in the strict sense of Stiglitz and Weiss 1981 does not widely occur.

Wagenvoort moves beyond credit rationing and tests for financial market imperfections that may lead to finance constraints, which include credit rationing but also constraints resulting from excessive loan pricing and difficulties in raising outside equity. The empirical test of finance constraints here boils down to testing whether financial variables, such as the amount of available internal funds, have a significant impact on the firm's investment and, thus, its growth. More precisely, Wagenvoort estimates the relationship between, on the one hand, firm growth and, on the other hand, cashflow and capital structure. A high growth-cashflow sensitivity is an indication that finance is binding. The following findings are worth highlighting. Firstly, finance constraints tend to hinder the growth of small and very small firms (i.e. firms with less than 50 employees); on average, the growth of these firms is one-to-one related to retained profits. Secondly, while finance constraints seem to be less binding for medium-sized enterprises, their growth, in comparison to the growth of large firms, nevertheless depends more on the availability of internal funds. Thirdly, highly leveraged firms have greater difficulties in tapping external finance and, hence, exploiting their growth potential.

How could one possibly improve the supply of finance to SMEs? It is useful to distinguish between public policy measures and efforts that lenders and borrowers can make to

Financial market imperfections hinder the growth of small firms in particular.

⁴ Guiso provides indirect evidence of higher interest rates on loans to small firms. On average the inverse coverage ratio (i.e. interest expenses in percent of gross profits) is considerably higher for the group of small Italian firms in comparison to large firms while small Italian firms carry less financial debt.

alleviate finance constraints. Wagenvoort briefly reviews the literature on the effectiveness of public lending programmes and guarantee schemes. The main conclusion is that while direct lending and guarantee programmes usually benefit the recipients and help ease finance constraints, it has been questioned whether they improve the allocation of resources in an economy. Nevertheless a positive net return on public intervention can be expected if intervention reduces information asymmetries between borrowers and lenders and thus helps solving information problems. For instance, public authorities may stimulate information sharing among lenders. A recent study (Jappelli and Pagano 2002) shows that information sharing among lenders increases bank lending and reduces credit risk. Borrowers and lenders themselves can also contribute to solve finance problems of SMEs by reducing information asymmetries directly. As argued above, the establishment of long-term relationships has the potential to achieve this.

5. Relationship banking and bank consolidation

Multiple banking and relationship banking improve credit availability for SMEs. Is there empirical evidence to support the view that relationship banking can mitigate finance constraints? Ongena and Smith (2000) report substantial variation in the average number of bank-firm relationships across European countries. The three country studies reviewed here confirm this result and they show that firms make considerable use of multiple banking. Guiso's analysis reveals that in Italy small firms keep on average more than four bank relationships whereas large Italian firms diversify their credit needs over more than 10 credit institutions. As shown by Hommel and Schneider, the Mittelstand in Germany relies on a smaller number of bank ties but even the small German firms on average borrow from more than one lender. Very small German firms borrow on average from two banks whereas large German corporates have relationships with about four banks. Dietsch finds a similar situation in France, except for very small French firms, which borrow only from a single institution. Smaller firms thus keep fewer bank-firm relationships than larger firms. The three case studies also document that SMEs keep shorter relationships than large firms. The econometric study of Dietsch clearly establishes a positive link between credit availability, on the one hand, and the number and duration of bank-firm relationships on the other hand. Moreover, the smaller the firm, the larger the impact. For example, smaller firms are more sensitive to the length of their bank relationships than larger firms. From Dietsch's work, we conclude that both relationship banking and multiple banking can stimulate SME finance.

Why is it then that SMEs keep fewer and shorter bank relationships than large firms? As credit availability improves when relationships become longer, one would expect information-opaque SMEs to stay with the same creditor(s). To begin with the number of relationships, as Dietsch notes, an obvious reason is that SMEs have to spread out fixed costs of lending over a smaller loan amount. Adding more creditors to the list of the firm's financial intermediaries will trigger additional costs. Therefore, smaller firms may be less willing to borrow from several banks at the same time. However, the disadvantage of relying only on one bank is that this bank may turn into a monopolist over time. Dietsch explains that, although it is expensive for the smaller firms to provoke competitive behaviour of their lenders by maintaining multiple relationships, smaller firms may still break monopolies by switching banks when time passes. This may explain the relatively short duration of bank-firm relationships of smaller firms

One remark is called for. Hommel and Schneider point out that the number of initial credit offers a firm enquires about before finalising a loan contract may be more informative than

the number of its relationships. This is especially the case if firms seek offers from banks they had no prior relationship with. Another important element is whether firms seek offers from banks that are not located in the area where the firms have their headquarters. Overall, the authors conclude that *Mittelstand* firms seem to be more flexible than commonly assumed. Companies approaching several banks obtain an average of approximately three loan offers. What is more, a substantial amount of offers originates from banks that had no prior relationship with the firm and/or from banks situated outside the immediate geographical vicinity of the firm seeking finance. This is quite surprising because it is often argued that a local bank is best informed about firms in its region, essentially tying small firms to local banks.

Having established that both relationship banking and multiple banking enhance credit availability for SMEs, Dietsch continues his analysis by investigating whether bank consolidation in France has altered those two important features of European banking. He emphasises that bank consolidation in France went hand in hand with a lower concentration level in the business loan market. The wave of mergers and acquisitions thus seems to have stimulated competition between credit institutions. The author also shows that the number of bank-firm relationships significantly increased during the consolidation period. The relative change in the number of relationships is most important for small and medium-sized companies. An increase in the number of creditors tends to improve credit availability and, indeed, the share of SMEs in the French business loan market has significantly increased during the 1990s. The mirror image of this is a relative decline in lending to large firms, which lost 8 percent of their initial market share of 65 percent in 1993.

Recent studies (such as Berger *et al.* 1998) on the effects of bank mergers and acquisitions in the United States find that a possible decline in small business lending due to consolidation is mostly offset by the reaction of other existing (smaller) banks in the same market and new entrants, the so-called *de novo* banks. We conclude that SMEs should not necessarily fear consolidation of the banking industry. So far, there is no evidence that bank consolidation in Europe has been detrimental for the credit availability of SMEs.

We now turn to our final topic, namely the possible impact on SME lending of a new Basel Accord (Basel II).

6. Basel II

In April 2003, the Basel Committee on Banking Supervision issued its final consultative document on capital requirements of internationally operating banks (BIS 2003a). While the final decisions of the Basel Committee could still deviate from its current position, changes, if any, are likely to be moderate.

The Basel II proposal partly repairs the mispricing of corporate bank loans inherent in the current capital adequacy framework by allowing banks to set capital requirements as a function of a firm's credit rating and to take into account portfolio diversification effects. The proposal foresees two main approaches: the "Standardised Approach" (SA) rests on credit ratings of external rating agencies for corporates. This approach is less suitable for most SMEs as they lack size to obtain a costly rating. Nevertheless, the standardised approach is likely to be applied by small banks, which often focus on small business lending. The alternative "Internal Ratings Based Approach" (IRBA) allows banks to develop their own model to compute expected default probabilities (PDs), i.e. the main driver of credit ratings, under a set of rules. Most medium-sized and large banks are

There is no empirical evidence that bank consolidation in Europe is detrimental for SME finance

expected to use this approach. For the IRBA, the Basel II proposal specifies functions to compute default correlations on the basis of the computed PDs. When determining default correlations a distinction is made between retail exposures and corporate exposures. Risk weights for bank assets are then computed as a function of both the expected default probability and the default correlation. Retail assets require lower capital requirements than corporate assets due to their smaller size and, hence, greater scope for diversification gains.

As argued by many practitioners and politicians, the recommendations put forward by the Basel Committee in the 2nd consultative document of January 2001 would likely have put SMEs at a disadvantage in comparison to large firms. Hommel and Schneider and Dietsch argue that this general conclusion is no longer valid since the Basel Committee published a revised recommendation in October 2002. Two significant changes were made to the Basel II proposal to lower capital requirements on loans to SMEs. Firstly, SME lending can be treated as part of the retail credit portfolio for exposures of up to EUR 1 million provided that a loan does not account for more than 0.2 percent of the total retail credit portfolio. Under the standardised approach, the risk-weighting factor will be set at 75 percent of the nominal retail exposure. This corresponds to the average of the risk weighting for A and BBB rated corporate credits. Under the IRBA, the revised proposal introduces new formulae for the computation of default correlations. The new functions exhibit a negative correlation between PDs and default correlations. Since PDs are higher for SMEs than for large firms, default correlations are by construction lower. These lower default correlations, in turn, reduce the risk weights on SME credits. Exposures to SMEs in excess of EUR 1 million will be treated like other corporate loans but a size correction to default correlations is made for firms with an annual turnover between EUR 5 million and EUR 50 million. The results of the third Quantitative Impact Study (BIS 2003b) shows that capital requirements for loans to SMEs will generally be no higher than at present - indeed in many cases they will be lower.

Hommel and Schneider believe that the current Basel II proposal meets the demands of the German *Mittelstand* to a large extent. Dietsch argues that capital charges on SME loans could be even further reduced. The outcome of his credit risk model clearly shows that actual default correlations within the group of SMEs are still substantially lower than implied by the IRBA risk formulae. In addition, Dietsch strongly argues against the assumed negative relationship between PDs and correlations since it induces too high capital charges for the less risky medium-sized enterprises in comparison to smaller firms. Indeed, actual default correlations are higher among small firms than among medium-sized enterprises.

The revised Basel II proposal, if implemented, is likely to foster SME finance.

Although the treatment of SMEs in the latest Basel II proposal is still seen as conservative by some observers, an important conclusion to be drawn from these impact studies is that if banks are adopting the advanced Internal Rating Based Approach of Basel II, it is likely that capital charges on SME credits will be substantially lower than today under the Basel I Accord.

7. Concluding remarks

Bank consolidation and Basel II have widely raised the fear that banks may reduce their participation in the SME loan market segment. So far, these expectations cannot be borne by empirical findings. On the contrary, there are indications that recent and future developments in the European banking industry will actually foster SME lending.

That said, especially for firms with less than 50 employees (or an annual turnover less than EUR 2 million) finance constraints still seem to hamper their development. It is worthwhile noting that a lack of financing does not necessarily imply a lack of debt. Indeed, credit rationing in the strict sense is rarely observed in France, Italy, and Germany. However, this does not rule out that banks overcharge SME loans and, as a consequence, that financial market imperfections have a negative impact on the growth of SMEs and thus the economy at large.

Public policy in support of SMEs needs to be designed in such a way that relief is offered where finance constraints are most binding. In this respect, equity financing deserves more attention. According to a recent OECD report (OECD 2002), small businesses experience considerable difficulty in obtaining risk capital. In Europe, small firms are relatively unimportant on the equity market in comparison to the United States. Therefore, the promotion of secondary capital markets and venture capital funds need to rank high on the political agenda.

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