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Financing the German Mittelstand

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ABSTRACT

Based on a survey conducted among German Mittelstand firms and capital structure data on the Mittelstand, this paper sheds light on the current and future financing situation of the Mittelstand. The paper documents the equity shortage and dependence on bank debt typically associated with the Mittelstand. It further emphasises that - at present - fears of systematic credit rationing are difficult to substantiate (though a lack of alternative sources of finance can be expected to adversely affect future credit supply) and argues that the consolidation of the German banking sector as well as Basel II should not constitute major obstacles to the future growth of the Mittelstand. Still, the paper concludes that a typical Mittelstand firm's access to external finance will remain a key factor and, against that background, comments on specific measures of improvement from the perspective of regulators, banks, and firms.

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Financing the German Mittelstand

1. Introduction

Germany's small and medium-sized companies (SMEs), commonly referred to as *Mittelstand*, have shaped the country's economic development since 1945. The *Mittelstand* had been the driving force behind the economic miracle (*Wirtschaftswunder*) during the 1950s when Germany was quickly recovering from the destruction resulting from World War II. Today, approximately 3.3 million *Mittelstand* companies account for nearly 44 percent of gross value added as well as for about 50 percent of gross investments and employ nearly 70 percent of the German work force. In addition, the *Mittelstand* instructs about 80 percent of all German trainees and represents the most important job-generating entity in the German economy. Hence, any structural problems encountered by this class of companies are likely to be transmitted to the economy as a whole and to cause macroeconomic frictions.

Mittelstand financing has been at the forefront of the public policy debate since the mid-1960s reflecting the continuous downward trend of equity ratios. Germany's system of relation-based financing has led to an overemphasis of bank debt as a source of funds and has limited the development of organised capital markets. Private equity markets have been virtually non-existent prior to the emergence of the historic bull market during the late 1990s. Succession problems can be expected to lead to an additional depletion of financial resources in the coming years. As a consequence, the typical *Mittelstand* company has to cope with an inadequate equity base and an overdependence on (local) banks for the provision of external finance, which is particularly problematic given that the structure of liabilities increasingly influence the competitiveness of the *Mittelstand*.

The challenges of financing the *Mittelstand* are mostly discussed in practitioner publications, which are in many cases co-sponsored by organisations with a commercial interest in funding these types of companies. Empirical treatments of the subject are scarce and typically struggle with the limited availability of adequate data sources. The absence of a generally accepted definition of *Mittelstand* adds to the difficulty. Quantitative approaches generally use a size criterion - either the number of employees, annual turnover, or a combination of both - to differentiate between *Mittelstand* and other firms. Table 1 provides an illustration.

Table 1. Company classification schemes

Size	Size of the work force		Annual turnover (in million of EUR)	
	EU	IfM	EU	IfM
Small	up to 49	up to 9	up to 7	Up to 1
Medium	50 - 249	10 - 499	7 - 40 *	1 - 50
Large	250 or more	500 or more	more than 40	more than 50

Notes: EU = standards of the EU Commission; IfM = standards of the Institut für Mittelstandsforschung (IfM), Bonn

* As additional requirements, the balance sheet total should not exceed EUR 27 million, and not more than 25 percent of equity should be held by a non-Mittelstand company.

Sources: EU Commission (1996); Hansmann and Ringle (2002); IfM (2002).



Ulrich Hommel



Hilmar Schneider

It is apparent that the EU Commission applies a much narrower view when defining *Mittelstand* while the German literature largely follows the standards of the *Institut für Mittelstandsforschung* (IfM). This paper adopts a slightly different approach and focuses on companies with an annual turnover of up to EUR 100 million to permit an explicit comparison between small, medium-sized, and larger enterprises. Theoretically, it is possible (and sometimes advisable) to rely on a more qualitative definition of *Mittelstand*. Typical indicators thereof are an identity of ownership and control, personal liability for the providers of equity (coupled with a low degree of personal portfolio diversification), no direct access to public equity markets as well as on/off-shore money and credit markets and, finally, a low degree of internationalisation.¹

There are reasons to believe that a long-time fostered and cherished relationship between smaller borrowers and their (house-)banks seems to be eroding. First, there is some empirical evidence that German banks have adjusted their lending policies to the detriment of smaller borrowers. Second, Basel II is expected to induce lenders to optimise their portfolios in advance of its anticipated adoption in 2007 - again at the expense of smaller borrowers. How these problems have been exacerbated in recent years and what mitigating measures could be taken is the focus of this paper.

Changes in the German banking industry will affect the relationship between Mittelstand borrowers and their Hausbanken.

This issue is to be analysed in the light of the recent stock market downturn after its historic peak in the spring of 2000. IPO activity has basically come to a halt and special market segments for *Mittelstand* firms (e.g. *Prädikatsmarkt* of the *Bayerische Börse*, Munich) still fail to provide an attractive platform for public equity issues by SMEs. While the German venture capital market seems to have weathered the crisis better than its European counterparts (Hommel *et al.* 2002), private equity funds have also reduced their investment activity significantly. Other financing alternatives of note do not exist or still seem to lack acceptance. Hence, the key question is how can the *Mittelstand* cope with the changes in the German banking industry in the absence of adequate financing alternatives. Resolving this issue becomes all the more pressing during the current downturn of the German economy as many companies need additional funds to keep their operations afloat and avoid insolvency.

For the purpose of addressing the issues outlined above, the Center for Entrepreneurial and Small Business Finance (*esbf*) at the European Business School has conducted a survey among *Mittelstand* companies (subsequently referred to as *esbf* survey). The survey was carried out in cooperation with the chambers of commerce (IHKs) of Koblenz, Cologne, Saarland, and Wiesbaden. Additional annual report data has been provided by *Deutscher Sparkassen- und Giroverband*.

The remainder of this paper is structured as follows: The following section provides a brief overview of the empirical literature on *Mittelstand* financing. Evidence on financing behaviour is presented in Section 3. In this context, the equity-financing gap, the role of bank financing and the *Hausbanken* (house-banks), and evidence on credit rationing are of particular relevance. In addition, evidence will be presented on the prevalence of alternative financing instruments and public support schemes. Section 4 provides an analysis of how recent developments - the consolidation of the German banking industry, Basel II, and tax reform - affect the *Mittelstand*. Alternative ways of mitigating financing problems

¹ For a more extensive discussion, see Dufey and Hommel (1999) and Hauser (2000).

of *Mittelstand* companies are presented in Section 5. In this context, the paper analyses this issue from the perspective of the *Mittelstand* companies themselves, the banks, and the public support agencies (government).

2. Empirical evidence on *Mittelstand* financing

The existing empirical evidence on *Mittelstand* financing is quite limited due to the lack of adequate quantitative data sources - a shortcoming this study has to cope with as well. German disclosure regulations require corporations (*Aktiengesellschaften*), limited liability partnerships (*Gesellschaften mit beschränkter Haftung*), and partnerships completely owned by the aforementioned to submit their annual reports to the company registrar. Other proprietorships and partnerships are forced to disclose as well if they satisfy two of the following three criteria on three consecutive balance sheet dates: balance sheet total of more than EUR 65 million, annual turnover of more than EUR 130 million, and number of employees exceeding 5,000. Due to the absence of adequate legal sanction, compliance has been lacklustre up to the introduction of a new law (*Kapitalgesellschaften & Co. Richtlinien-Gesetz*) in 2000. Even today, however, only a minority of SMEs discloses annual figures.

When studying *Mittelstand* financing, one therefore has to rely heavily on survey evidence that largely comprises qualitative information. Available studies provide - in an ordinal sense - detailed insights into how *Mittelstand* companies view their own situation as well as their economic environment, but offer little information on capital structure, financing costs, and other quantitative information of interest. One notable exception is the study of the *Deutscher Sparkassen- und Giroverband* (DSGV) based on its balance-sheet database consisting of some 170,000 annual reports (DSGV 2002).

The existing empirical evidence on Mittelstand financing is limited and largely based on qualitative information.

Table 2 provides a summary of recent survey studies. The various contributions do not lend themselves easily for comparisons and generalisations for a number of reasons. First of all, the studies rely on different definitions for *Mittelstand* as explained in Section 1. Second, while some studies control for company size (reflecting turnover or labour force) and sectoral affiliation in the sample selection stage, others do not. None of the studies controls ex post for potential size (or other) biases due to differential participation rates across size brackets. Third, as a number of studies focus on specific regions within Germany, they do not explicitly capture differences between the former East and West Germany. Fourth, differences in the wording of questions and heterogeneous methods of measurement complicate the interpretation of results obtained from different studies. Lastly, the change in economic conditions experienced by *Mittelstand* firms since the height of the bull market in the spring of 2000 makes it difficult to compare surveys conducted at different points in time - even for such a fairly short time span.

The studies by DG Bank, DSGV and Creditreform primarily focus on (financial) performance and on the business outlook of German *Mittelstand* companies, while the remaining papers present survey data on different aspects of SME financing. All financing-related surveys have to cope with the limited access to information. With the exception of studies by KfW and DIHK, no survey obtained more than 1,000 responses. The by far largest sample was collected by the DIHK. With over 20,000 responses, it is the only study that could qualify as a general reference, but it still falls short in providing a comprehensive picture of the *Mittelstand's* financing situation.

Table 2. Selected empirical studies on *Mittelstand* financing

Study	Sample size	Focus
Institut für Mittelstandsforschung, IfM, (2000a, 2000b)	1,025 ^a 123 ^b	Structured interviews: capital structure and financial policy, venture capital and going public, bank financing.
IfM (2001)	1,027 ^a	Structured interviews: impact of globalisation, regulatory framework, procurement, alternative financing instruments, and relevance of ratings.
Kreditanstalt für Wiederaufbau, KfW, (2001a)	6,392 ^c	Mail-in survey: bank financing and bank relationship, relevance of alternative financing instruments, Basel II and ratings, public support schemes.
DG Bank (2001)	2,445 ^d	Structured telephone interviews: economic and financial performance, business outlook, relevance of ratings, impact of Basel II.
DSGV (2002)	50,000 ^e 540	Balance sheet data of 50,000 <i>Mittelstand</i> companies (2000) and mail-in survey of 540 savings and loans institutions (2001): equity positions and financial performance, business outlook.
<i>Deutscher Industrie- und Handelskammertag</i> (DIHK) - Schoder and Nitschke (2002).	20,000	Mail-in survey: loan provisions, relevance of debt financing, impact of Basel II.
Creditreform (2002a, 2002b)	4,498	Mail-in survey: general economic climate, insolvencies, and investments (carried out semi-annually).
Hansmann and Ringle (2001)	511 ^f	Mail-in survey: debt financing, bank financing and bank relationships, company policies to enhance liquidity/solvency, relevance of ratings.
Hansmann and Ringle (2002)	485 ^f	Mail-in survey: bank financing and bank relationships, relevance of ratings, public support schemes

Notes: ^a At least DEM 250,000 annual turnover (500,000 for retail and 1m for wholesale) and less than 500 employees

^b Add-on survey of *Mittelstand* corporations satisfying the criteria specified in (^a).

^c Sample is divided into very small businesses (up to EUR 2.5m annual turnover), small, medium and large *Mittelstand* companies (annual turnover of EUR 2.5m to EUR 10m, EUR 10m to EUR 50m, EUR 50m to EUR 250m, respectively) as well as large companies (more than EUR 250m annual turnover, 4.5 percent or 288 of total sample).

^d Sample consists of companies with an annual turnover of up to DEM 250m, 98 percent of those have less than 500 employees.

^e Sample is divided in small, medium, and large *Mittelstand* companies with annual turnover of less than EUR 0.5m, EUR 0.5m to EUR 5m, and EUR 5m to EUR 50m, respectively. The sample is a sub-set of the full DSGV database.

^f *Mittelstand* companies organised within the *Unternehmens- und Arbeitgeberverband Großhandel-Außenhandel-Dienstleistung e.V.* (AGA).

Despite potential inconsistencies resulting from differences in sample selection and survey design, the outcomes regarding the supply of credit are fairly stable over time and across studies: between autumn 2000 and autumn 2002, 23 to 32 percent of the respondents experienced a worsening credit supply. The studies unanimously ascertain

the particular importance of internal financing and bank debt as the main funding sources. In addition, leasing and trade credit seem to be the sole alternative financing forms of note. At the same time, less than 20 percent of survey respondents anticipated a declining relevance of external (bank) financing. The results on the impact of Basel II are more diverging. Some 30 percent of DG Bank respondents expected Basel II to foster the refusal of loan applications. At the same time, 50 percent (74 percent) of the firms sampled by the DIHK (KfW) anticipated negative consequences. The studies display only a limited overlap and, with the exception of the KfW study, fail to consider alternative financing forms.

This paper differs from prior work in various respects. Box 1 sets out the study design and sample properties. Most importantly, it offers a comprehensive and up-to-date analysis of all aspects relevant to *Mittelstand* financing. Next to presenting new survey evidence, it relates its results to other findings reported in the SME financing literature. The paper also contains a detailed analysis of the sources of the *Mittelstand's* financing problems as well as specific recommendations as to how the documented shortage of funds can be alleviated.

3. Evidence on capital structure and financing behaviour of *Mittelstand* firms

In comparison to their Anglo-Saxon counterparts, the financing behaviour of *Mittelstand* companies can be described by five stylised facts: low equity ratios, strong dependence on internally generated cashflow, equity deposits by owners, trade credit and bank debt as the primary forms of external financing, and a minor relevance of alternative forms of financing (KfW 2001a). This section aims at substantiating these insights. In addition, it examines to what extent current developments in the banking industry imply a so-called “credit crunch” for *Mittelstand* companies.

The Mittelstand is characterised by high leverage and strong dependence on bank debt, with owners' net wealth serving as a substitute for equity.

3.1 The equity financing gap

In the perfect world of Modigliani and Miller (1958), capital-structure decisions would be irrelevant as shareholders can freely replicate any financial policy decision at zero cost. Real-world imperfections explain why a certain level of equity and debt is actually desirable from a value-maximising point of view. Debt is generally cheaper than equity as it merely requires compensation for liquidity and default risk and entails, under most real-world tax regimes, an additional tax-shield effect, thereby effectively lowering the cost of debt. In addition, it helps to resolve incentive problems associated with the separation of ownership and control as increasing leverage entails higher financial distress risk and thus higher performance pressure for the company's management. Equity is primarily needed as residual risk capital in order to shield the company against the impact of cash volatility and to reduce financial distress risk.

Companies in or close to a state of financial distress but short of insolvency may be caught in a vicious cycle. Creditors are faced with the risk of having to assume the role of shareholders, which will be reflected either by the refusal to supply new debt or by a higher risk premium. Thus, underperforming companies may enter a downward spiral without being able to close existing financing gaps. As evidenced by the capital structure data provided by DSGV, large parts of the German *Mittelstand* – deliberately or not – seem

Box 1. Study design and sample properties

The *esfb* survey has been designed to capture general attitudes of *Mittelstand* managers with regard to their financial policies, bank relationships, public support programmes, Basel II, and political reform projects. The survey form consists of a total of 27 questions and is divided into two parts. Part 1 covers general firm characteristics (sectoral affiliation, turnover, size of the work force, capital structure, etc.) to be subsequently used to differentiate between subgroups of *Mittelstand* firms. All answers in this category have been captured with numerical variables. In addition, respondents were asked to supply information on their bank relationships - in particular the number of partner (house-) banks and their general type - the relevance of bank finance, and on recent experiences when applying for bank loans. These questions generated a combination of numerical and ordinal variables, the latter typically requiring respondents to rank answers from 1 (unimportant) to 5 (very important). Part 2 deals with regulatory and political issues (Basel II, impact of bank restructuring, relevance of public support programmes, and attitudes regarding certain policy reform projects), again mostly captured with ordinal variables.

In the context of *Mittelstand* financing, two company types are of special importance: on the one hand, settled (capital-intensive) firms characterised by a steady and strong financing demand; on the other hand, young (innovative) companies highly dependent on external financing and therefore particularly exposed to a possible tightening of financing conditions. The former are most likely to be found in the manufacturing, construction, and retail sectors; the latter typically belong to the services sector. With regard to the size criterion, all companies achieving a turnover of up to EUR 100 million have been classified as *Mittelstand*.

To match the envisaged size and industry focus and to ensure an adequate sample size, the survey was carried out in cooperation with four regional IHKs. All registered companies (except craft occupations organised in *Handwerkskammern*) are required to become members of their regional IHK. IHKs collect data on firm size (number of employees, turnover, etc.) and sectoral code on a regular basis, using periodic membership surveys and trade tax (*Gewerbesteuer*) registrations. Hence, they represent ideal partners for the focus of the present study.

The survey sample was compiled in September/October of 2002 and the survey forms were mailed in November 2002 to the official IHK contact addresses. The total sample consists of 5,729 firms (Koblenz 2,500; Cologne 1,243; Saarland 1,050; and Wiesbaden 936 firms). 403 survey forms were received, of which 10 were not filled out. 17 companies were eliminated because they exceeded the size criterion. Hence, the empirical analysis is based on a total of 376 observations (44 percent from Koblenz, 23 percent from Cologne, 18 percent from the Saarland, and 15 percent from Wiesbaden).

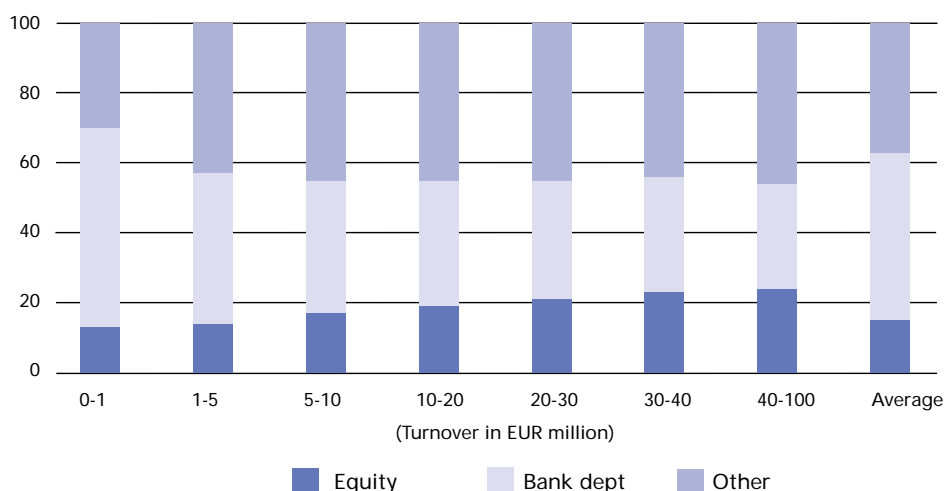
The sample was largely constructed according to the aspired size and industry focus. Two IHKs filtered their databases correspondingly and, subsequently, used random sampling while controlling for firm size and sectoral affiliation. Another IHK further reduced the sample by sorting the data by geographical areas, as some regions were not considered representative for the *Mittelstand*. Finally, the remaining IHK provided the address information of its own representative sample without correcting for size or industry focus. The non-homogenous method of constructing the sample imposed an irresolvable constraint. Further shortcomings should be pointed out. First, the selection of the IHKs implies a regional bias and does not capture, for instance, peculiarities of *Mittelstand* financing in eastern Germany (see in this context also Scheuer 2001). Second, turnover and employee data are updated infrequently or, in some cases, were not on file at the respective IHKs; as a result, the questionnaire was sent out to very small and large companies as well. Finally, the sample includes some companies still registered but not operating anymore.

General sample properties are summarised in Table A1 in the Annex. The collected data fits reasonably well to the envisaged size and industry focus. The average (median) sample firm has about 54 (18) employees and was founded 46 (28) years ago. The implied skewness in the distribution can be explained to a large extent by the numerous services and retail companies; the median workforce (age) of services companies and retail companies amount to about 11 and 13 (12 and 32), respectively. Some 43 percent (95 percent) of responding firms had one (not more than five) equity holders. The generally low number of equity holders underlines that *Mittelstand* companies are traditionally family businesses. Noteworthy are the results related to international trade, as they reveal the so-called hidden SME champions. While almost 60 percent of the respondents do not engage - consistent with the common perception of the *Mittelstand* - in any export activities at all, close to 9 percent realise at least 50 percent of their turnover abroad. These belong mostly to the manufacturing sector.

to take that risk (see Figure 1).² More than 50 percent of the smallest German firms have operated with a non-positive equity capitalisation over the last few years, but personal assets of company owners typically substitute for equity on the balance sheet. Even medium-sized firms often have an equity ratio that is below 10 percent. Consequently, approximately 37 percent of all German companies realised an adverse balance in 2000. In the same year, the average (median) equity ratio of *Mittelstand* companies amounted to only 15 percent (4 percent). Creditreform (2002a) reports similar figures. While equity as a share of total assets has been rising slightly since 2000, 41 percent of all firms surveyed still report equity ratios below 10 percent. Two thirds of firms operate with an equity ratio lower than 20 percent. The DSGV data further highlights the positive relationship between firm size and equity ratio, i.e., smaller companies generally work with a smaller risk capital base relative to the balance sheet total.

Two thirds of firms operate with an equity ratio lower than 20 percent, and 41 percent of firms report equity ratios below 10 percent.

Figure 1. Capital structure of German *Mittelstand* firms by size class (2000), in %



Source: Annual Report database of DSGV

² Table A2 in the Annex provides further information on capital structure. About 69 percent of the *esbf* survey participants either refused to supply information on their capital structure or provided incomplete or non-sensible information. In light of this, Section 3 largely relies on information from other data sources.

The Deutsche Bundesbank (2001a) also emphasises the lack of equity of *Mittelstand* firms and notes a positive correlation between firm size and equity ratios (see Table A3 in the Annex). The Bundesbank data further show that the equity ratios vary considerably across industries and also depend on the companies' legal form, with limited liability companies having a much stronger equity base than proprietorships and partnerships. It is noteworthy that according to Bundesbank data firms in eastern Germany have higher equity ratios than firms in western Germany (Deutsche Bundesbank 2001b). This is largely explained by differences in age and by the privatisation and restructuring efforts that followed reunification.

Taking a longer perspective, Dufey and Hommel (1999) point out that during 1967-94 equity ratios of *Mittelstand* firms fell from about 31 to 17 percent. The steady decline of the average equity ratio over time hints at the fact that regulatory and/or behavioural factors must - at least to some extent - be the driving forces underlying the "equity gap" as it is commonly referred to in the popular press.

The ability to raise new risk capital is determined by the availability of alternative financing sources. Table 3 illustrates that equity financing is primarily obtained out of the owners' own funds complemented by other block owners, mainly personal and typically minority shareholders. Unlocking more equity from these sources can prove difficult and is likely to imply considerable transaction costs.

Surveys indicate that the Mittelstand's weak equity base is a major cause for credit refusals.

The need to enlarge the *Mittelstand's* equity base can be substantiated by using a variety of indicators, including - most obviously - the rising incidence of company insolvencies over the previous decade as shown in Figure 2 (see also Hauser 2000). This trend is expected to continue in 2003 as almost 50 (16) percent of firms surveyed by Creditreform (2002a, 2002b) anticipate falling (rising) earnings - which compares to about 35 (29) percent in 2001 - and close to 74 percent have indicated their unwillingness to undertake new investments (compared to some 56 percent in 2001). Results from the KfW and *esbf* surveys further illustrate that the weak equity base is a major cause for credit refusals. Some 18 percent of *esbf* respondents with leverage were actually turned down as a consequence of an inadequate equity base. Moreover, current ratios also reflect the prevalence of equity shortages, as excessive use of short-term debt is in most cases inevitable (see Figure 3). If current liabilities exceed current assets, companies are exposed to significant insolvency risk due to potential illiquidity.

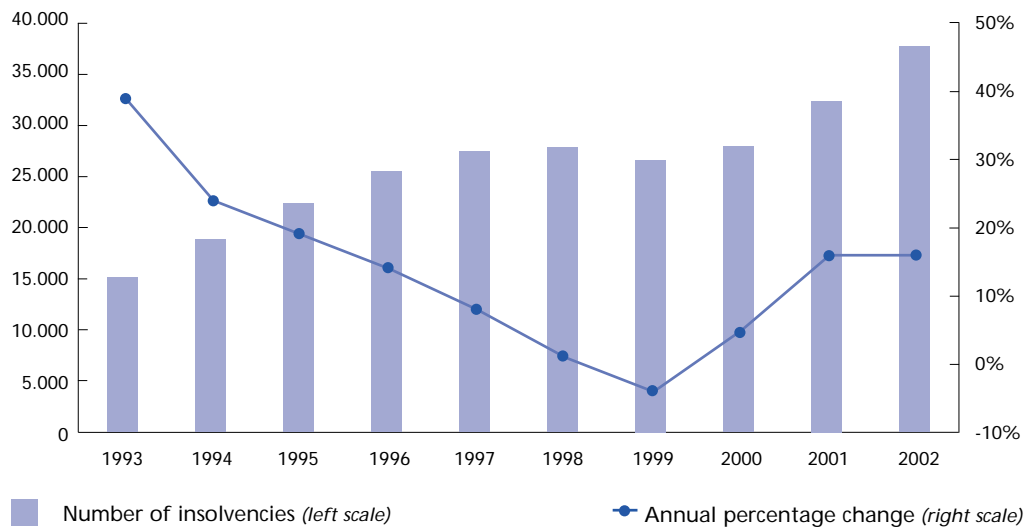
Table 3. Equity ownership in *Mittelstand* companies

	Importance of different owners	Percentage of cases where provider of equity holds ...	
		... less than 50% of equity	... more than 50% of equity
Entrepreneur	95	10	90
Active shareholder	22	59	41
Silent partner	11	86	14
Other companies	5	100	0
Private equity firm	5	92	8
Employees	4	83	17
Business angels	<1	97	3
Other	6	71	29

Notes: Figures in column 1 show the percentage of firms that have this type of owner. As firms can have different types of owners, the sum of figures in column 1 exceeds 100.

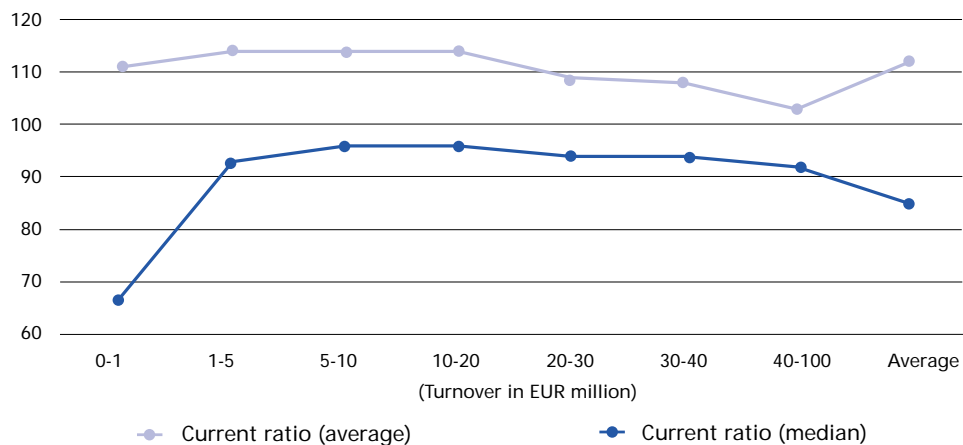
Source: IfM (2000a).

Figure 2. Company insolvencies in Germany, 1993-2002



Notes: Estimate for 2002; figures have been adjusted to account for the reform of the insolvency code in 2001.
Source: Creditreform (2002a).

Figure 3. Current ratio (average and median) of German *Mittelstand* firms by size class (2000), in %

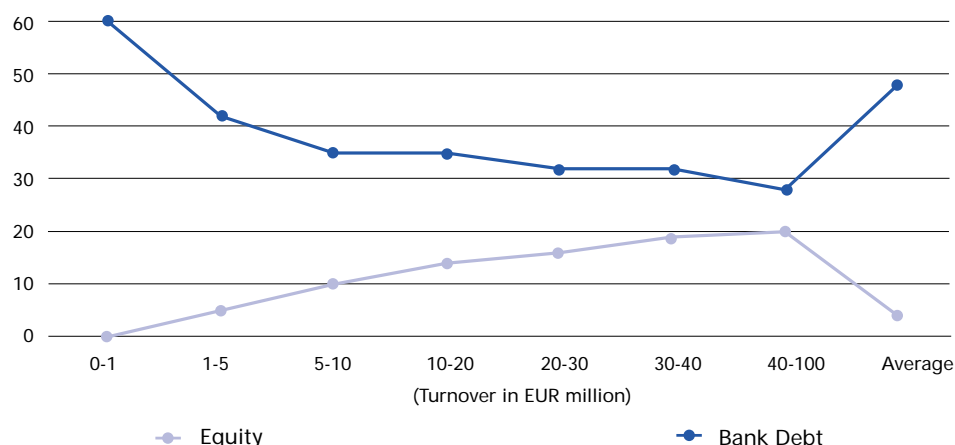


Source: Annual Report database of DSGV.

A word of caution needs to be added in connection with equity gap measurement. In most cases, the absolute magnitude of balance-sheet based equity ratios fails to reveal any meaningful insights - and even less so for smaller *Mittelstand* enterprises. As most firms are organised as proprietorships or partnerships, owners have to fully account for the company's debt with their personal assets. In other words, the owner's net worth serves as an equity substitute so that recorded equity ratios are subject to a systematic downward bias and do not necessarily signal the existence of a structural impediment limiting the

access to debt financing. Otherwise, more than 35,000 companies included in the DSGV sample would already have been forced out of business due to the complete lack of equity (see also Figure 4). The same also applies to limited liability partnerships where company owners typically submit personal assets to serve as collateral for specific debt-financing measures.

Figure 4: Median capital structure of German *Mittelstand* firms by size class (2000), in % of balance sheet total



Source: Annual Report database of DSGV.

Two tax-related factors amplify the downward bias even further. First, the German tax code requires a company's tax balance sheet (*Steuerbilanz*) to be directly derived from its trade balance sheet (*Handelsbilanz*) so that there exists an incentive to understate asset values and build up hidden reserves as a means of managing the effective tax burden. Second, corporations and limited liability partnerships face a positive tax shield that was until recently coupled with a tax incentive to withdraw company earnings (see also Section 4.2).

3.2 Dependence on intermediated debt

Mittelstand firms depend heavily on bank debt for long-term external financing.

Mittelstand firms are historically highly dependent on the provision of bank debt for their long-term external financing as illustrated by the Tables A2 and A3 in the Annex. According to DSGV data, bank debt represented 48 percent of total debt for the average firm in 2000. Surprisingly, the median bank-debt-to-total-debt ratio is virtually identical - a result that holds for individual size classes as well, whereby the use of (but not necessarily the dependence on) bank debt decreases with size. The *esbf* survey qualitatively confirms this result when looking at the relevance of bank loans for short- and long-term finance (see Table 4). Further to the results reported in Table 4, it is worth noting that only 20 (23) percent of the survey participants consider short-term (long-term) bank debt as being unimportant. With the exception of medium-term loans, the relevance of debt financing is independent of size. However, the dependence on bank debt seems to be at least partially due to structural reasons. Almost 90 percent of the respondents indicate that they are not in a position to raise equity via an initial public offering (IPO); similarly, close to 80 percent do not see any possibility of issuing corporate bonds.

Table 4. Relevance of bank loans for German Mittelstand firms, by size class

	Turnover (in million of EUR)				
	< 1	1-10	10-20	20-40	40-100
Relevance for short-term financing					
Short-term loans	4.4 (1.5)	4.3 (1.4)	4.2 (1.6)	4.0 (1.5)	4.3 (1.9)
Medium-term loans ⁺⁺	3.4 (1.5)	3.4 (1.4)	2.5 (1.4)	2.9 (1.3)	2.6 (1.6)
Long-term loans	3.5 (1.7)	2.3 (1.6)	1.9 (1.5)	2.0 (1.4)	2.3 (1.4)
Relevance for <u>long-term</u> financing					
Short-term loans	2.9 (1.6)	1.8 (1.5)	1.9 (1.6)	1.8 (1.7)	1.8 (1.4)
Medium-term loans	3.1 (1.4)	2.8 (1.4)	2.6 (1.6)	3.3 (1.3)	2.8 (1.4)
Long-term loans	4.2 (1.4)	4.0 (1.5)	4.0 (1.6)	3.4 (1.4)	4.1 (1.5)

Notes: Relevance of bank loans has been rated on an ordinal scale from 1 (unimportant) to 5 (very important); absolute scores represent the median for each size class; standard deviations are given in brackets. Unless otherwise indicated, the paper applies group difference tests by Kruskal/Wallis and Mann/Whitney to all tables. The Mann/Whitney-Test is generally performed between two sub-samples of firms, namely firms with a turnover of less than EUR 10m, on the one hand, and firms with a turnover larger than EUR 10m, on the other hand. Significant differences are indicated by *** (+++) at the 0.1 percent level, ** (++) at the 1 percent level, and ° (+) at the 5 percent level for the Kruskal/Wallis-Test (Mann/Whitney-Test).

Source: *esbf* survey

Table 5 provides further evidence for the importance of bank loans for the financing of the *Mittelstand*. Participants in the *esbf* survey do not appear to be confident with regard to their ability to replace a large part of bank debt with alternative forms of financing (see also Section 3.5). Only 18 percent of firms feel that they can replace more than 30 percent of bank loans with other means of finance. Wimmer *et al.* (2001) report similar findings.

Table 5. Scope for replacing bank debt with alternative sources of finance, by size class

Bank debt (in %) that could be replaced	percentage of firms that consider x percent of bank debt replaceable					
	Turnover (in million of EUR)					Total
	< 1	1-10	10-20	20-40	40-100	
< 5%	19.3	21.5	26.7	7.7	6.3	19.8
5 - 10%	14.0	21.5	16.7	15.4	37.5	19.8
10 - 20%	24.6	19.8	23.3	61.5	18.8	23.6
20 - 30%	15.8	20.7	16.7	15.4	18.8	18.6
> 30%	26.3	16.5	16.7	0.0	18.8	18.1

Notes: Neither Kruskal/Wallis-Test nor Mann/Whitney-Test indicated significant differences among the respective groups. The table only includes the responses of indebted firms.

Source: *esbf* survey

Mittelstand firms, however, seem to be partially unsatisfied with the level of service quality provided by their main bank(s), as Table 6 indicates. Interestingly, smaller companies are significantly less content with the service level than their larger counterparts, a fact possibly reflecting a higher exposure to monopoly power in the market for intermediated debt.

Table 6. General satisfaction with services provided by main bank(s), by size class

	Turnover (in million of EUR)				
	< 1	1-10	10-20	20-40	40-100
Type of service					
General advisory ⁺	3.1	3.1	3.4	3.4	3.5
Public support programme info ^{°°/+++}	2.4	2.3	2.9	3.3	2.6
Service/product portfolio ^{°/++}	2.9	2.9	3.4	3.1	3.4
Terms and conditions of loans ^{°°/+++}	2.7	2.9	3.4	3.5	3.2

Notes: Satisfaction has been rated from 1 (extremely unsatisfied) to 5 (very satisfied); absolute scores represent the median for each size class; for an explanation of the significance levels and statistical tests see Notes to Table 4. The data on loan provisions only include the responses of indebted firms.

Source: *esbf* survey

It is sometimes argued that *Mittelstand* firms are put at a disadvantage not only because of their dependence on bank debt but also because of their reliance on one bank. With the exception of very small companies, this hypothesis is not borne out by the data (see Table 7). KfW (2001a) reports similar findings.

Table 7. Prevalence of multi-banking relationships and multiple offers, by size class

	Turnover (in million of EUR)				
	< 1	1-10	10-20	20-40	40-100
Average number of banking relationships					
In 1997	2.0	2.8	3.7	4.8	5.2
In 2001	1.8	2.6	3.7	4.2	4.8
In 2002	1.9	2.6	3.4	4.0	4.5
Planned for the future	1.8	2.5	3.3	3.8	3.9
Multiple offers					
Share of firms obtaining multiple offers ⁺	80.2%	78.7%	89.2%	85.0%	94.4%
Average number of multiple offers	2.9	2.9	2.7	3.1	3.0
Average percentage of offers obtained from banks without prior relationship ^{°°/++}	40.5%	27.6%	27.5%	15.7%	14.1%
Average percentage of offers obtained					
Outside municipality ⁺	22.4%	24.6%	36.6%	30.4%	43.9%
Outside county ^{°/++}	11.6%	14.4%	19.7%	31.5%	31.9%
Outside state	7.7%	7.3%	8.9%	11.1%	16.7%

Notes: For an explanation of the significance levels and statistical tests see Notes to Table 4. The data on multiple offers only include the responses of indebted firms.

Source: *esbf* survey

Above all, the number of established bank relationships depends on the size of the respective company. In 2002, firms in the smallest (largest) size bracket had, on average, 1.9 (4.5) bank relationships. The relative number of banks swiftly declines with size. Although not shown in the table, *Mittelstand* firms are less likely to maintain multiple banking relationships with institutions belonging to the cooperative sector (*Volks- und Raiffeisenbanken*) than with savings and loan institutions (*Sparkassen*) or private banks. It is noteworthy that the number of bank relationships dropped from 1997 to 2002 and is expected to fall further. At least from a purely quantitative perspective, this result is contradictory to the hypothesis that house-bank relationships are losing importance.

Whether or not *Mittelstand* companies are exposed to local monopoly power can be further examined on the basis of the number of offers typically generated for each bank-financing measure and of the location and relationship with these banks. Table 7 provides a summary of the empirical results. *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. Larger *Mittelstand* firms have less difficulty or are somewhat more willing to overcome geographical obstacles, whereas smaller firms – given their lower number of bank relationships – consult more new banks. The averages, however, are somewhat misleading given that almost half of the respondents do not contact non-relationship banks and only half of the respondents leave their municipality when applying for loans. In such cases, the local market power of banks may be important inasmuch as switching options do not exist. However, only about 30 percent of the sample firms relying exclusively on relationship banks are dissatisfied with their loan conditions. Given the systematic downward bias such survey inquiries entail, the vast majority of firms seem to voluntarily stick to their relationship banks. These results also hold true for the considerable fraction of firms relying on single offers (some 19 percent of the respondents), of which about two thirds are reasonably satisfied; yet, some 18 percent are highly dissatisfied with their current loan conditions. At least for the latter, switching options appear to be non-existent, which implies monopolistic power of the respective house-bank.

The above results confirm the dependence on bank debt and the but they do not substantiate fears of excessive market power of local banking institutions. Nevertheless, overcoming the dependence on debt financing is vitally important, above all as there is mounting evidence that banks no longer regard loans as an attractive business opportunity.

Although the Mittelstand depends on bank finance, there is no evidence that banks have excessive market power.

3.3 Evidence on credit rationing

As shown by Deutsche Bundesbank (2002), German enterprises as a whole do not suffer from systematic credit rationing. Aggregate credit to the enterprise sector increased substantially during the 1990s (at an annual average rate of 6.5 percent), partially as a consequence of two extraordinary effects: the reconstruction of eastern Germany following reunification and a substantial increase of foreign direct investments (FDI) by German companies in the second half of the decade.³ Since the turn of the century,

³ Annual FDI expenditures had increased by a factor of 7 between 1989 and 1999. See Deutsche Bundesbank (2002).

volume growth has dropped to an annual average of 1.8 percent, but credit growth came to a virtual standstill in 2002 (see Figure A1 in the Annex). However, this effect can mainly be attributed to the current cyclical downturn of the German economy (Deutsche Bundesbank 2002). Several factors support this conclusion: when accounting for reunification and FDI expansion, changes in credit growth rates are largely explained by variations in GDP and interest rates. This holds true in particular for long-term financing.

Nevertheless, the results of the *esbf* survey indicate that *Mittelstand* firms do suffer from a variety of adverse supply-side effects, but it cannot be determined whether these have structural origins. While responding firms appear to be exposed to a rise in the cost of bank debt at a time of falling interest rates, there is no clear evidence that this development puts them at a disadvantage compared to their (foreign) competitors.⁴ Priewasser and Kleinbrod (2002) explain lucidly that the cost of debt appears comparatively low in absolute terms (with the possible exception of proprietorships) and overall investment performance seems quite insensitive to variations in interest rates. Interest rate adjustments triggered by the adoption of Basel II will also simply put an end to the common practice of cross subsidisation between different risk classes, i.e., more risky loans become more expensive and will more closely approximate fair market rates (Sachverständigenrat 2002).

KfW (2001a), IfM (2000a), and Hansmann and Ringle (2002) report a reduction in credit availability mainly resulting from a tightening of the banks' loan policies.⁵ About 42 percent (37 percent) of the firms participating in the *esbf* survey have experienced a reduction in short-term (long-term) loan availability during the previous year. Firms in smaller size classes were particularly affected by this reduction. Specifically, 43 percent (40 percent) of the companies with an annual turnover of up to EUR 10 million complain of difficulties in the supply of short-term (long-term) loans compared to about 37 percent (26 percent) of medium-sized companies (annual turnover between EUR 10 and EUR 100 million). Loan rejections were experienced by 31 percent of the debt-financed companies. Cooperative banks and savings and loan institutions rejected most loan applications in absolute terms, which is not surprising given that nearly all sample firms have established relationships with these banking groups.

Banks are adjusting their credit policies, including the adoption of risk-adequate loan pricing strategies.

When asked for the main reasons for loan rejections, firms reported that this was largely a consequence of inadequate collateral, changed bank policies, and/or an insufficient equity base (see Table 8); a result supported by other studies, including KfW (2001a). As to how terms and conditions of loans had been adjusted, respondents assigned the highest weight to additional collateral requirements and to more extensive reporting obligations (see also Table 8). In total, close to 60 percent of *esbf* survey respondents complain of more unfavourable loan terms. Even when ignoring more extensive information requirements, about half of the respondents have observed more restrictive credit terms. This exceptionally high share indicates that banks are currently adjusting their credit policies on a broad basis, a fact that essentially reflects the adoption of risk-adequate loan pricing strategies.

4 Close to 92 percent (85 percent) of the 70 (33) responding companies experienced an increase in interest rates on short-term (secured long-term) loans. The average increase was 1.05 (0.63) percentage points.

5 In October 2002, the Ifo Institut conducted a telephone survey with a representative sample of 1,100 firms. 45 percent of those had attempted to raise new bank debt, extend or raise credit lines. Only 11 percent of firms in this category experienced no problems, 17 percent reported additional transaction costs, 5 percent had to accept higher cost of debt, and 12 percent were turned down or presented with unacceptable conditions. See Russ (2002).

Table 8. Reasons for loan rejections and changes in terms of loans by type of bank

	Cooperative banks	S&L institutions	Private banks	Other banks
Reasons for loan rejection				
General bank policy	27	23	28	4
Lacking equity base	36	34	18	3
Insufficient collateral	34	39	25	6
Reservations regarding investment	10	14	6	3
Unresolved succession problems	1	2	0	0
Changes in terms of loans				
Higher cost of loans	34	53	32	6
Additional collateral required	74	95	40	6
More extensive reporting	70	73	40	7

Notes: The data on reasons for loan rejection are based on the responses of 104 firms; data on changes in loan conditions reflect the responses of 192 firms. As multiple responses were possible, group difference tests could not be applied.

Source: *esbf* survey.

To summarise, based on the evidence presented, one cannot conclusively determine whether *Mittelstand* firms do actually suffer from systematic credit rationing or whether specific banking groups abstain from granting loans. So far, also the market shares of individual banking groups in the credit supply to companies and self-employed have been extremely stable and do consequently not (yet) reveal further insights.

3.4 The role of public support schemes

An enormous variety of public support programmes is available for the German *Mittelstand*.⁶ The main suppliers are at the level of the European Union, the Federal Republic of Germany, and the different federal states. Due to the frequently criticised opaqueness of Germany's public support system, the relevance of such programmes can only be roughly estimated, as aggregate statistics on number, volume, and origin of such activities do not exist. For the purpose of long-term financing, only programmes supplying funds as debt substitutes in the form of subsidised loans are of relevance. In contrast, consulting services, tax relief, or infrastructure investments are ignored. Non-refundable investment grants, though debt substitutes, will not be considered either since they represent irrevocably lost one-time subsidies.

A wide variety of public support programmes is available for the Mittelstand.

To avoid cannibalisation effects for non-public lenders, public support programmes are committed to finance only activities that would not receive funding otherwise due to market failure.⁷ This includes, for instance, start-up financing and investments in research and development as well as environmental protection. Nevertheless, German *Mittelstand* firms have access to a great variety of programmes to finance expansion and restructuring strategies, undoubtedly a result of the widespread perception that financial intermediaries cannot supply a sufficient level of funding.

⁶ The public support database of the Federal Ministry for Economic Affairs and Technology lists 785 different programmes available for companies. Other sources report 1,800 different programmes.

⁷ See, for instance, Art. 2(1) of the *KfW-Gesetz*, which governs the activities of KfW.

The main players at the federal level are the recently merged KfW and Deutsche Ausgleichsbank (DtA). They are in charge of managing the funds recycled from the European Recovery Programme (ERP), but also offer independent programmes refinanced on the open market. In 2002, the total volume of public support loans channelled through these institutions amounted to some EUR 14 billion. In addition, the European Investment Bank (EIB) and the European Investment Fund (EIF) have provided EUR 3 billion in long-term finance, largely channelled through German credit institutions (Bundesministerium für Wirtschaft und Technologie 2002). Compared to a gross fixed capital formation of about EUR 290 billion and total bank loans outstanding to domestic corporate borrowers of EUR 1.3 trillion as of December 2002, it is obvious that public support schemes do not (and should not) even come close to replacing bank debt as a means of *Mittelstand* financing.⁸ However, they can serve as an important supplement potentially capable of spurring innovative financing solutions.

The majority of Mittelstand firms does not use public support programmes, partly reflecting a lack of information on such programmes.

The empirical evidence indicates that most *Mittelstand* firms fail to use public support programmes. The *esbf* survey shows that 76 percent of the responding firms are currently not using public support finance and 68 percent have never done so in the past.⁹ When asked whether the company engages in eligible activities for public support programmes, 18 percent answered they do, 43 percent said they do not, and 39 percent responded they were unable to judge. The latter figure indicates that the effectiveness of existing programmes may suffer from the general lack of information on the part of *Mittelstand* management.

Particularly interesting are the reasons why firms with eligible activities fail to use these co-funding opportunities. Table 9 summarises the responses of the survey participants. Information deficits and a general belief that support programmes are overburdened with transaction costs explain why most sample firms refrain from making use of these funding opportunities. Compared to smaller firms, larger firms perceive support programmes to be economically less attractive. This view reflects the fact that many programmes are

Table 9. Reasons for not utilising public support programmes

	Turnover (in million of EUR)				
	< 1	1-10	10-20	20-40	40-100
Lack of information	4.2	4.1	3.3	4.0	2.3
Excessive transaction costs °	3.0	4.2	4.2	4.5	1.8
Lack of economic attractiveness	2.5	3.6	3.5	4.0	1.0
Lack of house-bank support °/+++	3.7	4.1	2.3	1.0	2.3
Other reasons	3.0	3.5	3.7	1.0	3.0

Notes: Reasons have been rated from 1 (unimportant) to 5 (very important); absolute scores represent the median for each size class. For an explanation of the significance levels and statistical tests see Notes to Table 4.

Source: *esbf* survey

⁸ Data reported by Städtler (2001), based on information from *Ifo Investitionstest* and the Federal Statistical Office as well as Deutsche Bundesbank (2003).

⁹ Only 14 percent of the responding firms in the KfW survey have received public support loans (KfW 2001a).

specifically offered for, and tailored to, the needs of smaller enterprises. In contrast, smaller firms complain of insufficient house-bank support – with highest significance – more frequently than larger ones.

These results extend the findings of KfW (2001a) and Bornemann *et al.* (2001), which also identified the lack of information as the primary reason for not using public support offerings. Several reasons explain why *Mittelstand* firms appear to be reluctant users (or house-banks reluctant supporters) of public support programmes. First, as a matter of general procedure, *Mittelstand* firms must apply for public loans through their house-bank, which has to certify the economic viability of the funding proposal. Once approved, the house-bank acts as the representative of the public support agency and is typically fully liable for the amount of the loan. Hence, banks generally apply the same credit policy standards (e.g. collateral and information requirements) as for their own loan business. As a consequence, support programmes do not aid companies that are struggling to raise more debt.

Public support programmes often are of little help for Mittelstand firms that are struggling to raise more debt.

Second, house-banks often receive a fixed margin – ranging from 50 to 200 basis points – as a compensation for bearing the default risk and providing their services. It is generally risk-insensitive and too low compared to going market rates.¹⁰ The adoption of Basel II is likely to aggravate this problem, as no bank will be inclined to grant public support loans at such a low margin to sub-investment grade borrowers such as the majority of the *Mittelstand* (see, for instance, Schmitt 2002). Most likely, public support agencies will respond by reducing the default obligations of house-banks and transferring them to specialised intermediaries (*Bürgschaftsbanken*) or by keeping them on their own books at an acceptable premium (see also Bundesministerium für Wirtschaft und Technologie 2002).

Third, *Mittelstand* loans generally cause proportionally higher administrative costs relative to loans to large borrowers. Apart from the usual credit check, there are additional costs related to the application for a public support loan. The margin received fails to take these expenditures into account. Some public support agencies, however, have started to pay a fixed service charge per application irrespective of loan size (e.g. *LfA Förderbank Bayern* pays EUR 200 for each application).

3.5 Alternative financing instruments

While fears of systematic credit rationing appear to be unjustified, the recent tightening of the credit market and the equity shortage identified for the *Mittelstand* indicate the need to search for alternative financing. A closer look at the main possible instruments often discussed in this context reveals their general inaptitude (see also Pruss *et al.* 2003).

The lack of suitable alternatives is obvious with regard to capital-market-related financing solutions. In spite of sharply increasing volumes, which has led to new issuance records, the corporate bond markets will remain foreclosed for the overwhelming number of *Mittelstand* firms. Minimum notionals of EUR 100 million highlight that only the upper

¹⁰ EU corporate bond spreads for BB rated firms – the approximate average of a typical corporate credit portfolio (see Wambach and Rödl 2001) – are on average 200 bps above LIBOR. See RiskMetrics Group (2002). See Taistra *et al.* (2001) for the composition of a *Mittelstand*-oriented credit portfolio.

size bracket of *Mittelstand* firms will realistically have the ability to access this market (Kolbeck and Wimmer 2002). The same holds true for the securitisation of accounts receivable unless the *Mittelstand* engages in some form of pooling involving a specialised intermediary. The minimum lot size for such transactions is comparable to corporate bond issues whereas the issue-related costs and the expertise needed are even more significant. Floating the company stock through an IPO fails for similar reasons. Stock exchange rules and market conventions require IPO candidates to have attained a certain size reflected by minimum issue volumes and the magnitude of the annual turnover. The range of candidate firms has been further narrowed following the burst of the speculative bubble in 2000 as additional criteria (e.g. profitability, industry sector, age) have gained relevance for the success of a public issue. The results of the *esbf* survey confirm this argument. None of the responding firms had ever issued equity or bonds before, and only a few believed that using these instruments in future would be feasible. The outlook may become slightly more optimistic in the years to come if the critical size for asset-backed securities and bond issues keeps on falling. Nevertheless, transactions will continue to involve several tens of millions of euros (Kolbeck and Wimmer 2002).

Capital market finance is currently not an option available for most Mittelstand firms

Private equity as an alternative form of external equity financing cannot be expected to resolve the *Mittelstand's* financing gap either, as it is a suitable alternative for only a small minority of *Mittelstand* firms.¹¹ Specifically, required returns of private equity funds can only be met by high-growth companies and firms faced with restructuring problems. In addition, the corporate governance standards of private equity investors are generally irreconcilable with the management approach of traditional *Mittelstand* entrepreneurs. A core principle of private equity investing is the acquisition of cashflow and control rights that are subsequently again yielded to the seller (buyback) or a third party (trade sale, IPO). Conceding voting rights to a third party, however, is unacceptable for typical *Mittelstand* owners. The *Mittelstand's* attitude towards private equity is reflected in the survey of IfM (2000a): responding firms rejected private equity because they wanted to keep their independence, financial flexibility, and/or status of a family enterprise. Finally, the fairly short holding periods of private equity investors are irreconcilable with the *Mittelstand's* long-term financing needs.¹²

Also mezzanine finance, which combines the characteristics of equity and straight debt in various ways, does not offer any relief.¹³ Most prominent mezzanine instruments are subordinated debt and privately placed convertible debt. Companies already facing a restricted access to loans will almost surely find it impossible to raise mezzanine capital, as it is by definition more risky than straight debt. If held by banks, it will also be subject to Basel II and will receive an equal or even higher risk weight compared to loans. Thus, solely financially sound *Mittelstand* firms may consider these options as a means to improve their solvency ratios. Nevertheless, mezzanine capital is an expensive funding source with expected returns, depending on the instrument used, usually exceeding 10, often 20 percent,

11 See also Achleitner (2002). The German Venture Capital Association (BVK) estimates that 10 percent of all SMEs may qualify for private equity.

12 The *esbf* venture capital survey determined an average holding period of approximately 4 years. See Hommel *et al.* (2002).

13 One can generally distinguish between three forms (see for instance Nelles and Klusemann 2003): (i) debt mezzanine capital (e.g. subordinated/junior debt with a performance-linked interest premium - therefore rated as economic equity by banks), (ii) equity mezzanine capital (silent partnerships, atypical silent partnerships with some form of an "equity kicker"), and (iii) hybrid forms of mezzanine capital (e.g. convertible debt).

per year (Nelles and Klusemann 2003). Minimum size requirements – ranging from EUR 1 to 10 million – further reduce the common applicability of such facilities. Convertibles and silent partnerships also entail the transfer of control rights to mezzanine investors; *Mittelstand* owners have historically shown great reluctance to accept such a transfer. Moreover, the fact that only few *Mittelstand* firms are organised as corporations complicates the use of conversion features in mezzanine contracts as no standardised convertible debt instruments exist for other legal forms.

Thus, for the majority of *Mittelstand* firms only a few options remain. Trade credit represents a form of short-term, tactical financing. If offered without a discount for early payment, it is always optimal to cover payables at the latest time possible. If a discount (of usually 1-2 percent for a few weeks) is granted – a common practice in Germany – trade credit is comparable or even inferior to sub-investment grade loans and therefore never preferable to bank debt or similar forms of financing. It is also important to note that *Mittelstand* firms are already fully exploiting this financing option so that no additional funds can be unlocked in the future. Current ratio data provided by DSGV supports this conclusion (see Figure 3).

Among the class of external financing instruments, the only remaining options for the typical *Mittelstand* firm are leasing and factoring. In Germany, about 17 percent of gross fixed capital formation (without housing) and more than half of externally financed investments in machinery and equipment are currently leasing-based (Städtler 2001, Stephan 2002). Typically, the advantage that neither the leasing object, nor the obligation resulting from the leasing contract needs to be included in the lessee's balance sheet leads to more favourable capital structure ratios. As contractual terms and prerequisites for access to this form of financing are similar to those of bank loans, leasing effectively becomes impossible when the company is foreclosed from raising additional bank debt. This conclusion holds in particular because lessors are forced to take the risk exposures into account as their refinancing conditions directly depend on the credit rating of their leasing portfolio (Gödel 2001).

Neither trade credit, leasing, nor factoring seems to offer scope for becoming a more important source of finance.

Finally, factoring is normally seen as a supporting measure to cover short-term working capital requirements. However, if receivables are sold on a roll-over basis – so that the level of receivables on the books is reduced on a permanent basis – it effectively generates funds to cover longer-term financing needs. Using this financing option can cause substantial costs, including the refinancing cost of the factor, a service charge, and a risk premium. Furthermore, the factor only reimburses a portion of the invoice total upfront.¹⁴ On a stand-alone basis, companies can only engage in factoring activities if a substantial and stable flow of receivables is generated from the same customer base, a criterion often not met by *Mittelstand* firms.

Due to the limited availability of alternative external financing instruments, the *Mittelstand* probably has to focus more than large firms on internally generated cashflow as an alternative form of financing. In this context, the regulatory environment, especially the tax treatment of SMEs, plays a crucial role. Further discussion of this aspect is provided in Section 4.2.

¹⁴ Dresdner Factoring AG for instance currently charges a factoring fee of 4-6 percent and pays out 75 percent of the invoice total (factoring programme for *Mittelstand* firms in Saxony, 04.11.2002).

Overall, this analysis is confirmed by the results of the *esbf* survey summarised in Table 10 and by evidence reported in KfW (2001a).

The relevance of individual financing sources does not fundamentally differ across size classes. With the exception of public support and supplier loans, funding sources are not rated differently for varying maturities. As also shown by other studies, internal financing is by far the most important financing source for short- and long-term financing needs. Shareholder loans play a prominent role as they are often used as an equity substitute. The relevance of public support loans as a long-term financing source is surprising given that only about one third of the companies included in the survey have ever used them. With the exception of leasing, respondents assign a minor importance to all other alternatives.

Table 10. Relevance of alternative financing instruments for the Mittelstand firms, by size class

	Turnover (in million of EUR)				
	< 1	1-10	10-20	20-40	40-100
Internal financing with earnings	4.2	4.3	4.3	4.7	4.5
	4.0	4.2	4.3	4.5	4.3
Internal financing with pension reserves ⁺ (+)	1.4	1.5	2.1	1.6	1.6
	1.4	1.6	2.0	2.3	1.8
Conglomerate financing ^{ooo/+++} (ooo/+)	1.2	1.2	1.3	1.6	3.0
	1.2	1.2	1.4	1.5	2.7
Public support programmes	2.4	1.7	1.6	1.9	1.6
	3.3	2.4	1.9	3.1	2.0
Loans from shareholders	3.6	3.4	3.3	2.8	3.5
	3.5	3.2	3.2	2.5	3.8
Silent partnerships ⁺⁺	1.4	1.5	1.3	1.3	1.1
	1.6	1.5	1.3	1.5	1.2
Supplier loans	2.5	3.0	2.6	2.9	3.3
	1.7	1.6	1.7	1.6	2.3
Employee ownership plans	1.2	1.1	1.2	1.2	1.1
	1.4	1.2	1.1	1.2	1.5
Leasing	2.5	2.6	2.1	2.9	3.0
	2.5	2.4	2.8	2.4	3.2
Factoring (°)	1.2	1.2	1.2	1.2	1.6
	1.3	1.3	1.1	1.1	1.6
Private equity ⁺	1.3	1.2	1.1	1.2	1.1
	1.4	1.3	1.2	1.2	1.3

Notes: The first entry for each financing alternative and size class refers to short-term financing, the second to long-term financing; the relevance of alternative financing instruments has been rated from 1 (unimportant) to 5 (very important); absolute scores represent the median for each size class; results of significance tests for short-term (long-term) financing are given without (in) brackets. For an explanation of the significance levels and statistical tests see Notes to Table 4.

Source: *esbf* survey

4. Impact of recent and future developments

4.1 Consolidation and restructuring of the German banking industry

The German banking industry is currently experiencing a fundamental upheaval, most directly exemplified by an intense merger activity (especially within the cooperative banking sector and between savings and loan institutions). Large private banks, too, have shown a pronounced tendency to reformulate their business models and shift their focus from traditional commercial banking activities towards investment banking. The number of independent banking institutions has dropped by approximately 40 percent since 1990, reaching some 2,700 in 2001. Merger activity was particularly high in the cooperative banking sector and in the savings and loan sector (Bundesverband deutscher Banken 2002a). Furthermore, between 1998 and 2001, more than 10,000 bank branches were closed in Germany, which almost fully explains the overall decline in the euro zone (see Table A4 in the Annex). This number is expected to fall further in the coming years in response to continued merger activity and to the implementation of new business models emphasising electronic banking (Deutsche Bundesbank 2003, Bundesverband deutscher Banken 2002b).

Consolidation and restructuring of the German banking industry, however, must to some degree be seen as a natural adjustment process in an “over-banked” market. A comparison with other EU countries reveals that Germany has more banking institutions than France, Great Britain and Italy together. Undoubtedly, this results from the prominent role of the cooperative banking sector and savings and loan institutions. Not surprisingly, Germany also experienced the sharpest drop in the number of banking institutions between 1998 and 2001, but still has the third-lowest population per branch (1,450) in the EU. A low level of concentration indicates potential for further consolidation. The five-firm concentration ratio is around 20 percent in Germany compared to 40 percent and 55 percent in France and the EU, respectively. Another salient feature of the German banking market is the large number of smaller banks: 42 percent of all EU banking institutions with a balance sheet total of less than EUR 1 billion are in Germany. However, the EU-initiated withdrawal of government loss guarantees for savings and loan institutions (*Anstaltslast* and *Gewährträgerhaftung*), to become effective in July 2005, promises to trigger substantial merger activity within this sub-sector in the years to come.

As a consequence of these structural impediments and of a highly competitive environment, the German banking industry is performing significantly worse than its EU counterparts. In 1999, it achieved the third-lowest interest surplus to total assets in the euro zone (1.02 percent), the lowest net income to balance sheet total (0.34 percent), and a very unfavourable cost-to-income ratio (64 percent), the latter clearly indicating a considerable scope for rationalisation.

Further consolidation and restructuring will affect the *Mittelstand* in various ways. To begin with, balance sheets over-burdened with unprofitable *Mittelstand* loans cause banks to reconsider their role as the *Mittelstand's* primary financing source. Risk-adequate credit pricing - not only through Basel II - will be the guideline shaping the future development of the lending business. Second, as the closing of local branches leads to a (potentially frequent) shift of the bank liaison, especially small enterprises will be subject to a

The German banking sector is “over-banked” and “over-branched”, is struggling for profitability, and will thus experience further consolidation and restructuring.

worsening of service quality. Third, as argued by Davis (this volume), for instance, household savings will continue to shift towards insurance companies and fund investors. Together with the emergence of different forms of refinancing, this implies an increase in funding costs for banks, which – to some extent – is likely to be passed on to borrowers (Bundesverband deutscher Banken 2002a). Fourth, as highly rated clients have obtained access to non-bank finance, the banks' credit portfolios have suffered, thus creating an added incentive to review the importance of traditional lending activities. The entry of foreign banks into the German market and their focus on cream-skimming activities magnify this effect. Finally, synergies achieved in larger banking groups could, if passed on, lead to a lower cost of debt for clients – but this favourable effect on borrowers may be counter-balanced by an increasing market concentration.

4.2 Reform of the German tax law

The *Mittelstand's* historically low equity ratios can to some degree be explained by German tax provisions. The federal tax code distinguishes between, on the one hand, corporations and limited liability partnerships (*Gesellschaft mit beschränkter Haftung* or *GmbH*) and, on the other hand, proprietorships and partnerships. While the former are treated as distinct legal entities subject to a fixed corporate income tax (*Körperschaftsteuer*), earnings of the latter are always treated at the level of the individual owner at a progressively defined personal income tax rate. In the past, high corporate and personal (income) tax burdens hindered companies from building up equity internally. Until 2001, owners of proprietorship and partnerships faced a maximum marginal personal income tax rate of 51 percent to 56 percent. Those tax rates were already applied at relatively low levels of earnings: in 1986 (2000), profits exceeding EUR 34,200 (57,300) were subject to a 50 percent tax rate. Similarly, limited liability companies paid a minimum tax rate of 50 percent on their retained profits until 1993. In addition, all companies were – and still are – subject to other taxes (notably the *Gewerbesteuer*, a municipal trade tax), which further increases the overall tax burden by several percentage points.

Germany's tax system has not been conducive to the formation of equity of *Mittelstand* firms.

Indirect effects of the tax code on capital structure can be identified as well. Next to the issues raised in section 3.1, there are codified disincentives for limited liability companies against withholding their profits. Until 2001, corporations and limited liability partnerships faced a split tax regime with retained profits taxed at a higher rate than distributed profits.¹⁵ Initially, the latter were also subject to double taxation as dividends were subject to personal income tax without corporate income taxes having been taken into account as credit. Double taxation was eliminated in 1977, but the split tax regime was maintained. Shareholders received a tax credit amounting to the corporate income tax paid on their personal income tax. Consequently, the incentives to distribute company income depended on the personal income tax bracket of the owner. Recipients operating in low-tax brackets had the incentive to withdraw all earnings and to subsequently reinvest the funds needed to cover the company's cash needs (*Schütt-aus-Hol-zurück-Verfahren*). Thus, distribution of earnings proved beneficial for shareholders facing a marginal income tax rate below the rate for retained earnings.

In 2001, the German legislator reintroduced a slightly reformulated double-taxation model to encourage the retaining of earnings in limited liability companies

¹⁵ The rates for retained/distributed profits have varied over time as follows: 56/36 percent (1977-89), 50/36 percent (1990-93), 45/30 percent (1994-98), 40/30 percent (1999-2000) and 25/25 percent (2001).

(*Halbeinkünfteverfahren*). All profits are now taxed at 25 percent at the corporate level and, if distributed, shareholders receive half of the dividend tax-free while the other half is subject to personal income tax. By 2002, most EU member states had similar corporate income tax systems in place (Bundesministerium der Finanzen 2003). Under these regimes, double taxation is alleviated but not fully avoided through (a mixture of) special income tax rates on dividends, the partial tax exemption of dividend income, and/or a partial imputation of the corporate income tax. Although the *Halbeinkünfteverfahren* clearly treats retention preferentially, debt financing also becomes more favourable than before due to the enlarged tax shield (see also Drukarczyk 2001). Companies generating sufficient internal cash will therefore exclusively rely on internal financing whereas external capital will surely be invested as debt.

Such preferential tax treatment of retained profits does not exist for proprietorships and partnerships, still representing the overwhelming majority of the German *Mittelstand*. At present, the partial imputation of municipal trade tax with personal income tax offers relief for those companies. Furthermore, they benefit from the gradual lowering of personal income tax to 42 percent by 2005.

To summarise, tax regulations can partly explain the low equity ratios of *Mittelstand* firms. For those organised as limited liability companies, the distribution incentive became obsolete with tax reforms effective since 2001. The reduction of corporate and personal income tax rates strengthens the capital formation ability for all legal forms. However, *esbf* survey respondents apparently do not share this view: only 39 percent – thereof 41 percent (36 percent) corporations and limited liability partnerships (proprietorships and partnerships) – expressed the view that the withholding of earnings will become more attractive in the future. In addition, only 35 percent of the responding companies – thereof 37 percent (29 percent) corporations and limited partnerships (proprietorships and partnerships) – stated that they had retained more earnings over the previous four years in response to changes in the tax code. Neither legal form nor size seems to have significantly influenced these results, and sector affiliation also does not appear to have shaped the views of survey respondents.

Recent tax reforms aim at strengthening the formation of equity, but many Mittelstand firms remain sceptical that they will.

4.3 What will change with the adoption of Basel II?

Until recently, it had been considered a foregone conclusion that the new Basel Capital Accord was a major reason for the observed weak credit supply and a future driving force behind a possible credit rationing for a large part of German *Mittelstand* firms. In particular, the recommendations put forward by the Basel Committee in the 2nd consultative document in January 2001 would have entailed significant disadvantages for most *Mittelstand* firms relative to large corporations.¹⁶ This general conclusion is no longer valid, mainly due to the efforts made to avert negative consequences for smaller banking institutions and their clients, the *Mittelstand* firms.

16 Grunert *et al.* (2001) have shown that, based on the regulations defined in the Quantitative Impact Study II, the average cost of bank loans would have increased by about 1.1 percentage points while small *Mittelstand* firms would have even faced an increase of about 2.2 percentage points. Close to 40 percent of all firms would have been expected to experience falling interest rates, however. The KfW's simulations on the basis of an exemplary *Mittelstand* loan portfolio, ignoring any collateral, would have implied an increase of the average risk weight by 18 percent. See Sachverständigenrat (2002).

In October 2002, the Basel Committee on Banking Supervision (2002) published a technical guidance document. Reflecting the results of two quantitative impact studies, this document contains revised recommendations and gives special regard to SME financing under both the internal-ratings-based approach (IRBA) as well as the standardised approach (SA). These proposals are currently being reviewed on the basis of a third quantitative impact study (QIS 3).

Despite its practical ease and the recent adaptations, the SA can currently not meaningfully be used in Continental Europe where only the largest companies are rated. Owing to the substantial direct and indirect costs associated with an external rating, the vast majority of SMEs would, as unrated companies, remain in the unfavourable 100 percent risk bracket. As a consequence, the banks' primary focus would be on larger (rated) enterprises offering sizable discounts on regulatory capital while the unrated and, thus, far less profitable *Mittelstand* loans would be neglected or would become significantly more expensive. In the new technical document (October 2002), the Committee proposes a preferential treatment for small firms. According to this proposal, corporate exposures of up to EUR 1 million could be included in the retail portfolio and would carry a risk weight of 75 percent. For small firms, this would not only prevent a deterioration in the availability and the cost of loans, but it could - in fact - increase the attractiveness of loans to small borrowers in comparison to Basel I. However, the proposal fails to provide relief for medium-sized firms with capital needs exceeding this limit. For these firms, Basel II could adversely affect the supply of loans - at least until banks are in a position to apply the IRBA.

In designing Basel II, major demands of the German Mittelstand have been taken into account.

In contrast to external ratings, the internal assessment of corporate borrowers does not automatically put SMEs at a disadvantage because of high rating costs. However, capital-structure-related balance sheet ratios crucially determine internal ratings; judged on the basis of such ratios, SMEs - on average - perform rather poorly. To avoid negative consequences for the majority of SMEs, the Basel Committee has modified the IRBA in a number of ways. First, the corporate risk weight curve has been flattened significantly and loans of up to EUR 1 million extended to small businesses can - similar to the SA - be included in the retail class, which is characterised by an even flatter risk weight curve. Estimates of Deutsche Bundesbank (2002) suggest that almost 90 percent of all German *Mittelstand* firms qualify for such a treatment. Second, within the corporate risk weight formula, banks can further add a firm-size adjustment lowering the regulatory capital for borrowers with a turnover of less than EUR 50 million. Finally, at national discretion, the maturity adjustment under the advanced IRBA does not have to be applied for companies with a turnover of less than EUR 500 million.

With these modifications, major demands of the *Mittelstand* have been included in the revised draft document. There will be no charge for long-maturity loans, a fact especially important given the dominance of long-term debt for the *Mittelstand*. The possibility of including small businesses in the privileged retail portfolio promises a sustained credit supply to borrowers admitted to this segment. In addition, the flattening of the corporate risk weight curve implies more moderate increases in capital charges on exposures internally rated below average; this would benefit *Mittelstand* firms not included in the retail portfolio. The most important advantage of the IRBA for the *Mittelstand* is often overlooked: in contrast to the still narrow definition of admissible collateral under the SA,

the IRBA allows banks – at least under the advanced approach – to recognise any collateral in their loss-given-default estimation (see, for instance, Elschen 2002)¹⁷. Thus, personal assets or guarantees can, for the first time, serve as instruments to bring about lower risk weights. Nonetheless, the precise effects of the revised IRBA on *Mittelstand* financing are not fully predictable since the banks will control the process of determining the risk-weighted capital requirements through their internal rating assessments and their loss-given-default estimations.

Notwithstanding a now far more positive outlook, Basel II still may have some adverse effects on the German *Mittelstand*. First of all, the German banking sector is expected to improve its risk awareness and thus price for risks that were not fully accounted for in the past. Second, the adoption of Basel II will make banks' loan policies more pro-cyclical, given that banks are now forced to adapt their ratings continuously, which implies that in an economic downturn the banks' ability to grant new loans is reduced since more regulatory capital needs to be committed (Deutsche Bundesbank 2002).

We now turn to a brief discussion on how Basel II is perceived by the *Mittelstand* firms. In the context of the *esbf* survey, respondents were asked how well they considered themselves informed about Basel II and what implications they expected Basel II to have. Table 11 summarises the main results.

Basel II apart, German banks increasingly recognise the need for adequate risk-pricing of Mittelstand loans.

Table 11. The Mittelstand's perception of Basel II, by size class

	Turnover (in million of EUR)				
	< 1	1-10	10-20	20-40	40-100
Information on ...					
Content of Basel II ^{°°/°}	2.8 (1.2)	3.5 (1.2)	3.7 (0.9)	3.3 (0.9)	3.8 (1.1)
Rating criteria of house-bank ^{°°/°}	2.3 (1.2)	3.0 (1.2)	3.2 (1.2)	2.6 (1.3)	3.5 (1.2)
Structure of formal rating exercise ^{°°/°}	1.8 (1.0)	2.3 (1.2)	2.5 (1.1)	2.8 (1.0)	2.6 (1.1)
Impact on ...					
Credit availability	2.3 (1.0)	2.4 (1.0)	2.7 (1.1)	2.7 (0.9)	2.4 (0.9)
Terms and conditions of loans	2.2 (1.0)	2.4 (1.0)	2.5 (1.0)	2.7 (0.9)	2.3 (0.9)

Notes: The level of information has been rated on an ordinal scale from 1 (very deficient) to 5 (very good); the perceived impact has been rated from 1 (distinct disadvantages) to 5 (distinct advantages); absolute scores represent the median for each size class; standard deviations are given in brackets. For an explanation of the significance levels and statistical tests see Notes to Table 4. The table only includes the responses of indebted firms.

Source: *esbf* survey

¹⁷ Further verified with the *Bundesanstalt für Finanzdienstleistungsaufsicht*, Department for Banking Supervision.

Further to the results summarised in Table 11, it is worth noting that 24 percent of all respondents feel insufficiently informed about the content of Basel II. Almost 40 percent of respondents do not sufficiently know the internal credit assessment system of their banks, and close to 60 percent observed that they have insufficient knowledge of external ratings. Overall, the *esbf* survey points at substantial information deficiencies on the part of the *Mittelstand*. As to the impact of Basel II, the majority of firms expect negative consequences. Only about 10 percent (11 percent) envisage better credit availability (terms and conditions of loans). In particular, companies heavily depending on external finance expect adverse implications of Basel II.

Other studies support the conclusion that firms are often unable to evaluate the potential impact of Basel II on their operations. While dissemination of information has clearly improved over the past two years, both KfW (2001a) and Schoder and Nitschke (2002) document that a substantial fraction of *Mittelstand* firms still lacks the knowledge to determine the implication of this regulatory initiative. According to Hansmann and Ringle (2002), the same applies to the way house-banks determine internal credit ratings.

5. Mitigating financing problems of the *Mittelstand*

5.1 Measures at the disposal of companies

Mittelstand firms have to accept that capital providers are genuinely interested in obtaining a true and fair view of the company and must therefore relay sufficient and reliable information to enable creditors to assess the prospects of their investment. While the company's balance sheet represents the most objective reference to outsiders, corporate reporting must gain comprehensiveness to allow the reconstruction of pro forma statements.

The Mittelstand can contribute significantly to improving its access to external finance.

Low equity ratios signal higher counterparty exposures to creditors irrespective of the existence of hidden reserves. For company-outsiders the latter are, at least to some extent, always a matter of belief and accordingly discounted in valuation or rating exercises. The same holds for the value of personal assets held by the owners. It is for these reasons that the systematic concealment of information or the transformation of corporate assets into personal ones by withdrawing funds prove clearly sub-optimal strategies – at least if the company is seen as going concern. In particular, banks will honour higher solvency ratios with an improved credit rating whereas distributed equity (in terms of personal assets) will not be recognised as collateral under the SA or the IRBA. The *esbf* survey confirms the still existing reluctance to provide additional information to creditors. Some 24 percent of the respondents are not willing to use this option at all; close to 40 percent consider extending their disclosure in the future.

The empirical evidence presented in this and other studies indicates that Germany's *Mittelstand* is not exploiting its full potential to raise funds via alternative financing instruments. The same is true for the use of public support programmes given that almost 40 percent of the respondents do not even know whether the activities of their companies potentially qualify for such financing alternatives.

The internal improvements that the *Mittelstand* can still achieve are almost as important. Corporate planning, though generally considered an indispensable management task, is not performed by a substantial number of companies. One fourth of surveyed firms have no liquidity management, more than one third no strategic planning function, and almost half

no formalised capital budgeting process in place. Nearly 90 percent do not assign risk management tasks to specific employees, and 64 percent work without a controller. As expected, small companies perform significantly worse. These results are in line with results of other surveys (IfM 2000b, Hansmann and Ringle 2002). Prospective measures can also consist in establishing cooperative arrangements between *Mittelstand* firms, for instance in pooling loan requests or receivables for securitisation with a view to meeting the capital market's minimum size criteria.¹⁸

Lastly, larger *Mittelstand* firms can give positive signals to the investor community by means of an external credit rating. As a side benefit, management would be directly confronted with the company's weaknesses and opportunities. It can, however, not be expected that ratings will gain prominence among *Mittelstand* firms. Only 3 percent of the responding firms have an external rating and 70 percent (39 percent of the firms with an annual turnover above EUR 20 million) categorically reject this option. Table 12 summarises the survey findings.

Table 12. Percentage of firms using or considering measures to enhance rating status or credit availability

	Turnover (in million of EUR)				
	< 1	1-10	10-20	20-40	40-100
Measure used or considered					
Internal accounting °	69.8	80.9	92.9	90.0	84.2
	12.8	9.2	2.4	10.0	0.0
Cash management °°	62.1	74.6	87.5	90.9	95.0
	26.4	21.5	12.5	9.1	5.0
Strategic planning °°°	53.7	62.3	69.2	95.5	85.0
	34.1	30.3	30.8	4.5	15.0
Capital budgeting °°°	35.4	51.2	65.8	86.4	95.0
	32.9	33.5	31.6	13.6	5.0
Controlling °°°	19.2	27.3	50.0	85.7	95.0
	9.0	20.6	40.0	9.5	5.0
External company rating °°°	0.0	2.4	5.3	9.5	5.0
	18.4	22.4	36.8	47.6	60.0
Risk management °°°	6.8	9.2	18.4	33.3	15.0
	12.2	22.1	55.3	42.9	70.0
Extensive reporting to banks	25.9	40.1	40.0	47.6	50.0
	42.4	38.3	45.0	33.3	20.0

Notes: The first (second) entry for each measure and size class represents the percentage of firms that use (plan to use) this measure. For all measures except "extensive reporting to banks", Chi-Square-Tests suggest statistically significant differences between the turnover groups with °°° at the 0.1 percent level, °° at the 1 percent level, and ° at the 5 percent level.

Source: *esbf* survey

18 Fifty *Mittelstand* firms in southern Germany have jointly formed the KMU Financial Service AG with the initial objective to bundle company loan requests and place them in larger lots at other banks. This is to be followed in the medium term by an application for a full-fledged banking license and the formation of a *Mittelstand-Bank* (see Bertram and Heilmann 2002).

5.2 Measures at the disposal of banks

The most pressing issue for *Mittelstand* firms is the impact of Basel II on the customer relationship with their house-banks. In particular, banks can help improve the information their clients have about banks' internal assessment criteria given that almost 40 percent of the respondents do not consider themselves well informed on this issue. Ideally, banks should explain their rating norms pro-actively to gain the understanding of their clients. A noteworthy initiative is the "rating coach" programme of Commerzbank AG: rating specialists and corporate client advisors thoroughly analyse the company to finally formulate recommendations to the company management and to support the implementation of the proposed measures.

Loan factory and loan securitisation schemes have a potential to ease the supply of finance to the Mittelstand.

To enhance the availability of debt finance, banks should also carefully consider the so-called "loan factory" models designed to reduce the processing costs of their lending business. Such plans are currently analysed in the savings and loan sector and within KfW. Banks could also set up platforms to pool *Mittelstand* clients and thus enable them to make use of attractive financing forms (e.g. factoring programmes for the *Mittelstand* as already offered by Dresdner Factoring AG in Saxony and TEBA Kreditbank in North-Rhine-Westphalia).

An obvious measure for enhancing the banks' lending capacity to *Mittelstand* firms is to securitise the associated credit risk and to spin it off to institutional investors. In 2000, KfW has initiated such a programme - PROMISE - and has since completed nine transactions with a total volume of almost EUR 13 billion (KfW 2003). The general deal structure is represented in Figure A2 in the Annex and a detailed description of the programme is provided in Box 2. Suffice to note here that PROMISE is designed to eventually accommodate multi-seller transactions, i.e., KfW would bundle the default risk associated with reference portfolios from various (also smaller) banks and enter into credit risk hedges with other parties. So far, only single-seller transactions with major German banks have been completed (KfW 2003). Recently, KfW has started to combine PROMISE transactions with general loan commitments to be called up in tranches by the originators and to be subsequently channelled through to the bank's *Mittelstand* clients.

5.3 Regulatory adjustments

While *Mittelstand* firms themselves and the German banking industry must adopt measures that help alleviate the equity gap, any serious attempt to do so is preconditioned on adjustments of the regulatory framework in three major areas. First, implementing a tax system that favours internal cashflow financing is a crucial measure. A retention incentive has already been created for limited liability enterprises through the introduction of the *Halbeinkünfteverfahren*. Similar regulations have not yet been achieved for proprietorships and partnerships, as they are much more demanding to implement. Therefore, the gradual lowering of the personal income tax is most important for the latter. The case of France impressively documents how quickly such a tax reform can impact equity ratios and lower the dependence on bank debt: the weighted average equity ratio of limited liability enterprises was below the comparable German rate and had increased, following the tax reform in the late 1980s, to over 30 percent for all size brackets by 1995 (Deutsche Bundesbank 1999, Dietsch, this volume).

Box 2. Loan securitisation - PROMISE an example

Unlike some asset-backed-securities transactions, participating banks do not actually sell their *Mittelstand* credit portfolios (or part thereof), but merely pass on the default risk to KfW by using credit default swaps (CDSs) and pay a swap fee in return. In the case of default, KfW has to intervene and indemnify the originator. KfW hedges the risk by also entering into CDSs with other parties, for instance a special purpose vehicle (SPV). Subsequently, the SPV issues credit-linked notes (CLNs) promising interest and full repayment of the principle only in case no default of the underlying loan portfolio takes place. The CLNs themselves are subdivided in several tranches reflecting different investment grades ranging from BBB to AAA rating. Losses from default are first assigned to the BBB tranche and, once exhausted, are systematically moved to higher tranches. Default risk premiums are set accordingly. Funds received from the sale of CLNs are invested in high-grade fixed income securities (also called security pool) and subsequently liquidated for repayment or default claim coverage.

As an optional feature, the combined reference portfolio itself may be divided into several tranches. As depicted in Figure A2 in the Annex, the default risk for the middle tranche is moved into the SPV while senior and junior tranches are hedged with third parties via CDSs. Default would first affect the junior tranche, then move to the SPV and finally be covered with the senior tranche. In order to manage asymmetric information problems (specifically, moral hazard) associated with securitising default risk, originators typically retain residual exposure based on historical default rates. In this case, CDSs will only cover losses in excess of the originator's loss participation (first-loss principle).

PROMISE is to be seen as a government-sponsored initiative to encourage the emergence of a secondary market for *Mittelstand* loans and, thereby, the creation of a new asset class (KfW 2001b). Pooling different reference portfolios enables KfW to create a standardised platform as a catalyst for further market growth. Market participation requires banks to have a functioning internal rating system at their disposal; this explains why, so far, only large banks have engaged in such transactions. The programme should be particularly attractive for smaller banks that – due to size limitations, high transaction costs, and lack of expertise – were unable to participate in the securitisation market. It is hoped that PROMISE enhances credit availability for *Mittelstand* firms as banks get the opportunity to free up regulatory risk capital.

Second, given the lack of transparency of Germany's public support measures, a grouping of similar programmes appears advisable. On account of the large number of legally separate support institutions, "support tasks" should be assigned clearly to eliminate the duplicity of support measures. At the federal level, this ought to be attained through the recent formation of the *Mittelstandsbank* operating under the roof of KfW.

Finally, although only indirectly related to finance, plans of the federal government to reduce red tape, deregulate the labour market, and reduce labour costs hold considerable potential to strengthen firms' access to finance. The *esbf* survey indicates that the *Mittelstand* regards these plans as reform projects of utmost importance. Table 13 summarises the results. Creditreform (2002b), for instance, reports similar findings: *Mittelstand* firms assign the highest priority to the reduction of social security charges (89 percent) and to the reduction and simplification of the corporate tax system (81 percent) while only 49 percent of the responding firms view better access to external finance as an important reform project.

Although the Mittelstand welcomes better access to finance, it considers improvements in other areas more important.

Table 13. Importance of regulatory measures for improving *Mittelstand* financing

	Turnover (in million of EUR)				
	< 1	1-10	10-20	20-40	40-100
Reduction of taxes on earnings	3.5 (1.5)	3.7 (1.6)	4.1 (1.7)	4.0 (1.4)	4.3 (1.0)
Reduction of other taxes	3.0 (1.4)	3.1 (1.2)	3.3 (1.1)	2.6 (1.4)	4.0 (1.7)
Reduction of social security charges	5.1 (1.7)	5.2 (1.1)	5.2 (1.9)	5.5 (0.5)	6.0 (0.0)
Deregulation of labour law	3.2 (1.6)	4.1 (1.5)	3.1 (1.2)	4.0 (1.4)	3.7 (1.0)
Simplification of tax law and reduction of regulatory overhead	3.9 (1.7)	2.9 (1.7)	3.5 (1.6)	2.8 (1.6)	2.8 (1.5)
Expansion of <i>Mittelstand</i> support programmes	2.8 (1.9)	1.7 (1.6)	1.8 (2.2)	1.6 (0.9)	2.3 (1.9)

Notes: The importance of measures has been rated from 1 (unimportant) to 6 (very important); respondents were asked to assign each grade only once; absolute scores represent the (grouped) median for each size class; standard deviations are given in brackets.

Source: *esbf* survey

6. Conclusions

A well-balanced capital structure is the core of sustained competitiveness. Equity shortages coupled with a high dependence on bank debt are likely to become major impediments for the German *Mittelstand*. Today already, many companies have to compensate investors not only for the operating but also for the significant financial risk of their businesses. The SME-friendly modifications to Basel II cannot (and should not) belie this. Irrespective of regulatory standards, risk always requires adequate returns in the long run. Competition is therefore no longer limited to the output market but extends to the liability side of the balance sheet. In line with other studies, the findings of this paper suggest that large parts of the *Mittelstand* are not yet prepared for (or not even aware of) the challenges ahead. At the same time, only few measures apt to prevent or alleviate potential financing constraints have already been implemented. Due to their inappropriateness for the typical *Mittelstand* firm, other measures often fail. Considering the enormous competitive pressure and the unfavourable economic conditions facing the German *Mittelstand*, one may conclude that the *Mittelstand* is currently at risk. Enhancing the (financial) situation of the *Mittelstand* and managing the risks is therefore an objective that needs to be reached by joint effort. It presupposes the readiness to change of all involved parties, especially the support of the companies' owners.

Annex

Table A1. General sample properties of the *esbf* survey

Company characteristics	Sample properties
Sector affiliation (responding firms per sector)	
Manufacturing	93
Retail	44
Wholesale/international trade	42
Services	98
Construction	47
Other	17
Turnover (responding firms per turnover bracket)	
less than EUR 1 million	100
EUR 1-10 million	187
EUR 10-20 million	44
EUR 20-40 million	22
EUR 40-100 million	20
more than EUR 100 million	17
Employees *	
Average	54.4
Standard deviation	110.2
Age of the Enterprise *	
Average	45.5
Standard deviation	48.9
Number of equity holders (responding firms per bracket) *	
1	156
2-5	185
6-10	12
more than 10	8
Cross-border transactions in % of turnover *	
Average	10.6
Standard deviation	21.5

* Companies with a turnover equal to or less than EUR 100 million.

Table A2. Financing sources of German *Mittelstand* companies (in percent of balance sheet total)

		Turnover in EUR million.																				
		< 1			1 - 5			5 - 10			10 - 20			20 - 30			30 - 40			40 - 100		
1995																						
Equity		12.8	0.0	21.3	13.4	5.3	18.4	16.3	9.6	19.0	18.4	12.4	19.1	20.7	15.5	19.6	22.0	17.8	19.0	23.0	19.2	18.8
Bank Debt		55.2	58.3	27.4	40.8	39.5	25.2	36.4	34.5	24.0	34.2	31.9	23.0	32.8	31.1	22.6	30.6	29.2	21.3	28.2	25.6	21.1
Current Ratio		102.4	69.0		108.5	92.4		110.7	96.0		108.4	96.0		108.8	95.1		103.9	94.7		105.5	94.0	
1998																						
Equity		12.4	0.0	21.3	13.7	5.2	18.9	17.1	10.3	19.5	19.4	13.3	19.9	21.3	16.1	19.9	23.4	18.7	19.6	23.9	20.1	19.1
Bank Debt		56.3	60.0	27.5	42.3	41.2	25.6	37.6	35.6	24.3	36.5	34.9	23.6	33.8	32.5	22.7	31.4	29.1	22.3	30.1	27.4	21.2
Current Ratio		109.1	67.4		114.8	93.4		113.9	96.9		115.0	96.9		111.6	95.7		105.7	93.7		105.4	93.1	
2000																						
Equity		13.2	0.0	22.2	13.8	5.3	18.9	17.1	10.2	19.4	19.4	13.7	19.7	21.2	16.0	19.9	23.2	18.7	19.6	24.0	20.4	19.3
Bank Debt		56.5	60.1	27.6	42.7	41.7	25.7	37.7	35.4	24.2	35.9	34.5	23.5	33.8	31.9	22.7	33.3	31.7	22.4	29.8	27.8	21.4
Current Ratio		111.3	66.7		114.0	92.7		113.7	96.4		113.6	96.0		109.4	93.5		108.4	93.6		103.2	92.0	
2001																						
Equity		13.5	0.0	22.2	14.7	6.3	19.3	17.8	11.6	19.3	20.5	15.7	19.5	23.0	18.4	19.8	24.3	20.7	19.5	24.8	21.5	18.7
Bank Debt		57.9	62.2	27.8	44.0	43.4	25.8	38.4	37.4	24.0	35.9	34.5	23.0	32.8	30.6	21.9	31.2	29.8	21.6	29.9	28.5	21.0
Current Ratio		125.0	63.9		117.6	91.9		111.5	96.0		112.2	95.1		111.0	95.0		105.1	92.9		100.7	91.1	

Notes: Figures for equity and bank loans represent in the order given mean, median, and standard deviation. Information on current ratio represents the mean and median, respectively.

Source: DSGV

Table A3. Capital structure of eastern and western German companies by size (1998, in percent of balance sheet total)

					Turnover in EUR million (eastern/western)							
	< 2.5		2.5 - 5.0		5.0 - 12.5		12.5 - 50.0		> 50.0		Average	
All Companies												
Equity	9.6	4.9	13.7	10.1	16.0	13.1	24.9	18.2	36.6	26.4	31.0	24.7
Debt	84.9	87.1	79.2	81.0	77.1	76.7	65.2	68.8	43.4	43.1	53.0	47.6
- thereof short-term bank loans	14.1	17.5	13.2	16.5	15.4	17.0	12.5	13.9	4.8	4.4	7.8	6.1
- thereof long-term bank loans	26.5	22.0	23.8	17.5	22.2	14.6	18.7	11.2	10.6	3.9	14.0	5.3
Processing Industry												
Equity	12.8	10.3	15.8	11.3	23.3	14.8	31.0	20.8	36.5	29.0	33.0	27.6
Debt	81.1	78.6	76.4	78.1	68.3	72.4	58.0	63.9	53.8	40.1	57.3	43.7
- thereof short-term bank loans	11.2	15.8	10.5	14.9	11.1	14.1	9.4	11.2	5.8	3.5	7.3	4.7
- thereof long-term bank loans	28.1	22.6	26.4	19.1	21.5	16.0	17.3	11.1	6.7	3.2	11.4	4.5
Construction												
Equity	6.3	-1.3	6.9	2.6	8.3	7.5	13.8	8.3	*	14.8	10.9	12.6
Debt	88.1	94.3	86.2	89.1	84.6	82.3	74.1	78.5	*	69.1	79.4	72.5
- thereof short-term bank loans	11.4	15.3	8.6	13.8	5.5	9.3	10.9	7.5	*	2.9	9.4	4.6
- thereof long-term bank loans	24.9	17.9	15.9	14.2	12.2	11.3	10.3	5.6	*	2.7	12.8	4.4
Wholesale												
Equity	11.1	10.3	15.8	13.1	14.7	14.5	17.5	16.6	32.3	20.2	20.2	18.8
Debt	84.8	83.9	78.6	80.3	79.3	77.9	76.7	74.9	62.1	67.5	74.0	70.2
- thereof short-term bank loans	14.8	17.0	12.3	16.3	14.2	17.6	17.7	16.7	9.7	12.3	14.0	13.7
- thereof long-term bank loans	21.0	14.3	19.7	13.8	21.5	12.2	18.7	10.2	5.4	4.3	16.1	6.4
Retail												
Equity	1.5	-7.1	7.0	6.0	8.6	8.6	20.1	9.7	*	19.6	12.8	15.9
Debt	94.2	102.9	88.6	88.9	86.6	85.5	74.4	83.3	*	60.9	82.2	68.7
- thereof short-term bank loans	17.9	22.6	25.8	24.0	32.2	30.4	24.5	31.1	*	12.6	27.1	17.9
- thereof long-term bank loans	29.8	29.7	24.6	19.7	20.3	14.2	16.7	11.5	*	5.9	20.0	8.5

Notes: * for construction and retail in eastern Germany, the category "12.5-50" covers all companies with at least EUR 12.5m of annual turnover.

Source: Own compilation on the basis of Deutsche Bundesbank (2001b).

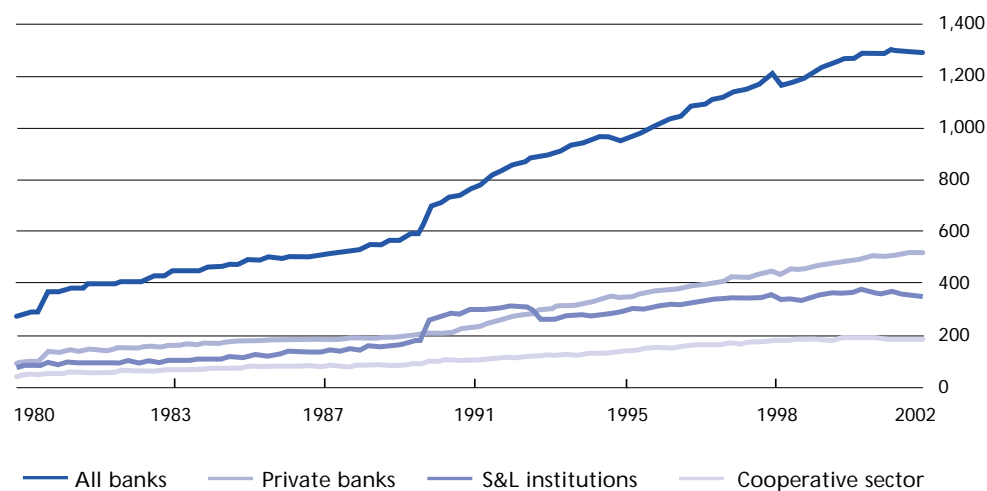
Table A4. Selected indicators of the EU banking sector

	Number of banks		Number of bank branches		Population per branch	Interest surplus (% of balance sheet)	Cost-income- ratio in %	EBT (% of balance sheet)
	Jan 1999	Dec 2001	1998	2001	2001	1999	1999	1999
Austria	898	836	5,498	5,391 ¹	1,500 ¹	1.19	66	0.40
Belgium	123	112	5,676	5,727 ¹	1,785 ¹	1.22	61	0.57
Finland	348	369	1,964	-	-	-	-	-
France	1,226	1,050	26,611	25,657 ²	2,375 ²	0.89	70	0.54
Germany	3,238	2,526	66,764	56,627	1,450	1.02	64	0.34
Greece	59	61	2,401	2,447 ¹	4,305 ¹	2.28	49	2.61
Ireland	78	88	-	-	-	-	-	-
Italy	934	843	26,252	27,170 ²	2,125 ²	1.94	72	1.08
Luxembourg	212	194	289	310 ¹	1,395 ¹	0.52	50	0.51
Portugal	227	212	5,056	5,491 ²	1,820 ²	1.36	52	0.65
Spain	402	366	39,039	39,040	1,008	1.88	54	0.92
The Netherlands	634	561	6,854	6,830 ¹	2,315 ¹	1.37	92	0.91
Euro-Zone	8,320	7,218	186,404 ³	176,654	1,750	1.18	65	0.56
Denmark	212	203	2,185	2,099	2,550	1.39	64	0.70
United Kingdom	521	452	15,873	15,470 ¹	3,845 ¹	1.11	62	0.53
Sweden	148	149	2,197	2,024	4,390	1.34	58	0.99
EU	9,260	8,022	206,659	193,630	1,960	-	-	-

Notes: ¹ 1999 ² 2000 ³ including Greece, excluding Ireland

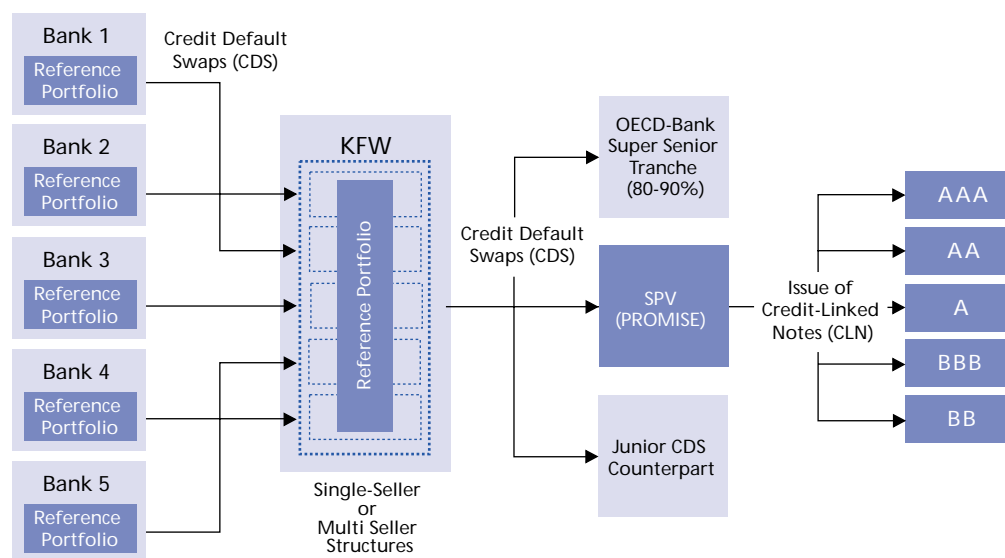
Source: Bundesverband deutscher Banken (2002b)

Figure A1. Aggregate credit volume to companies and self-employed (in EUR billion)



Source: Deutsche Bundesbank

Figure A2. PROMISE Programme - securitisation of *Mittelstand* loans



Source: Kreditanstalt für Wiederaufbau (2003)

References

- Achleitner, A.K. (2002). "Mittelstand und Eigenkapital". Handelsblatt, 11 July 2002, p. 8.
- Basel Committee on Banking Supervision (2002). "Quantitative Impact Study 3 (Technical Guidance)". Basel, October 2002.
- Bertram, B. and Heilmann, D. (2002). "Verhältnis zu Großbanken zerrüttet". Handelsblatt, 15 November 2002, p. 16.
- Bornemann, H., Schultz, B., Berndes, S., Arndt, O. and Doniec, A. (2001). *Evaluierung der ERP-Förderprogramme*, Prognos, Köln/Berlin, Germany.
- Bundesministerium der Finanzen (2003). "Die wichtigsten Steuern im internationalen Vergleich". *Monatsbericht des BMF*, (Januar 2003), pp. 55-68.
- Bundesministerium für Wirtschaft und Technologie, (ed.) (2002). *Politik für den Mittelstand*, Berlin, Germany.
- Bundesverband deutscher Banken (2002a). *Neue Strukturen für die Zukunft - Wandel in der deutschen Kreditwirtschaft*, Berlin, Germany.
- Bundesverband deutscher Banken (2002b). *Übersicht über das Bankgewerbe im Euro-Währungsgebiet*, Berlin, Germany.
- Creditreform (2002a). "Insolvenzen, Neugründungen und Löschungen im Jahr 2002". Neuss, (December).
- Creditreform (2002b). "Wirtschaftslage und Finanzierung im Mittelstand". Neuss, (Fall).
- Deutsche Bundesbank (1999). "Zur Unternehmensfinanzierung in Deutschland und Frankreich: eine vergleichende Analyse". Monatsbericht No. 10, pp. 31-46.
- Deutsche Bundesbank (2001a). "Erträge und Finanzierungsverhältnisse deutscher Unternehmen nach Rechtsformen". Monatsbericht No. 12, pp. 45-77.
- Deutsche Bundesbank (2001b). "Verhältniszahlen aus Jahresabschlüssen west- und ostdeutscher Unternehmen". Statistische Sonderveröffentlichung 6.
- Deutsche Bundesbank (2002). "Zur Entwicklung der Bankkredite an den privaten Sektor". Monatsbericht No. 10, pp. 31-47.
- Deutsche Bundesbank (2003). *Bankenstatistik*. (Februar).
- Deutscher Sparkassen- und Giroverband (2002). *Diagnose Mittelstand - jetzt weichen stellen!*, Berlin, Germany.
- DG Bank (2001). *Mittelstand im Mittelpunkt - Rating mittelständischer Unternehmen*, Frankfurt am Main, Germany.
- Drukarczyk, J. (2001). *Unternehmensbewertung*, 3rd edition, Verlag Vahlen, München, Germany.
- Dufey, G. and Hommel, U. (1999). "Financing the German Mittelstand". In WHU Koblenz (ed.): *Structure and Dynamics of the German Mittelstand*. Physika-Verlag, Berlin, Germany.
- EU Commission (1996). "Commission recommendation of 3 April 1996 concerning the definition of small and medium-sized enterprises". Official Journal L 107, (30 April 1996), pp. 4-9.
- Elschen, R. (2002). "Banken im Wettbewerb - Wer profitiert vom neuen Aufsichtsrecht?" In Tietmeyer, H. and Rolfes, B. (eds.): *Basel II - das neue Aufsichtsrecht und seine Folgen*, Gabler, Wiesbaden, Germany.
- Gödel, R. (2001). "Leasing - eine Umgehung von Basel II". *Zeitschrift für das gesamte Kreditwesen*, (54:19), pp. 1077-1078.
- Grunert, J., Kleff, V., Norden, L. and Weber, M. (2001). "Mittelstand und Basel II - der Einfluss der neuen Eigenkapitalvereinbarung für Banken auf die Kalkulation der Kreditzinsen". *Zeitschrift für Betriebswirtschaft*, (72:10), pp. 1045-1064.

- Hansmann, K-W. and Ringle, C.M. (2001). "Finanzierung Mittelstand 2002 - eine empirische Untersuchung". University of Hamburg (Institut für Industriebetriebslehre und Organisation / industrielles Management), Working Paper No. 6.
- Hansmann, K-W. and Ringle, C.M. (2002). "Finanzierung Mittelstand 2002 - eine empirische Untersuchung". University of Hamburg (Institut für Industriebetriebslehre und Organisation / industrielles Management), Working Paper No. 8.
- Hauser, H-E. (2000). *SMEs in Germany - Facts and figures 2000*, Institut für Mittelstandsforschung, Bonn, Germany.
- Hommel, U., Ritter, M. and Wright, M. (2002). *Die Zukunft des Beteiligungsmarktes nach dem Crash: allgemeine Marktverfassung und Bedeutung der Syndizierung von Beteiligungsinvestments*, Deloitte & Touche, Frankfurt am Main, Germany.
- Institut für Mittelstandsforschung (IfM), (2000a). "Mind - Mittelstand in Deutschland". Gruner & Jahr AG und Dresdner Bank AG.
- Institut für Mittelstandsforschung (IfM), (2000b). "Mind - Mittelstand in Deutschland". Gruner & Jahr AG and Dresdner Bank AG.
- Institut für Mittelstandsforschung (IfM), (2001). "Mind - Mittelstand in Deutschland". Gruner & Jahr AG and Dresdner Bank AG.
- Institut für Mittelstandsforschung (IfM), (2002). "Unternehmensgrößenstatistik 2001/2002".
- Kolbeck, C. and Wimmer, R. (2002). *Finanzierung für den Mittelstand*, Gabler, Wiesbaden, Germany.
- Kreditanstalt für Wiederaufbau (2001a). *Unternehmensfinanzierung im Umbruch - die Finanzierungsperspektiven deutscher Unternehmen im Zeichen von Finanzmarktwandel und Basel II*.
- Kreditanstalt für Wiederaufbau (2001b). "Die Verbriefung von Mittelstandskrediten durch die KfW". Sonderheft Mittelstands- und Strukturpolitik, KfW Research No. 21 (April), pp. 24-30.
- Kreditanstalt für Wiederaufbau (2003). "PROMISE - Verbriefung von Mittelstandskrediten, PROVIDE - Verbriefung von Wohnungsbaukrediten" (Januar).
- Modigliani, F. and Miller, M.H. (1958). "The cost of capital, corporation finance, and the theory of investment." *American Economic Review*, (48), pp. 261-297.
- Nelles, M. and Klusemann, M. (2003). "Die Bedeutung der Finanzierungsalternative Mezzanine-Capital im Kontext von Basel II für den Mittelstand". *Finanz Betrieb*, (5:1), pp. 1-10.
- Priewasser, E. and Kleinbrod, A. (2002). "Zinsempfindlichkeit und Preisautonomer Bereich im mittelständischen Firmenkundengeschäft der Banken". *Zeitschrift für das gesamte Kreditwesen*, (55:10), pp. 465-474.
- Pruss, R., Kruth, B., Meinert, A., Rams, A., Sängler, R. and Schlürscheid, J. (2003). *Der Geschäftsplan*, Galileo Business, Bonn, Germany.
- Riskmetrics Group (2002). "Creditmetrics - standard dataset". EU corporate bond spreads, 14 December 2002.
- Russ, H.G. (2002). "Kreditnachfrage schwach, aber auch Kreditvergabe restriktiver". *Ifo Schnelldienst* (21), pp. 28-29.
- Sachverständigenrat (2002). Jahresgutachten 2001/2002, Ziffer 80-96 (Basel II), pp. 35-40.
- Scheuer, M. (2001). "Ertrags- und Finanzungsverhältnisse kleiner und mittlerer Unternehmen in West- und Ostdeutschland". Sonderheft Mittelstands- und Strukturpolitik, KfW Research, (23 June 2001), pp. 5-13.
- Schmitt, R.W. (2002). "Welchen Einfluss haben Vermittlungsprovisionen und deren Gestaltung auf ihr Fördergeschäft?" (interview). *Zeitschrift für das gesamte Kreditwesen*, (55:15), pp. 718-720.

- Schoder, M. and Nitschke, A. (2002). *Mittelstandsfinanzierung in schwierigem Umfeld - Ergebnisse einer Umfrage zur Unternehmensfinanzierung*, Deutscher Industrie- und Handelskammertag (DIHK), Berlin/Bonn, Germany.
- Städtler, A. (2001). "Leasingbranche erzielt hohe Marktanteilsgewinne". *Ifo Schnelldienst*, (54:24), pp. 43-51.
- Stephan, A.H. (2002). "Leasing - neue Ideen für die Mittelstandsfinanzierung". *Zeitschrift für das gesamte Kreditwesen*, (55:13), pp. 640-641.
- Taistra, G., Tiskens, C. and Schmidtchen, M. (2001). "Basel II - Auswirkungen auf typische Mittelstandsportfolien". *Die Bank*, (7), pp. 514-519.
- Wambach, M. and Rödl, B. (2001). *Rating - Finanzierung für den Mittelstand*, FAZ- Verlag, Frankfurt am Main, Germany.
- Wimmer, R., Kolbeck, C. and Nicolai, A.T. (2001). "Rating-report Deutschland - was der Mittelstand über Basel II denkt". Deutsche Bank, Frankfurt am Main, Germany.