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The Macroeconomic Benefits of German Guarantee Banks

Abridged Version of a Study Carried out by the Inmit – Institute for Small- and Medium-Sized Enterprises at the University of Trier

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Aims and Objectives of the Study

The present study identifies and quantifies the macroeconomic benefits generated by German Guarantee Banks' activities. The aims and objectives of the study are to be found in the answer to the following pivotal questions:

- What contribution do German Guarantee Banks make to corporate financing?
- What consequences does corporate financing have on pivotal economic aggregates such as investment and output, in particular from the State's point of view?
- In addition, what beneficial macroeconomic effects can be detected for the German economy?

Design of the study

To take the complexity of these questions adequately into account, a broad spectrum of methods was used to conduct the study, ranging from written surveys to interviews and model calculations. The analysis of the quantitative macroeconomic beneficial effects is based on a macroeconomic model for which data was taken from the German Guarantee Banks' approval statistics, as well as from our own empirical surveys. The results of these nationwide surveys – which involved both companies and the Guarantee Banks' financing partners – also served as basis for our calculation of the qualitative macroeconomic useful effects not immediately quantifiable.

SME financing undergoing radical change

Borrowing by small and medium-sized companies – aside from the internal financing of their most important sources of financing – has become much harder in recent years, leaving aside certain recovery trends in 2005. Decisive changes in the banking industry such as new supervisory conditions, ever stronger competition in the international capital markets, a stricter adjustment of credit policy to levels of income appropriate to risk, lead to credit institutions not only checking the creditworthiness of credit applicants more intensively, but also requiring more loan collateral from businesses seeking credit and assessing the loan collateral more restrictively than before. If the collateral required cannot be provided, credit institutions tend more often than in the past not to grant the desired amount of the loan application or to refuse it altogether. This affects small and start-up companies in particular.

Sureties and guarantees as instruments for financing SMEs

To ensure that suitable and potentially successful micro- and macroeconomic investment projects do not remain unrealised due to insufficient collateral, the German Guarantee Banks support start-ups and small- and medium-sized companies (SMEs) by financing credit and equity. In addition to granting sureties, the emphasis of Guarantee Banks' business activities, they make equity financing possible by taking on the main part of the default risk of participations by private equity investment companies in small- and medium-sized companies by providing guarantees. For their part, the Guarantee Banks possess counter-sureties and counter-guarantees from the Federation and the particular Federal State, so that they themselves only bear defaults to a certain proportion in the context of sureties and guarantees granted.

High degree of eligibility for assistance amongst German Guarantee Banks

In 2004, some 6,300 sureties and guarantees totalling almost one billion Euro were granted. Nearly half of all credit extended involved start-up loans and corporate takeovers. The investments made possible using Guarantee Banks amounted to some EUR 3 billion. Thus, for every Euro guaranteed, about three times as many were invested. This multiplicator was considerably higher for equity guarantees at an average 6.8, than for sureties at 2.4. In the first six months of 2005, the activity level of Guarantee Banks showed a considerable increase, both in terms of the number of companies assisted, and the volume of credit extended, both rising by 14% compared with the previous year.

Management Summary

The contribution Guarantee Banks make to the materialisation of company financing

For financing situations for small and new companies characterised by asymmetrical distribution of information, Guarantee Banks offer instruments with incentives to lenders, in particular through the risk distribution effect, to enter into financial relations which otherwise would not come about. This is basically due to the use of the Guarantee Banks' instruments increasing the expected repayment value of the capital loaned (probability of the interest and redemption payment multiplied by the volume of credit granted) for the investor and capital backer. Because of these incentives, the German Guarantee Banks contribute considerably to financing coming about for company promoters and SMEs for projects which are profitable at microeconomic level and desirable at macroeconomic level, but which would not be financed and so not realised, in particular due to lack of securities without a guarantee.

Quantitative beneficial macroeconomic effects

- Thus Guarantee Banks allow additional investment which has direct and indirect effects on other economic aggregates, such as growth and production, over a long period of time. Of particular interest in this regard are the effects on the State's net financial exposure. On the one hand, the State benefits from increased tax and social security revenue, on the other hand, it is called upon as counter-guarantor for defaults. An investigation was undertaken in a simulated calculation using realistic model assumptions as to what effect the securities and guarantees granted over the years 1996 to 2002 had on the German economy.

Using several thousand equations, these effects were quantified in a comprehensive macroeconomic model with the following results:

- According to the model, the activities of the German Guarantee Banks in the period under investigation had a positive effect on gross domestic product (on average plus 3.2 billion Euro per annum), overall employment (on average plus 12,900 per annum) and the number of unemployed (on average minus 9,100 per annum). This resulted in the corporate sector's social security contributions decreasing in the long term, as reflected in lower non-wage costs.
- In addition, the positive effects, from the State's viewpoint, (investment stimuli from sureties and guarantees granted) and the negative effects (payments caused by defaults) arising annually from the current and previous year were calculated net for each calendar year. According to this, net State provision of finance is approximately 670 million Euro higher "with Guarantee Banks" than "without Guarantee Banks". This improvement was due chiefly to higher State revenue from taxes on goods (on average plus 330 million Euro per annum) as well as income and capital tax (on average plus 390 million Euro per annum).
- To validate the results, additional simulation calculations were undertaken varying the proportion of the additional investments which can be attributed to the Guarantee Banks. Given the unrealistic assumption that this proportion merely corresponds to the part of the overall investment guaranteed or stood surety for, the effect on the State's net financing is positive.
- In a second simulation calculation model and supported by a mode, the effect which sureties and guarantees in 1996 alone had on the German economy between 1996 and 2002 was investigated. This showed that financing by the State between 1996 and 2002 was 570 million Euro higher than in the fictitious situation where there were no surety activities. Where growth was concerned, (GDP: plus 3.6 billion Euro) and employment (plus 23,000), in this model design too positive macroeconomic results due to the activities of German Guarantee Banks were established.

Qualitative beneficial macroeconomic effects

In addition to these quantitative effects on pivotal economic quantities, a series of qualitative beneficial effects was identified which can generally be considered positive: Between 2,000 and 3,000 unaffiliated primary start-ups annually secure their start-up funding with the assistance of the Guarantee Banks and begin trading in the market place, that is launches where a new business unit is created by self-employed individuals. This is chiefly of importance economically due to the positive effect of start-ups on the maintenance of workable competition and the management of structural change.

- In the context of generational change in SMEs, the Guarantee Banks annually support approximately 1,000 corporate successions, 90 % of which are succession solutions outside the family, an MBO or MBI, for example, where the takeover is faced by particular funding problems. Providing these unaffiliated derivative start-ups with assistance also involves positive general effects. Competition is maintained, concentration tendencies are counteracted, existing jobs are retained without frictional losses and new ones created.
- The Guarantee Bank clients engage themselves to a considerable extent in forward-looking market segments. Thus the Guarantee Banks contribute yet again to the generally desirable structural change.

Cost-effectiveness of the guarantee system

From the State's viewpoint all these positive macroeconomic effects are made possible with comparatively modest resource input.

- At the point in time when the Guarantee Banks consent to a surety or guarantee there is no call on the Federation's and the State's budget where liquid funds are concerned. Actual defaults exclusively burden public budgets in the context of counter-security or counter-guarantee contingent. Thus here an outflow of cash only arises with considerable delay in some cases. Positive macroeconomic effects will as a rule have already occurred up to this point in time, the extent of which clearly exceeds the payments due to default. This was confirmed by the simulation calculations undertaken in this study.
- It is also important for the State, that its expenditure on the facilitating bureaucracy and administration remains restricted to a modest degree. Thus assistance for SMEs is provided by Guarantee Banks as self-help institutions in the economy and largely without State interference.

Point of Departure and Objectives of the Study

Apart from internal financing, bank loans remain by far the most important short, medium and in particular long-term financing instrument for SMEs. By contrast, large companies can finance themselves in the international capital markets and have pension capital available within the company due to pension reserves. Thus, the proportion of bank liabilities on the balance sheet of large companies is considerably less than that of SMEs. As a result, the profound changes currently taking place in the banking sector, in particular involving more stringent credit policies appropriate to risk, are of particular relevance to company promoters and owner-managed SMEs. They clearly have greater difficulty obtaining credit since credit institutions have become more restrictive than only a few years ago. The smaller the credit volumes requested, the greater the reluctance of credit institutions to engage in costly risk analyses and instead require the provision of collateral. The consequences of this business policy is serious. If the collateral necessary cannot be provided, the credit institutions tend to forgo modification appropriate to risk in credit conditions. For example, in a survey conducted by the Kreditanstalt für Wiederaufbau, three quarters of the companies whose credit application was rejected, reported that they would have been willing to pay a higher rate of interest. This clearly shows that credit financing difficulties in SMEs in general involve getting credit (access to credit), and that this risk of (complete) credit rationing is rooted primarily in the lack of collateral. It is true that today SMEs have at their disposal a series of instruments and sources of financing which are alternatives to bank loans. These range from factoring to mezzanine capital, private equity and asset backed securities. But for a number of reasons, however, one must assume that in the foreseeable future such instruments are not suitable for replacing bank loans for a significant percentage of SMEs.

In this situation, Guarantee Banks contribute, by underwriting default risks, to the financing and realisation of business start-ups and SMEs for projects which although being profitable at microeconomic level and desirable at macroeconomic level, would not be funded, in particular due to lack of securities without guarantee, but are still realised. Thus, Guarantee Banks limit the loss of macroeconomic performance in the allocation of resources resulting from the imperfection of capital markets, and in particular from the asymmetrical allocation of information between credit suppliers and borrowers and the related incentive problems.

Against this background and the much lamented wait-and-see attitude to domestic investment, one must conclude that sureties and thus the functions of German Guarantee Banks in the current situation and that of small business financing expected in the future continue to be and will be of considerable importance to small businesses.

The object of the present study is to examine the macroeconomic benefit of German Guarantee Banks and thus their importance for small businesses scientifically in detail and with discrimination.
Its aim is to answer the following crucial questions:

- What contribution do the German Guarantee Banks make towards company financing actually coming about?
- What consequences derive from this in view of pivotal economic aggregates, such as investment and employment, from the State’s viewpoint in particular?
- What beneficial qualitative macroeconomic effects on the German economy can be established in addition to that?

Design of Study

Various methods were used to best achieve the aims of the study and do justice to the complexity of the subject. The mix of methods essentially consists of desk research, the use of macroeconomic models and empirical surveys conducted specifically for the study.

Desk research

Extensive research was undertaken in the literature and on the Internet to set out the Guarantee Banks' system, tasks and activities, supplemented by interviews with experts. Guarantee Banks' statistics and publications served as an additional main source of information.

Use of a macroeconomic model

In collaboration with the Gesellschaft für Wirtschaftliche Structurforschung (GWS – Society for Structural Economic Research) in Osnabrück, a tried and tested, sectorally highly disaggregated model for macroeconomic simulations was used to quantify the effect German Guarantee Banks have on pivotal economic aggregates, such as growth and production. This model works with several thousand structural equations. Starting from the actual values of individual economic aggregates, the effects of German Guarantee Banks were modelled and compared with the hypothetical case of non-existent Guarantee Banks. The study also focused on the effect on State financing over the period between 1996 and 2002 under investigation.

Empirical surveys of different groups

We conducted a representative written survey by economic sector and Federal State which involved some 2,000 small businesses and company promoters who have made use of a surety or investment guarantee. This was to ensure a realistic and resilient database as input for calculating the macroeconomic model and to determine additional empirically qualitative beneficial effects. In addition, we conducted telephone interviews with 128 credit institutions (savings banks, credit unions, cooperative banks, private banks) which act as financiers in the context of granting sureties.

Investment Financing in Stormy Waters

The supervisory and competitive conditions under which banks, savings banks, credit unions and cooperative credit societies operate have changed fundamentally in recent years. The following are forcing credit institutions to align their business policy according to aspects of risk much more than just a few years ago: Globalisation in the financial world; increase in competition; introduction of the new Basle equity capital agreement (Basel II); minimum requirements for credit institutions' lending business (MaK); cancellation guarantor's liability for savings banks; danger of so-called cluster risks for credit institutions with limited marketing areas; comparatively higher margins in brokerage than in credit business; not least the listed banks' stricter requirements for market capitalisation and return on equity. Thus, instead of a credit policy aimed at increasing the volume of credit granted, increasingly it is directed toward yield appropriate to the risk. Credit institution requirements regarding scope, transparency and informative value of reporting, as well as the provision of collateral by credit applicant have grown accordingly.

All these developments in the banking industry have indirect effects on small business credit sourcing. Thus in recent years borrowing has grown harder overall for small businesses even if a certain easing trend was evident for medium-sized enterprises in 2005. The smaller and newer the companies, the greater these difficulties. According to small businesses, the main reasons for the worsening of borrowing from their point of view are credit institutions requiring more collateral and assessing existing collateral more conservatively. In addition, they find that the institutions increasingly insist on the disclosure of business figures and strategies. Institutions endeavour to limit their risk by demanding more collateral for small and new companies in particular. If the right amount and quality of collateral cannot be provided, institutions are more likely to turn down the application than before. Small companies and company promoters are not only faced with tiering of the loan terms, companies with greater creditworthiness pay lower rates of interest than those with less creditworthiness, now also being applied by the KfW Mittelstandsbank, (German SME Reconstruction Loan Corporation), but with their access to credit often being blocked. These trends towards credit rationing hide the danger of less investment activity amongst the companies concerned. Provided that these investment projects are appropriate at both microeconomic and macroeconomic level, the altered behaviour of many credit institutions, reduction of their own risk through collateral and avoidance of risk through partial or complete credit rationing, are a less than optimum solution both for companies wishing to invest and the macroeconomic situation.

Theoretical Explanation of Credit Rationing

In financing theory, the phenomenon of credit rationing describes the situation where companies' demand for credit outstrips supply. Contrary to the assumptions in neoclassical theory, in this situation price does not ensure complete balancing of credit supply and demand. Lenders are limiting supply in the face of demand. The result is a surplus in demand that is not being met. This also applies to credit applicants willing to pay higher interest rates.

Default risk

Credit relations are characterised by the lender not knowing the borrower's default risk before and during the credit allocation and only having limited means of monitoring and controlling the debtor's development and behaviour. In order to assess the default risk with the aim of avoiding or reducing default costs, the creditor requires information about the quality of the debtor's repayment undertaking, about his current and future ability to meet the agreed payments. However, only the debtor himself has this information, insofar as can be judged today. Not only does he commonly know more about his investment project than the creditor, but he also knows his future scope and intentions better than the lender. In economic theory this phenomenon of differing availability chronologically or contentwise of pertinent information observable in actual fact is termed information asymmetry. The better informed borrower can use advantages in information for his own benefit, i.e. behave opportunistically.

Credit rationing

A lender can limit the potential damage from credit default and protect himself against opportunistic behaviour by the borrower by either granting a smaller loan than requested (partial credit rationing) or no loan at all (total credit rationing). From the perspective of an individual lender this behaviour is rational because he increases the possibility of both the running interest payment and repayment by using the credit volume alongside the interest rate to control the anticipated success.

Transaction costs

So-called transaction costs play an important role in addition to default risks for the materialisation and contractual elaboration of credit relations. In economic theory these refer to the information and communication costs arising during the initiation, conclusion, control and adjustment of agreements and which control economic service relations. A whole series of transaction costs arise for the lender before, during and after concluding a credit agreement. These include, for example, information and inspection expenses for assessing creditworthiness, credit decision and contract conclusion costs, as well as credit monitoring costs.

These transaction costs, if regarded as high compared with the credit volume requested, create an additional incentive to ration credit for a lender wishing to maximise the anticipated profit contribution per loan fraught with risk. For example, this has an effect on the financing of start-up companies where the transaction costs of reducing information asymmetry are particularly high due to the absence of past figures and/or difficult assessment of the market chances of innovative products and services.

Collateral as a pivotal market mechanism for reducing credit rationing trends

The market has developed various mechanisms capable of reducing and, ideally, completely eliminating the risks and problems inherent in credit relations. Collateral is the most important of these mechanisms. The main functions of collateral are to restrict borrowers' freedom of action, to reduce the lender's need for and cost of information and to redistribute credit risk. Thus, collateral is suitable for the lender to limit default risk and so increase the anticipated value of a loan (probability of interest and redemption payment multiplied by the credit volume). On the one hand, the provision of appropriately valuable securities reduces the cost of the creditworthiness check before the credit relations arise and on the other hand limits transaction costs during credit relations. However, many company promoters and SMEs do not have sufficient valuable securities and are faced with the problem of access to credit or credit rationing.

Guarantee Banks as providers of sureties and guarantees

Some fifty years ago Guarantee Banks (called credit guarantee societies at the time) were created as self-help institutions in the economy to help overcome the problem of guarantees. Their instruments for assistance comprise sureties and equity guarantees.

Guarantee Banks' aims and organisation

■ The primary objective of Guarantee Banks in Germany is to support company promoters and small and medium-sized enterprises with credit and equity financing. The realisation of economically appropriate and promising investment projects ought not fail because the investors have insufficient collateral for borrowing.

■ According to their legal status within the meaning of § 1 of the Banking Act, Guarantee Banks are credit institutions and must comply with the associated stipulations in their structure, organisation and business regulations. In addition, what characterises the structure of the Guarantee Bank is its organisation as a self-help institution for SMEs. Their sponsorship is taken on essentially by professional economic organisations, credit institutions and insurance companies. Guarantee Banks are economically and legally independent in the various German Federal States. They do not compete with one another and limit their activities to SMEs in their particular State. For partly historical and partly political reasons, they are organised differently and vary for instance in company and organisational structure.

■ Collateralisation of Guarantee Banks is based mainly on counter sureties and counter guarantees from the Federal Government and the particular State. So defaults in the context of granting sureties and guarantees must only be borne partly by the Guarantee Banks themselves. Currently the Guarantee Banks' share of default risks for sureties in the old Federal States amounts to 35% (new States 20%). The remaining 65% (80%) of the default risk is covered by public institutions with the Federal Government taking on 60% and the particular Federal State 40% of the counter surety. Where guarantees are concerned, in the old Federal States the public authorities' counter guarantee share is somewhat higher at 70% than for sureties. There are no differences between sureties and guarantees in the new Federal States at a counter surety and counter guarantee share of 80% in each case.

Services offered by Guarantee Banks

■ Guarantee Banks take on securities to collateralise loans. Thus they permit companies requesting credit to obtain a loan from their own bank. No payments in cash are made directly to the applicant company, default liability to the credit institution is taken on instead. The credit institution's risk is reduced by this assumption of liability , so that a company can be given loans which would not have got one without the security. Guarantee Banks' collateralisation function when taking on guarantees works similarly. Here the Guarantee Bank takes on up to 80% of the default risk of investments by private equity investment companies which these make in SMEs.

■ A pre-condition for the Guarantee Banks taking on a security or a guarantee is that the project is shown to be economically appropriate and promising. In addition, the applicant company must provide proof of an orderly operational situation. The Guarantee Banks subject the start-up and investment plan concerned to an additional basic examination after the principal bank to ensure that these requirements are met. Here assessment of the technical, entrepreneurial and personal qualifications of the particular borrower, as well as the financing structure and the turnover and profit expectations of the project for financing play a pivotal role. The particular project is examined in close cooperation with chambers and associations along with voluntary collaborators from employers' organisations and the banking industry. In addition, Guarantee Banks offer applicant companies consultancy services with regard to company financing.

■ The focus of Guarantee Banks' activities is granting indemnity bonds. In addition to the standard indemnity bonds, many

C. Sureties and guarantees as instruments for financing SMEs

Federal States have modified forms of surety such as the “surety without a bank”. With these new products Guarantee Banks aim to provide company promoters and small businesses in particular whose financing through loans requirement is small with access to credit access and to speed up the application procedure.

- The development assistance association of development loans and default sureties represents an additional hedging instrument developed in recent years.
- In some Federal States, Guarantee Banks provide specific consultancy services. For example, Baden-Württemberg has a check-up programme aimed specifically at company promoters and intended to identify possible weak spots in a company early in its development and to eliminate them. Newly developed coaching programmes have the same objective within the framework of which the company promoter is attended and advised by a coach during the first year in business.
- Since the early 70s guarantees to equity investment companies are part of most Guarantee Banks’ basic programme, in addition to modified indemnity bonds. This is to make it possible for SMEs to borrow shares in capital and to assist in reducing the lack of equity in German SMEs.

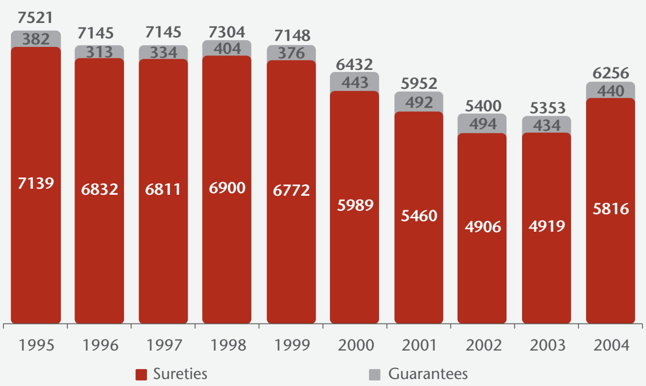
Statistics on sureties and guarantees

New approvals of sureties and guarantees

■ The development activity of German Guarantee Banks is closely linked to economic development and demand for company loans and investment. The period from 1995 to 1999 was characterised by consistently high approval activity by the German Guarantee Banks. Over this period German Guarantee Banks gave more than 7,000 approvals annually for securities and guarantees. Since 2000 a reduction in the number of approvals was evident caused by demand. The fundamental reasons for this were the reduced willingness to invest in SMEs and a notable decrease in the driving force of business start-up. From 2003 to 2004, Guarantee Banks' development activity again revived strongly (cf. Graph 1). This trend continued in the first half of 2005, the number of approvals rising by 14% compared with the same period in the previous year.

■ In 2004, about 6,300 sureties and guarantees of a security and guarantee volume of almost 1.5 billion Euro were granted. The investments made possible by the Guarantee Banks totalled a volume of some 3 billion Euro (cf. Graphs 2 & 3 on page 16).

Graph 1: Number of sureties and guarantees approved between 1995 and 2004



Source: German Guarantee Banks, calculations by Inmit

Graph 2: Volume of sureties and guarantees approved in Germany in 2004 (millions of Euro)

*Includes sureties approved by Germany's Social Economic Guarantee Bank (Bürgschaftsbank für Sozialwirtschaft)

Source: German Guarantee Banks, calculations by Inmit

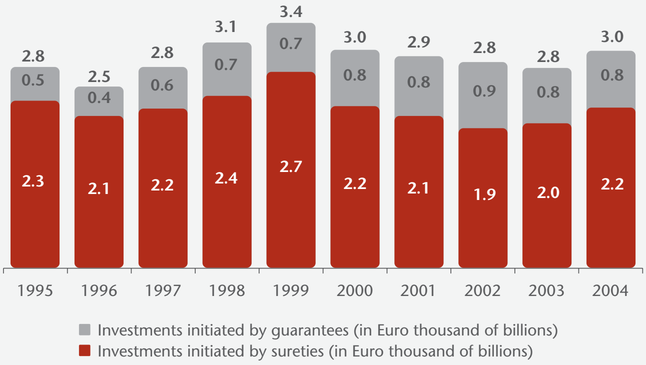
C. Sureties and guarantees as instruments for financing SMEs

■ From 1995 to 2004, almost a third of the sureties were granted to companies in the manufacturing sector. Service sector companies obtained approximately 30% of security approvals (cf. Graph 4), with the promising area of business-related services the strongest sub-sector.

■ Company promotions and company takeovers are the emphasis of German Guarantee Banks' development activity. In 2004, slightly more than half of all approvals went to these two occasions of assistance (cf. Graph 5 on page 17).

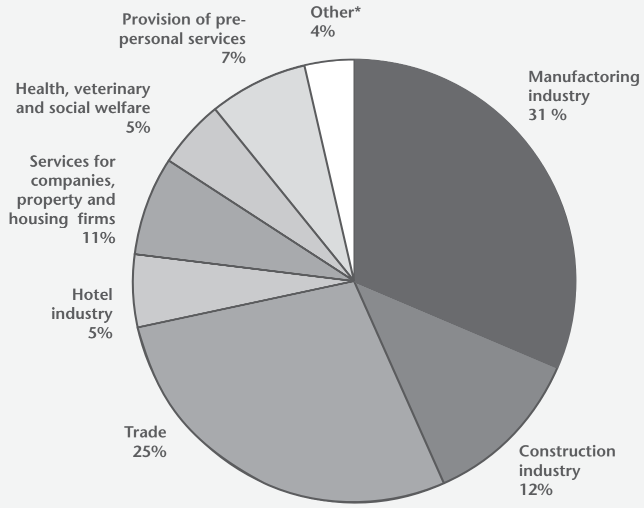
■ German Guarantee Banks guarantee both investment and working capital credit. From 1995 to 2004, almost three quarters of surety volume was allotted to credits for investment financing. Working capital credit also provoke capital effect which only develops indirectly. They are often used for so-called residual financing for investments. Without working capital credit to cover this briefly raised financing requirement, the success of the entire project would be in question.

Graph 3: Volume of investments made possible by sureties and guarantees between 1995 and 2004 (billions of Euro)



Source: German Guarantee Banks, calculations by Inmit

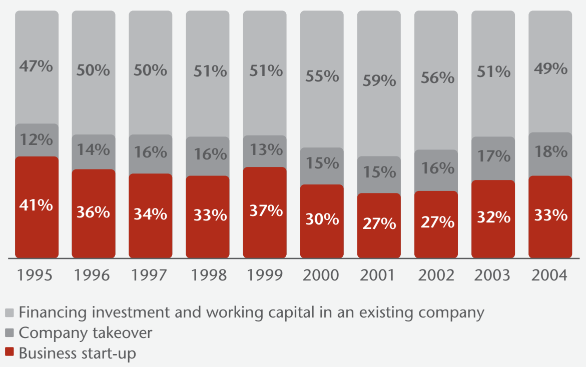
Graph 4: Volume of sureties per sector of economic activity (average share of individual economic sectors between 1995 and 2004)



* Other: Agriculture, forestry, fisheries, fish farming, mining and extraction of stones and soil, supply of energy and water, transport and transfer of information, credit and insurance organisations, education and training

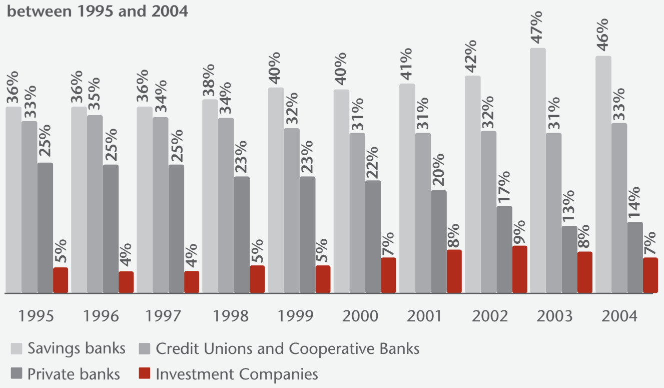
Source: German Guarantee Banks, calculations by Inmit

Graph 5: Type of business projects collateralised by sureties and guarantees (% of total sureties and guarantees)



Source: German Guarantee Banks, calculations by Inmit

Graph 6: Share of financing partners approving sureties and guarantees between 1995 and 2004



Source: German Guarantee Banks, calculations by Inmit

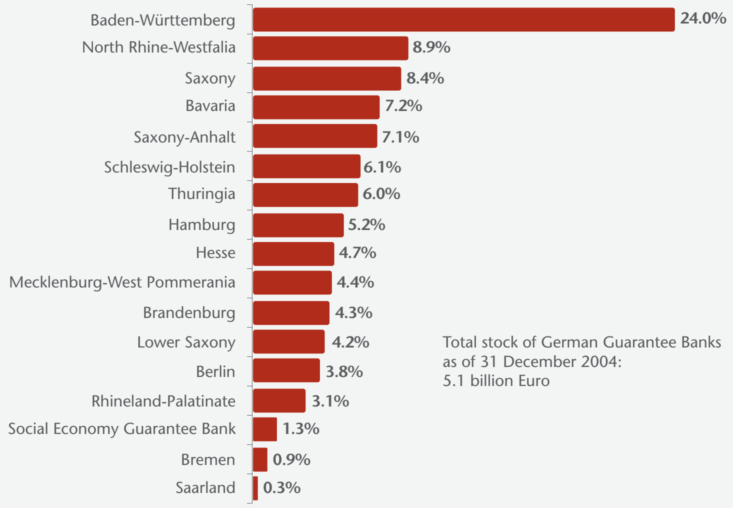
■ Procedural innovations: The 'surety without a bank' (BoB – 'Bürgschaft ohne Bank' in German) programme available for some years is directed chiefly at company promoters experiencing difficulties establishing contact with a principal bank. The Guarantee Bank checks the start-up project for acceptability and facilitates access by the promoters to credit financing by a provisional surety approval which they can present to a possible principal bank. In 2004, a total of thirteen Guarantee Banks approved sureties under BoB programmes. About 8% of approvals were allotted to these compared with the overall approval activity by German Guarantee Banks. The Guarantee Banks in the new Federal States in particular grant an above-average number of sureties to company promoters this way without involving the principal bank in the run-up to the surety (22% of all approvals).

■ Product innovation: In recent years, some Guarantee Banks have developed financing packages with their own State's development institutions which serve to improve the basis for financing company promoters and SMEs in the growth phase. Products like these where a surety is obligatory, can be found for example, in Baden-Württemberg (Start-up Assistance) and Hamburg (BG Start). About 14% of all approvals in 2004 were allotted to these surety programmes.

■ Guarantee Banks cooperate with all groups in the banking industry. Savings banks represented 46% of the total number of sureties and guarantees granted in 2004, credit unions and cooperative banks 33% and private banks 14%. Compared with 1995, the savings bank sector has increased unit value by 10% while that of private banks fell by about 9% (cf. Graph 6). Guarantees for participations chiefly by medium-sized investment companies represented 7% of all approvals.

C. Sureties and guarantees as instruments for financing SMEs

Graph 7: Participating share of German Federal States in sureties and guarantees granted as of 31 December 2004



Source: German Guarantee Banks, calculations by Inmit

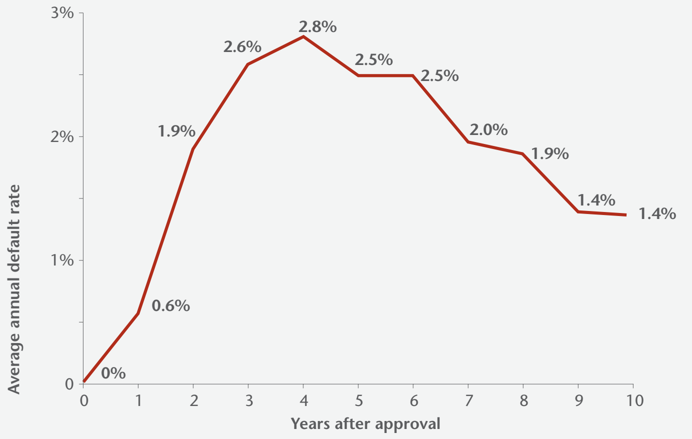
Baden-Württemberg and North Rhine-Westphalia Guarantee Banks with the largest stock of sureties

■ As of 31 December 2004, the total of sureties and guarantees made available by German Guarantee Banks amounted to some 5.1 billion Euro.

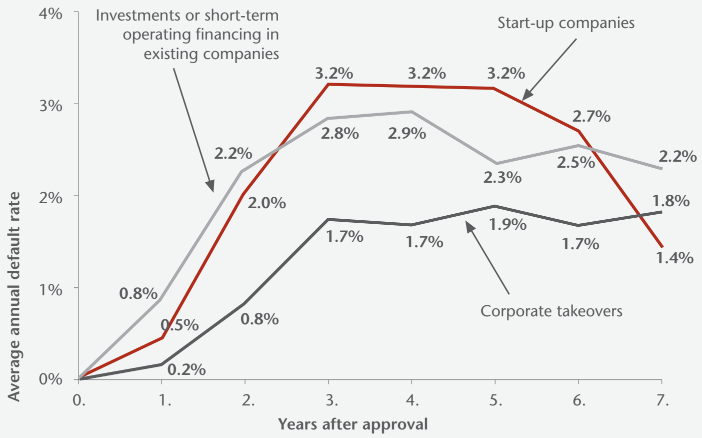
■ If the full extent of sureties and guarantees made available is used as an indication of the size of a Guarantee Bank, then the Baden-Württemberg Guarantee Bank occupies first place nationwide by far. The head office of the second-biggest Guarantee Bank is in North Rhine Westphalia (cf. Graph 7).

■ The smallest Guarantee Banks are located in the Saarland, Bremen and Rhineland-Palatinate. If the special form of the Guarantee Bank for the Social Economy operating nationwide is compared with the Guarantee Banks in the Länder (States) then this too must also be counted amongst the smaller Guarantee Banks where its total portfolio is concerned. Taken together, the Guarantee Institutions in Bremen, the Saarland, Rhineland-Palatinate and the Guarantee Bank for the Social Economy combine about 6% of all sureties and guarantees (cf. Graph 7).

Graph 8: Average annual default rate
(defaults for the years of approval between 1992 and 2003)



Graph 9: Average annual default rate in the first eight years
(defaults for the years of approval between 1995 and 2004)



Source: German Guarantee Banks, calculations by Inmit

Default payments and default quotas

■ In 2004, German Guarantee Banks made default payments to credit institutions totalling 252 million Euro. These default payments resulted from sureties and guarantees which were taken over in previous years and utilised in 2004.

■ To get an idea of how the default rates develop in the course of time after the year of approval, so-called year specific average annual default rates were calculated. This shows a typical pattern over the course of time. In the year of approval, there were virtually no defaults. In year one after approval about 0.6% and in year two 1.9% of the approved volume defaulted. Thereafter the year specific default rate kept rising, reaching its maximum at 2.8% of the particular volume in the fourth year after approval. From then onwards, the default rates decreased again continuously to about 1.4% in the tenth year after approval (cf. Graph 8).

■ Sureties and guarantees in the context of corporate takeovers almost continuously showed lower default rates than those for business starts (cf. Graph 9).

D. Beneficial micro- and macroeconomic effects of German Guarantee Banks' activities

The contribution Guarantee Banks make to financing company start-ups and SMEs leads to investments being realised which would otherwise not have been possible or not to this extent. These additional investments bring about change in other important macroeconomic aggregates, such as employment, growth and public income in the form of taxes and social security contributions. A macroeconomic model comprising several thousand equations was used to quantify the economic effects to do justice to the numerous correlations between the pertinent economic aggregates and the individual economic areas in the complexity of an economy based on the division of labour. Work with this model was made possible by co-operating with the Gesellschaft für Wirtschaftliche Structurforschung (Society for Structural Economic Research) in Osnabrück.

Apart from these directly quantifiable knock-on effects, the activities of German Guarantee Banks produce additional macro-economic benefits which cannot be quantified readily. These include, for example, the positive macroeconomic effects to increase company competitiveness, to ensure the corporate continuity desired by companies and SMEs within the framework of generational change taking place in SMEs or the contribution towards maintaining effective competition by assisting start-ups. While these rather qualitative beneficial effects cannot be expressed in monetary terms, their economic significance can be substantiated empirically. To provide empirical proof of these qualitative micro- and macroeconomic effects and to safeguard and to provide sector specific itemisation of the calculations using the macroeconomic model, two surveys were undertaken. On the one hand companies were interviewed which had obtained a surety or a guarantee from Guarantee Banks. On the other hand, private banks, savings banks, and institutions in the cooperative movement were questioned about the beneficial micro- and macroeconomic effects of Guarantee Banks to also include the financing partners' viewpoint with regard to the beneficial effects of German Guarantee Banks' activities.

Written survey of companies

- Period: 1 August to 21 October 2005
- Random sample: Layered selective procedure with regard to the structure of the companies' economic sectors and the extent of the surety and guarantee activities of the individual Federal States. 50% of the approvals in years 1998, 1999 and 2003 were interviewed. A total of 10,136 questionnaires were sent out to companies in all 16 Federal States, of which 9,510 to recipients of a guaranteed investment
- Return rate: A total of approx. 19% (i.e. 18% of surety recipients and 34% of guaranteed investment recipients)
- Representativeness: Considered relatively high with reference to regional and economic sector specific aspects.

The deviations in criterion distribution where sector and Federal State are concerned between the survey's random sample and the basic totality are comparatively small.

Features of the Companies surveyed

- The companies surveyed were mainly new. 67% of the companies were less than 10 years old.
- About 96% of the companies surveyed had an annual turnover of less than 10 million Euro and by EU definition came under small companies. 72.5% of the companies surveyed had an annual turnover of less than 2 million Euro and were thus ultra-small companies.
- About 90% of the individuals surveyed were personally in the process of being granted a surety or guaranteed investment.

Telephone survey of the financing partners:

- Period: 17 to 20 May 2005 (first survey) and 8 to 12 August 2005 (second survey)
- Choice of those questioned: Layered selective procedure relating to both the extent of the surety activity of the individual Federal States and the structure of the Guarantee Banks' financing partners.
- Random samples: 128 interviews in all 16 Federal States
- Average duration: 20 minutes
- Representativeness: Considered relatively high with reference to regional aspects and the proportion of various financing partners (savings banks, credit unions , cooperative credit societies, cooperative banks, private banks). The deviations in characteristic distribution regarding Federal State and type of financing partner are comparatively small between the survey random sample and the basic totality.

D. Beneficial micro- and macroeconomic effects of German Guarantee Banks' activities

I. Contribution to financing and investments

The corporate survey conducted in context of the study indicates that the granting of sureties contributes greatly to financing relations with a credit institution coming about. Thus 60% of the companies surveyed are of the opinion that they would have obtained no credit without the surety. 40% of the companies surveyed think they would still have received a loan despite the surety being turned down, but under conditions which would have been markedly less favourable to them. By comparison the interviews with the financing partners led to a different assessment: Only 5% of the company promoters would have got a loan despite the refusal of a surety, and that at conditions less favourable to them. For established companies, this share rose to some 18%, but was thus still far below the value of the companies' self-image. One can assume that credit institutions are better informed about their creditworthiness and allocation criteria and given sufficient transparency about their degree of performance than the borrowers and thus assess their creditworthiness more realistically than the borrowers themselves.

Risk reduction by sureties and guarantees influences loan decisions

If a borrower does not have the collateral needed to sufficiently increase the expectation value of repayment at a given risk from the lender's viewpoint, a financing relationship will not come about. If no alternative financing of the planned project is available either, this cannot be realised, even if it were appropriate from an operating and macroeconomic point of view. If a Guarantee Bank commits itself to take on part of the lender's losses in the event of the borrower's default, such an assumption of risk increases the lender's expectation value of the credit repayment for the lender. This considerably increases the probability that a financing relationship will come about.

Sureties improve the banks' yield risk situation

Institutionalised lenders are subject to regulatory framework conditions when providing loans. Thus banks are obliged to reserve equity capital of currently 8% overall for loans to companies. When assessing the appropriateness of own resources, a risk weighting of 0% can be attributed to loans whose repayment is owed by public authorities or is expressly guaranteed. Sureties from Guarantee Banks are appraised at a risk weighting of 20%, which means that credit institutions currently need only provide 1.6% equity capital for the part of loans guaranteed by Guarantee Banks. Collateralisation of a loan by Guarantee Banks thus leads to a reduction of the stipulated provision of security for equity capital to a fifth of the amount which must be kept in reserve as liable equity capital for non-guaranteed loans to companies. This has a positive effect on the yield risk situation in credit institutions. The equity capital made available due to the reduced regulatory obligation to provide security for own equity capital can be used for other investment projects and branches or to expand credit allocation. The results of the survey of financing partners confirm that in accordance with the credit institutions' effort to use the funds released after use at the highest possible return are also used to expand credit business. Anyhow, one third of those interviewed indicated that the reduced equity support linked to a security pledge has had an expansive influence on their credit allocation practice. Amongst other things, this leads to increased financing of corporate takeovers, SME investment projects and company promoters. In the future too, once Basle II comes into force, sureties will be taken particularly into account by the collateralised loan being allocated the surety's (lower) risk weighting since Guarantee Banks are recognised as providers of security. This means that as a rule (standard approach and IRB basis approach) the same risk weighting will be applied as up to now. Accordingly, under the new regulations also from 2007 onwards sureties will normally have a positive effect on credit institutions' equity lodgement.

In addition to the expansive effect Guarantee Banks' activities have on credit allocation, positive effects on the cost of credit allocation can arise. A lender compensates for the risk he takes on in a credit agreement by allowing for a corresponding risk premium into the interest rate demanded. The investor's risk is reduced by a loan being secured using a surety from the Guarantee Banks. Thus the risk premium allowed for could also be reduced accordingly. However, if the lender retains the original interest rate, he achieves an additional yield. This creates an added incentive to include the credit agreement. However, in future this incentive will lose some of its significance owing to credit institutions' obligation to price credit in line with risk.

Guarantee Banks' checking of investment projects by contributes to lowering risk

Guarantee banks carry out a thorough examination of the project to be financed and the applicant company. This is primarily to reduce the information asymmetry between the borrower and the Guarantee Bank, thus to limit the Guarantee Banks' risk. This examination obviously also has positive external effects on reducing information asymmetry between the borrower and the credit institution. 43% of the financing institutions surveyed agree strongly or rather strongly with the statement that the Guarantee Bank's appraisal of the project provides them with information about the borrower and his investment project not yet known. This informational disadvantage the credit institution has compared with the borrower is reduced and likewise the risk arising from the information asymmetry.

Influence sureties and guarantees have on the realisation of investments

The survey undertaken confirmed that financing relations coming into being had a direct effect on the realisation of investments by individual companies.

- Almost two thirds of the companies surveyed declared that their investment project would not have materialised in full if the surety or the guaranteed investment had not been granted. This clear majority of instances proves that partial risk assumption by Guarantee Banks only makes the total investment possible.
- About 22% of companies would still have carried out the investment project, but to a lesser extent. Thus the additional volume invested is due to the Guarantee Banks' commitment. A further 5% of companies declare that they would still have carried out the investment for the amount originally planned, but at a later stage.
- Only in 10% of the companies surveyed would the surety or the guaranteed investment not being granted have had no effect on the volume or time of the investment.

II. Quantitative effects on pivotal economic aggregates

By taking on credit default sureties and investment guarantees, Guarantee Banks make additional investments possible, the financing of which not have come about or not for this amount without these security instruments. In turn these investments have strong direct and indirect effects on other economic aggregates in an economy with strongly integrated sectors for quite a period. For example, an investment made at point in time T will have an effect on macroeconomic aggregates like employment and tax returns for a period of T + N years. These consequential effects of additional investments made possible by default sureties or investment guarantees (e.g. gross domestic product, net financial investment, employment, unemployment) will be quantified below for various macroeconomic aggregates. For this a macroeconomic forecast model (INFORGE) developed by the University of Osnabrück[1] is utilised which can also be used for ex-post simulations of complex macroeconomic effects after a number of technical modifications. The actual values of macroeconomic aggregates are used as a point of reference.

Basic scenarios

Computer-assisted models capable of rapidly processing the large quantities are used to analyse macroeconomic measures and thus help to analyse complex circumstances within a consistent framework. Normally these models use scenario technology where two basic scenarios are described quantitatively and compared. A basic scenario describing development without the measures or investigation, without sureties and guarantees, and a policy scenario (second basic scenario) distinguished by these measures. The differences between the results of the two scenario-specific model calculations are attributed to the introduction of the policy measures, here the Guarantee Banks' activities.

Input data

The INFORGE macroeconomic model contains actual economic values up to 2002. So as to record and quantify the medium and long-term macroeconomic effects Guarantee Banks' activities have, the years 1996 to 2002 were selected as the investigation period. The economic sector specific approval and default data for 1996 to 2002 collected from the individual Guarantee Banks served as data input for the macroeconomic model. Structural data from the written company surveys and telephone interviews with financing partners was used in addition.

Scenarios for quantifying investments provoked by sureties and guarantees

It is of crucial importance to know what proportion of investments provoked is due to Guarantee Banks' activities so as to determine the extent of macroeconomic effects. Since this conclusive question cannot be answered free of doubt because of its hypothetical nature, the following three scenarios were calculated:

- In the first extreme case, investments provoked are attributed in full to sureties and guarantees. This scenario (Maximum Scenario) is based on a bottle neck orientated viewpoint of investment financing comprising several financing elements and which would not come into being in full if such an important element as a surety or guarantee were missing. Thus it is assumed that all investments provoked by the granting of a surety and guarantee would not have been undertaken had the surety or guarantee not been granted.
- In the second extreme case it is assumed that the investments would merely turn out higher by the volume of the surety and the guarantee. In this Minimum Scenario only 34% of investments are allocated to the activities of the German Guarantee Banks. This must be viewed as absolute lower limit since the corporate sector has at any event invested the amount of the surety and guarantee volume granted.
- In the third case which provides the most realistic and plausible version, due to the empirical data, it is assumed that 75% of all investments are attributable to sureties and investment guarantees. Thus they represent additional investments compared with the reference

[1] The simulation calculations were carried out by the Gesellschaft für Wirtschaftliche Structurforschung (GWS- Society for Structural Economic Research) in Osnabrück with input data prepared by Inmit.

development (economy without Guarantee Banks). This scenario is based on the results of empirical data collected because according to this 75% of the investment volume, some 2.3 billion Euro annually, would not have come about without the existence of Guarantee Banks.

Variation in the continuity of sureties and guarantees

Two calculation variants were used to achieve a methodically differentiated understanding of the macroeconomic effects of sureties and guarantees.

- **One-off granting of sureties and guarantees (investment and default stimuli in a single surety year):**

This simulation calculation examines the effects sureties and guarantees granted in 1996 alone had on the German economy between 1996 and 2002. This variant examines in isolation the effects of a single surety and guarantee year on macroeconomic aggregates both in the year of approval and the six following years. It is thus assumed that the Guarantee Banks did not approve any other sureties or guarantees either before or after 1996, so that in this variant both the positive and negative effects (defaults) arising are excluded.

- **Continuous granting of sureties and guarantees (permanent investment and default stimuli):**

In this second realistic variant not only the approvals in 1996 but those for the following years are taken into account. This answers the question as to what net effects resulted from the positive effects (investment stimuli of sureties and guarantees) and the negative effects (default-related payments) of Guarantee Banks' activities in the years between 1996 and 2002.

Looked at overall the research design is as follows: All simulation calculations are undertaken for both basic scenarios. The basic effects of Guarantee Banks on the relevant economic aggregates are calculated as the difference between the calculation values for an economy with and without Guarantee Banks. When quantifying these macroeconomic effects the empirically based, realistic variant is used, that 75% of total investments can be attributed to the sureties and guarantees approved in this context. To test the robustness of the calculation results, additional simulation calculations are undertaken using the maximum and minimum scenarios for the proportion of investments attributable to the Guarantee Banks. A further model variation differentiates between the hypothetical case of approval of a surety and guarantee approved for an approval year looked at in isolation, and the realistic case of continuous approval of sureties and guarantees.

Effects of a single surety and guarantee year

In this simulation calculation the effect sureties and guarantees alone approved in 1996 had on the German economy between 1996 and 2002 was examined (cf. Graph 10). Compared to the situation where there were no Guarantee Banks:

- Gross domestic product was 3.6 billion Euro higher across the period 1996 – 2002 due to Guarantee Banks' activities;
- German exports rose overall by 260 million Euro;
- The number of those in work rose by 23,000 between 1996 and 2002;
- The number of unemployed fell by 16,000 between 1996 and 2002;
- Corporate sector social security contributions fell by 240 million Euro between 1996 and 2002;
- Tax on goods rose by 360 million Euro and income and wealth tax by 470 million Euro between 1996 and 2002;

Public net financial investment increased by 570 million Euro between 1996 and 2002.

Effects of the continuous granting of sureties and guarantees

This second simulation calculation (cf. Graph 11) examined the effects the sureties and guarantees granted had on the German economy between 1996 and 2002. Compared to the situation where there were no Guarantee Banks:

- The gross domestic product increased annually on average by 3.2 billion Euro ;
- The number of those in work rose by 12,900 ;
- The number of unemployed decreased annually on average by about 9,100 ;
- Social security contributions by the corporate sector decreased by an annual average of 60 million Euro in the long term;
- Tax on goods rose by 330 million Euro on average and income and wealth tax by an average 390 million Euro;
- Public net financial investment that is the difference between overall public income and expenditure, rose by approx. 670 million Euro on average each year.

These results are based in each case on the realistic scenario, i.e. that 75% of the additional investments were attributed to the activities of Guarantee Banks. To back these results, additional calculations were undertaken using the highest (Maximum Scenario: 100%) and the lowest unit value (Minimum Scenario: 34%) in the additional investments which can be attributed to the Guarantee Banks. Obviously these variants lead to stronger (Maximum Scenario) or weaker (Minimum Scenario) effects on the pertinent macroeconomic aggregates.

Worthy of note, however, is the finding that the prognostication of all effects remains virtually unchanged throughout. This indicates that Guarantee Banks' activities have a positive effect on GDP growth and public net financial investment, even given the unrealistic and unfavourable assumption that investments will only increase only by the amount of the volume of sureties and guarantees. Looked at overall, these calculation results with a very robust effective direction prove the considerable macroeconomic effects created by granting sureties and guarantees. Accordingly, a complete freeze on the Guarantee Bank system would have a negative effect on macroeconomic development. The permanent positively acting investment effects would gradually decrease, until they were hardly noticeable, while default payments would continue to arise which would have to be borne pro rata by the State and would have corresponding negative effects on macroeconomic aggregates.

Graph 10: Effect of a single year of approval (1996)

Variables	Plausible and realistic scenario Description	1996	1997	1998	1999	2000	2001	2002	Total
	Components of Gross Domestic Product Constant Prices in EURbn, Absolute Deviations								
BIPR	Gross domestic product	2.82	0.31	0.15	0.24	0.28	-0.07	-0.14	3.60
CBIPRH	Consumption of private households and companies	1.18	0.61	0.34	0.34	0.36	0.06	0.00	2.89
CSVR	Public consumption	0.34	-0.04	-0.06	-0.05	-0.05	-0.09	-0.09	-0.03
CSLR	Government services	0.05	-0.03	0.02	0.02	0.02	-0.01	-0.01	0.06
CSR	Public consumption expenditure	0.39	-0.07	-0.04	-0.02	-0.03	-0.09	-0.10	0.03
IAR	Equipment investment	2.00	-0.20	-0.13	-0.06	-0.03	-0.03	-0.02	1.54
EXBIPR	Exports	0.18	0.00	0.02	0.04	0.04	0.00	-0.01	0.26
IMBIPR	Imports	1.02	0.07	0.00	0.03	0.06	0.00	-0.02	1.17
	Government Budget Current Prices in EURbn, Absolute Deviations								
FSNS	**Net financial investment**	**0.70**	**-0.11**	**-0.13**	**0.03**	**0.09**	**0.00**	**0.00**	**0.57**
GMSLNS	Monetary services	-0.24	0.04	-0.03	-0.04	-0.02	0.01	0.02	-0.27
GUETAXNS	Tax on goods	0.18	0.08	0.03	0.03	0.04	0.01	0.00	0.36
EEVTAXNS	Income and wealth tax	0.30	0.08	0.02	0.03	0.05	0.00	-0.01	0.47
	Labour Market and Redistribution Absolute Deviations								
SOZAGN	Social-security contributions in billion Euro	0.29	-0.23	-0.20	-0.06	0.00	-0.03	-0.01	-0.24
BAS	Employed person per 1000	26	-3	2	2	1	-2	-3	23
EL	Unemployed per 1000	-13	0	-2	-2	-1	0	1	-16

Sources: Calculations by GWS based on input data supplied by Inmit.

Explanation of results: On balance, GDP is 3.6 billon Euro higher due to Guarantee Banks' activities than it would have been had they not existed. Public net financial investment from which default payments have already been deducted improved by 570 million Euro. Employment rose by 23,000 and the number of jobless fell by 16,000.

Graph 11: Effect of continuous sureties and guarantees between 1996 to 2002

Variables	Plausible and realistic scenario Description	1996	1997	1998	1999	2000	2001	2002	Average Value
	Components of Gross Domestic Product Constant Prices in EURbn, Absolute Deviations								
BIPR	Gross domestic product	3.35	3.69	3.74	3.64	2.79	2.64	2.58	3.20
CBIPRH	Consumption of private households and companies	2.45	2.82	2.90	2.83	2.51	2.35	2.30	2.59
CSVR	Public consumption	-0.31	-0.31	-0.32	-0.34	-0.48	-0.50	-0.49	-0.39
CSLR	Government services	0.15	0.12	0.09	0.07	0.04	0.04	0.03	0.08
CSR	Public consumption expenditure	-0.16	-0.18	-0.23	-0.28	-0.44	-0.46	-0.46	-0.31
IAR	Equipment investment	1.98	1.99	2.18	2.25	1.76	1.76	1.76	1.96
EXBIPR	Exports	0.33	0.35	0.33	0.30	0.23	0.23	0.23	0.28
IMBIPR	Imports	1.16	1.35	1.49	1.52	1.27	1.24	1.24	1.32
	Government Budget Current Prices in EURbn, Absolute Deviations								
FSNS	**Net financial investment**	**0.52**	**0.69**	**0.71**	**0.74**	**0.63**	**0.67**	**0.76**	**0.67**
GMSLNS	Monetary services	-0.14	-0.18	-0.18	-0.19	-0.13	-0.14	-0.13	-0.16
GUETAXNS	Tax on goods	0.26	0.34	0.37	0.38	0.34	0.32	0.32	0.33
EEVTAXNS	Income and wealth tax	0.36	0.41	0.44	0.45	0.38	0.36	0.36	0.39
	Labour Market and Redistribution Absolute Deviations								
SOZAGN	Social-security contributions in billion Euro	0.08	0.03	-0.04	-0.08	-0.20	-0.15	-0.08	-0.06
BAS	Employed person per 1000	15	18	17	16	8	8	7	13
EL	Unemployed per 1000	-8	-10	-11	-11	-8	-8	-8	-9

Sources: Calculations by GWS based on input data supplied by Inmit.

Explanation of results: In 1996, GDP was 3.35 billion Euro higher due to Guarantee Banks' activities than it would have been had they not existed. Public net financial investment from which default payments have already been deducted improved by 520 million Euro. Some Employment rose by15,000, the number of jobless fell by 8,000.

III. Lasting contribution to the maintenance of workable competition

One of the most important macroeconomic effects of company promoters is their contribution to maintaining and improving competition. As a rule, however, company promoters are even less able than established companies to provide credit institutions with the required amount of valuable securities and in addition, cannot provide a successful company track record backed-up by balance sheets and the like.

In this context, German Guarantee Banks make a valuable contribution to realising business start-ups.

- Between 2,000 and 3,000 independent primary business start-ups annually secure their business start-up financing with the help of Guarantee Banks operate in the market place. The Guarantee Banks' financing partners confirm this particular contribution by Guarantee Banks to bringing business start-ups into being. 82% of the financing partners surveyed agree strongly or rather strongly with the statement that sureties are the instruments best suited to secure start-up financing. Likewise, the statement that Guarantee Bank products contribute with their products to an increase in the number of business start-ups meet with broad support (76% strongly or rather strongly).
- Sureties and investment guarantees rank highly in realising start-up projects. According to the young entrepreneurs surveyed, 60% of business start-ups and even 72% of the investment volumes concerned would not have been undertaken had a surety not been granted. The corresponding unit values for guaranteed investments amount to 56% (number) and 47% (investment volume).
- The contribution German Guarantee Banks make this way to maintaining efficient competition is characterised by a high degree of sustainability:
a.) Guarantee Banks make it possible for numerous start-ups to overcome obstacles to market entry not only non-recurringly but continuously in lapse of time .
b.) The business start-ups provided with sureties or guarantees survive the natural selection process in the market place especially often. Thus the specific default rate for approval year 1995 is 10% of the volume approved after five years and 17% after ten years. This rate can be classified as low compared with the relevant studies taking the survival of newly founded companies as their theme.
- This sustainability effect with a view to a higher survival rate is also appreciated by the majority of credit institutions acting as financing partners for sureties. 60% of the financing partners surveyed strongly or rather strongly agree with the statement that Guarantee Banks' products contribute to a higher likelihood of survival of start-ups.
- The higher survival rate of business start-ups provided with sureties or guarantees could also be attributed to Guarantee Banks carrying out an additional, intensive examination of start-up projects, obviously characterised by considerable professional competence. 88% of the financing partners surveyed strongly or rather strongly agreed with the statement that Guarantee Banks' examination is characterised by considerable professional competence. In addition it must be assumed that other Guarantee Banks' activities such as the check-up programmes for company promoters where weak spots in a company still at the early stage of its development also contribute to the likelihood of survival of business start-ups being sustainably increased.

IV. Contribution to the managing structural change

Existing and new companies in particular accelerate structural change and make an important contribution to the establishment and development of a services and information society through innovative products and services. Normally ambitious innovation projects involve considerable financial expenditure for research and development or the acquisition of technological skills, e.g. patents. Such expenditure considerably exceeds the self-financing capacity of most companies and business start-ups. Against this background innovative companies are still much more dependent than others on external sources of financing, in particular on bank loans and investment capital. Lenders however are faced with the problem that innovative business ideas lack reference data, and the market and development risks are therefore judged correspondingly high. As a result, in this field problems with collateral are particularly pertinent, as already mentioned.

In so far as Guarantee Banks make it possible with their assistance instruments for innovative investment projects to be realised to an appreciable degree, this should be considered as a contribution by the Guarantee Banks to managing structural change. This is why approvals for 1998, 1999 and 2003 were examined to see if and to what extent the companies assisted are from the fields of state-of-the-art technology, top quality technology and knowledge-intensive services.[2]

- Of the service companies surveyed which have been provided with guarantees or sureties, knowledge-intensive services accounted for 69% of guarantees and 47% of sureties. In the manufacturing sector, the corresponding percentages of companies assisted in the top quality technology field are 59% and 32% respectively.
- Innovative business start-ups play a special role in managing structural change. The business start-ups assisted by guarantees contribute considerably to structural change in the economy and society. Of the business start-ups in the service sector assisted by guarantees, 87% (sureties 36%) fall under knowledge-intensive services. The corresponding proportions in the manufacturing sector attributable top quality technologies are guarantees 62% and sureties 28%.

[2] The economic sectors attributed to state-of-the-art technologies, top quality technologies and knowledge-intensive services are listed in BMBF [Hrsg.] (2005): Zur technologischen Leistungsfähigkeit Deutschlands 2005 (German technological efficiency), Berlin, page 92 onwards.

V. Contribution to preserving corporate continuity within the framework of generational change in SMEs

Generational change is pending in the next few years in many SMEs in industry, crafts, commerce, services and the liberal professions. The management of succession involves responsibility for thousands of jobs. Thus the succession question has to be solved in about 71,000 companies annually. Its pertinence for the labour market is evident in almost 700,000 jobs affected by these company successions pending annually. Therefore company succession represents an important challenge for Germany as a scientific location. Jobs and value-added contributions to the overall economy are lost at least temporarily for each company which closes due to the lack of a successor. If a company is sold to another company for lack of a successor, concentration in that particular sector is increased.

Empirical studies have found that the proportion of companies not handed on within families will continue to increase in the future. A particularly high capital requirement arises in these company handovers outside a family, mostly for the purchase of a company and/or for follow-up investments. Particular financing problems occur in successions outside families, (MBO, MBI) chiefly due to insufficient own resources and collateral. Against this background, Guarantee Banks have the important role for medium-sized business of supporting generational change in companies.

- Guarantee banks fulfil this function by making about 1,000 company takeovers possible annually.
- The company survey reveals that in 90% of the instances assisted by Guarantee Banks, the company take-over was undertaken using a succession solution outside the family (MBI: 49%; MBO: 42%).
- 78% of company takeovers would not have been undertaken had a surety not been granted. This involved 79% of the investment volume realised within company take-overs where a security was an integral part of the financing package. The corresponding values for investment guarantee participations are 73% (number) and 72% (volume).
- The survey of financing partners also shows the importance of the surety hedging tool for company takeovers. 74% of those surveyed strongly or rather strongly agreed that sureties were the instruments best suited to collateralise the financing of company takeovers.
- Per successful solution 4.1 new jobs were created and 3.5 jobs saved in the framework of company takeovers supported by Guarantee Banks.

VI. Job effects at plant level

The macroeconomic effects described are based on complex and in part reverse job effects at plant level. The simple addition of the positive **micro**economic effects caused by sureties and guarantees would lead to a huge overestimate of the **macro**economic employment effects. For example, company A is granted a surety for an investment, creates a new job and fills this with one employee, who was enticed away from a position not under notice at Company B. If Company B does not fill the position again within the framework of a savings plan, on balance no change occurs in the labour market from a macroeconomic viewpoint. Regardless of this, the job effects caused in companies by granting sureties and guarantees are of scientific interest, at least at microeconomic level. The following results are based on the written survey of companies who received a surety or guarantee from a German Guarantee Bank in 1998, 1999 or 2003.

- About 60% of the companies responding have created jobs by the granting of sureties and investment guarantees. In addition, one in 4 surety recipients was able to maintain existing due to Guarantee Banks' activities.
- As a direct result of the surety or guarantee, the companies assisted have on average created about 5 new jobs and not cut back 2.5 jobs.
- Companies in the manufacturing sector and corporate services field created an above-average 5.8 and 5.4 respectively. By comparison, an above-average number of jobs (3.7) were not cut back as a direct result of a surety or investment guarantee being granted.

VII. Contribution to improving competitiveness at plant level

The globalisation of markets in particular leads to increased competition and to ever fiercer competition in prices and conditions of business. SMEs are increasingly exposed to this directly or indirectly. Directly if they themselves are active internationally or experience foreign competition on the home market, indirectly if their clients active internationally try to pass part of their competitive pressure on to their medium-sized suppliers and service providers. This is why continuous improvement in competitiveness is absolutely necessary too for SMEs.

The products and services of Guarantee Banks are aimed at strengthening the competitiveness of their SME clients, by guaranteeing loans for investment projects, the object of which are business and plant expansions, plant relocations or rationalisation measures. Working capital is also secured to ensure liquidity. This is used for advance financing of orders and outstanding claims, to exploit trade discounts, to finance goods and stock warehouses, or provide a supply of liquidity to finance daily business. Guarantee Banks secure company investments in SMEs by private investment companies in the context of investment financing. The investment capital strengthens the companies' equity base, enabling them to carry out important investment projects.

The empirical surveys conducted in the framework of the present study provide a series of indications that companies assisted by the projects made possible by the investment, working capital and equity financing secured by the Guarantee Banks actually strengthen their competitiveness:

- Virtually all the companies assisted are positioned in contested sectors with fierce competition. Price and quality competition considered particularly tough. Against this background, it must be considered positive (as degree of goal accomplishment) that the turnover of most companies has developed better than the particular sectoral average since the surety or investment guarantee was granted. The recipients of investment guarantees judge their sales trend as particularly positive compared with their sector. Two thirds state that their turnover has improved. Only 4% of those surveyed consider their sales trend poorer than the average in their industry.
- The Guarantee Banks make a further contribution to improving competitiveness at plant level by checking the companies making applications during the approval examination for the security or guarantee. After this examination, the companies get feedback from the Guarantee Banks about their project. Thus the Guarantee Banks provide their clients with additional consultancy services which can influence future company development regardless of the outcome of the security decision. In the course of the examination, almost half the recipients of a security surveyed receive feedback from the Guarantee Banks while the project was being examined which, according to the companies had an influence on the company in 63% of the cases. If influence on sales trend was established, then in 96% of the cases, the influence was considered positive.

E. Overview of the macroeconomic effects of Guarantee Banks

The following overview presents in condensed form the most important macroeconomic beneficial effects of German Guarantee Banks' activities identified in the study.

Guarantee Banks' quantitative beneficial effects

Guarantee Banks:

- Make a significant contribution to financing taking place at all
- Make additional investments possible thereby which would not have been undertaken at all or not to this extent without the Guarantee Banks' hedging tools.

The investments provoked in addition:

- Have direct and indirect positive effects in their turn on other economic aggregates, such as public net financial investment, gross domestic product, tax revenue and social security contributions to the State, the number of employees and those gainfully employed.

However, default arising:

- Has a negative effect on economic aggregates.

Under realistic model assumptions, 75% of additional investments resulting from Guarantee Banks' activities, the granting of sureties and guarantees, the results of the macroeconomic simulation calculations are as follows: Compared to the scenario if there were no Guarantee Banks:

- Gross domestic product annually increases by 3.2 billion Euro annually on average;
- The number of employees rises annually by an average 12,900;
- The number of unemployed falls annually by an average 9,100;
- Social security contributions by the corporate sector are 60 million Euro lower on average annually in the long term;
- Tax on goods rises by 330 million Euro annually on average and income and wealth tax by 390 million Euro;
- Public net financial investment, that is the difference between overall public income and expenditure increases by approx. 670 million Euro on average annually.

The activities of Guarantee Banks positively affect growth, employment and public net financial investment, even on the unrealistic and unfavourable assumption that investments only increase by the amount of the volume of sureties and guarantees.

Guarantee Banks' qualitative beneficial effects

In addition to these quantitative beneficial effects Guarantee Banks make:

- A lasting contribution to maintaining workable competition;
- A contribution to preserving corporate continuity in the framework of generational change in SMEs;
- A contribution to managing structural change;
- A contribution to strengthening the competitiveness at plant level of the companies assisted

This study could not have been realised without support from many sides. Firstly, we wish to thank the Association of Guarantee Banks (Verband der Bürgschaftsbanken – VDB), Bonn, which made valuable data available, but also supported the extensive company survey and printing tangibly and intangibly. Many analyses would not have been possible had the Guarantee Banks in Germany's 16 Federal States not been willing to carry out special and in part very costly assessments of their data. We wish to thank them, as well as Professor Meyer and Doctor Lutz of the GWS in Osnabrück who carried out a large number of simulation calculations on their INFORGE macroeconomic model, in cooperation with Inmit,. Last but not least, we thank the over 2,000 companies and credit institutions which devoted valuable management time to filling in our questionnaires and to being available for telephone interviews, pre-tests and expert interviews.

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Time of going to press:
February 2006

Printing/layout
Bastian Druck, Trier-Föhren

The extended version of the study is also available in bookstores:
Axel G. Schmidt/Marco van Elkan (2006): Der gesamtwirtschaftliche Nutzen der deutschen Bürgschaftsbanken
Lit-Verlag, Berlin, ISBN 3- 8258-9515-7

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