Corporate Finance in Germany and France

A Joint Research Project of the
Deutsche Bundesbank and the Banque de France

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September 1999

The contributions to this study represent the authors' personal opinions and do not necessarily reflect the views of the Deutsche Bundesbank and the Banque de France.

General introduction and summary

The present study is the outcome of a joint research project by staff members of the Banque de France and the Deutsche Bundesbank. The members of the French team were *Mireille Ferhani, Elizabeth Kremp, Bernard Paranque and Annie Sauvé*, who was project leader in this group. Those involved at the Bundesbank were *Hans Friderichs, Dieter Gerdesmeier, Elmar Stöss* and *Manfred Scheuer*, who was project leader of the German team. *Mireille Ferhani* left the project at a very early stage, however, due to a change in her field of work within the Banque de France, and *Dieter Gerdesmeier* took on a new assignment within the staff of the European Central Bank in the autumn of 1998, which meant that he was unable to continue his participation in this study.

The study is based on preliminary work by the European Committee of Central Balance Sheet Data Offices, which was set up in 1985 to improve the analysis of corporate accounts data through the exchange of information, the comparison of analytical methods, and the carrying-out of joint studies. The Committee is currently made up of representatives of the central banks or the statistical offices of 12 of the 15 EU member states (only Denmark, Sweden and Luxembourg are not represented) and the European Commission. Over the past 13 years, the Committee has performed a variety of tasks, one of them being the creation of a joint harmonized database for the annual accounts statistics of non-financial enterprises - Bank for the Accounts of Companies Harmonised (BACH) -, which is managed by DG II of the European Commission.

As part of the work of the European Committee of Central Balance Sheet Offices, Germany, Austria, Spain, France, Italy and the DG II set up a working group in 1994 with the task of comparing the financial situation of European enterprises. In 1997 the working group presented an initial study entitled "Net Equity and Corporate Financing in Europe", (Delbreil et al., 1997) which was especially devoted to intermediate economies in which the capital markets play a much smaller role than in Anglo-Saxon countries. It set out to be essentially descriptive, and its main objective was to provide a response to questions raised by both theoreticians and practitioners in the financial sector:

Are there differences in levels of corporate net equity between countries?

Does net equity vary according to the size of the company, irrespective of the country?

Are small companies in a special financing situation in every country?

The study was the fruit of initial research, but must be considered as the completion of a first stage in a larger research project. The empirical basis of the study was provided by individual data from the raw material of the national corporate balance sheet statistics, which were presented in accordance with the methodological approach of the BACH database. In addition, considerable efforts were made to ensure the comparability of the data and, in particular, to neutralize the differences in accounting practice as far as possible. The results obtained show that the capital structures in the European countries are the outcome of many different factors, especially of diverging underlying institutional conditions. Given that situation, the obvious thing to do was to confine further comparative studies in this area initially to two countries since the differences in the systems of financing - which obviously tend to be very large from country to country - can be analysed and presented better in this way than in a multi-country analysis.

The principal aim of this project was to undertake a precise analysis of the respective systems of corporate financing in France and Germany. An understanding of the specific features of the financing systems in the various countries is of paramount importance for monetary policy makers. In particular, after the implementation of the EMU the need for more accurate information on how the ECB's decisions are transmitted to businesses in each country is becoming increasingly important, because a knowledge of how the transmission mechanism works in the different countries is of practical relevance for preparing the single monetary policy in the Euro system. How private sector agents in the different countries respond to the policy actions of the ECB and how the monetary authorities and the private sector interact is often conditioned by specific institutional and structural factors, in particular those determining the functioning of markets, the financial behaviour of firms and of financial intermediaries and the composition of their balance sheets (see, for example, BIS, 1995, and Deutsche Bundesbank, 1999).

A central concept for the assessment of the monetary transmission mechanism is that of the functioning of the specific financial system, because it defines the channels, the factors and the framework under which changes in the monetary policy instrument variables affect the financing decisions of firms and, especially, the transmission of monetary policy actions to the corporate sector by financial intermediaries acting as an interface between the policy decisions of the central bank and the financing decisions of firms. Therefore, a comprehensive understanding of the architecture and the operating mechanisms of the different financial systems is a necessary prerequisite for monetary policy analysis. However, the analysis of the transmission mechanism itself could for several reasons not be conducted in the context of this study, but should be subject of further research projects.

Other objectives of this cooperation were

- to promote the exchange of information on corporate balance sheet analysis between the two institutions,

- to assess the usefulness of company data for the preparation of and the ensuing implementation of monetary policy decisions in EMU, and

- to set an example of intensive cooperation between central banks at the European level within the European Committee of Central Balance Sheet Offices.

To set things in motion, the Banque de France and the Bundesbank decided to launch a bilateral cooperation project in the field of corporate balance sheet analysis. The two institutions, which started the project in January 1998, realized that their bilateral cooperation should initially produce a pilot study and they would appreciate it if studies of this kind could be extended to other member states.

At the end of November 1998, a joint Banque de France and Bundesbank workshop on the research project "Corporate Finance in Germany and France" was held at the Bundesbank. The workshop was attended by interested members of both central banks, representatives of the ECB and the EU, as well as a number of university professors with special experience in that particular field, namely Professor J.-P. Pollin (University of Orléans), Professor P. Sevestre (University of Paris - Val de Marne) and Professor R. H. Schmidt (University of Frankfurt). The participants in the workshop - in particular, the professors as discussants - gave very helpful comments on a previous version of this study.[1] Both teams took up many of the ideas and suggestions for improvement and included them in the study. Overall, this study represents a first step towards a comprehensive explanation of the financing behaviour of enterprises in the countries of continental Europe in general and in France and Germany in particular. In all the sub-sections of the study, in the theoretical part, the descriptive analysis and the panel econometric study, a number of questions have remained open. This is partly due to the fact that necessary additional studies would have exceeded the length of time allocated for the project, which, from the outset, was limited.

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[1] We would therefore like to extend our thanks to all participants in the workshop, especially to the professors, and to F. Ramb, Centre for European Economic Research, Mannheim. We are also grateful for very helpful comments from M. Debonneuil, Commissariat Général du Plan, and D. Rivaud-Danset, Université Paris 13. Furthermore, we thank M. Ferhani and the translation department of the Banque de France for their help. In addition, we are obliged to our colleagues M. Delbreil, M. Bardos (Banque de France), H. Herrmann, M. Scharnagl and H.-J. Hansen (Deutsche Bundesbank).

Unlike earlier country comparisons in this area, the study is distinguished first of all by the fact that it is based on very large sets of data. The "Centrale de Bilans" (CdB) base of the Banque de France and the base material of the corporate balance sheet statistics of the Bundesbank contain the balance sheet data of some 40,000 and 70,000 non-financial enterprises per year, respectively, and samples were derived from these data for the study. These are largely representative so that the databases - in contrast to the various approaches in the literature - also contain a large number of small and medium-sized enterprises, whose financing behaviour - as experience shows - differs very considerably from that of large firms. Second, an attempt is made to eliminate, as far as possible, influences due to differences in accounting practice. Furthermore, the descriptive analysis is supplemented by a panel econometric study.

Since the Bundesbank's base material for eastern Germany was not nearly as extensive as it was for western Germany, the study focuses on data from west German enterprises only. Furthermore, as the CdB database almost exclusively covers incorporated firms, it was necessary to restrict the analysis to enterprises having these legal forms for the sake of the comparability of the results. For similar reasons, it seemed necessary to focus on individual balance sheets of manufacturing corporations. This restriction was based primarily on the considerations that this sector constitutes the core of industry in both countries and that it tends to be more homogeneous with respect to its financing structures and customs than other sectors of the economy, in which specific national financing conventions and preferences obviously play a more important role. The analysis is mainly based on stock figures of the balance sheet, owing to the fact that the available annual accounts of German corporations do not provide a flow of funds statement.

Finally, the time period under review in the study is concentrated on the period 1987 to 1995 and 1996, respectively (only the Banque de France provides figures for 1996), in order to completely cover the last business cycle, which occurred relatively synchronously in both countries. It seemed especially appropriate to take 1987 as a starting point as this was the year in which the Fourth EC Directive was translated into German accounting legislation (five years later than in France). The minimum harmonization which this achieved provided the necessary basis for the additional efforts made in this study to eliminate most of the remaining accounting differences.

Chapter 1 of the study (authors: *Bernard Paranque* and *Hans Friderichs*) gives a brief overview of the theory of corporate finance and a summary of selected empirical studies in this area in the recent literature. The main purpose of this chapter is to lay the foundation for the empirical work. It begins with the Modigliani/Miller approach, which postulates that all financial structures are neutral in terms of the cost of the various sources of finance, and shows the results of the ensuing controversy concerning the restrictive hypotheses of the basic model, which can be summarized as concluding that capital structure actually does matter. In addition to this, corporate finance is analysed from the point of view of organizational theory and the theory of conventions, an approach which is not very well known in Germany but quite popular in France, and which puts special emphasis on the institutional determinants of corporate finance.

The subsequent discussion of several selected empirical studies on this issue gives the impression that the results derived tend to be extremely contradictory, a fact that is mainly due to a lack of comparability of the data sets used. This led both teams to the following conclusions: the samples compared should be representative; the sample populations should be homogeneous; the empirical approach should comprise not only liabilities but also assets; and - last but not least - indicators should be harmonized. In order to overcome some basic weaknesses of the studies analysed, considerable efforts were made in *Chapter 2* (written by *Hans Friderichs and Annie Sauvé*) to harmonize the data for both countries as far as possible. It was necessary to develop a comprehensive harmonized indicator concept which goes a step further than the adjustments taken in the BACH database. Although such a harmonization approach will never be able to eliminate all the existing accounting differences, it can undoubtedly be concluded that, in terms of its representativeness and comparability, the dataset elaborated for this study is largely superior to those investigated hitherto in the literature.

Chapter 3 (written by *Hans Friderichs*, *Bernard Paranque*, and *Annie Sauvé*) examines the balance sheet structures of both French and German manufacturing firms and their evolution during the last business cycle in the late eighties and early nineties. The first section assesses the relative importance of the different financing sources used by the incorporated enterprises in the two countries. The second section continues with a description of the major differences in the asset structures. The final section summarizes the conclusions derived from the findings with particular reference to the architecture and functioning mechanisms of the corporate financing systems in Germany and France.

In general, the results derived in this chapter indicate that the differences in the systems of corporate finance in France and Germany can be traced to a large extent to the institutional context in the two countries. This defines particular rules and conditions under which enterprises decide on their strategy to solve the capital structure puzzle and which tend to differ greatly and systematically in the two countries. A very prominent factor is to be seen, for example, in the relationship between banks and companies.

The central question of *Chapter 4* (written by *Elizabeth Kremp, Elmar Stöss and Dieter Gerdesmeier*) is: What are the principal determinants of corporate leverage in Germany and France when using a quantitative approach? To that end, well-known hypotheses derived from traditional corporate finance theory are tested by applying panel econometrics to identical debt equations of French and German firms. Various static and dynamic specifications (including GMM techniques) are estimated for the complete (balanced) data sets and sub-samples differentiated according to size classes. Underlying the full samples, French and German firms show in some way a surprisingly parallel behaviour. In the baseline model assuming exogeneity of the right-hand-side variables long-term growth and collateral are positively correlated to debt supporting the theory of signalling. The negative relationship of profit and leverage stands for the pecking order approach and finally the impact of the cost of finance on enterprises' credit demand is negative, too. Nevertheless clear differences in borrowing behaviour can be found with respect to the determinants size and time. Time proxying macroeconomic factors are very important for France, but not for Germany. On the other hand the variable size plays a major role for total creditors in Germany only, where small firms depend much more on external funds than large enterprises. Such a divergent lending outcome between French and German firms may be based on the country-specific institutional settings. However, dependency of some results on the econometric specification and the variables' definition underlines the difficulty to present final answers. Additionally, it can be shown that the borrowing behaviour of firms of different size classes is not equivalent. This result, which holds for both France and Germany, strengthens the fact that a representative firm and a unique debt equation does not exist.

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September 1999	

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