

Relationship Banking and profitability - An empirical survey of German banks

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Abstract

The financing of German small and medium-sized enterprises (SME) is still strongly dominated by housebanks (Elsas (2005)). Based on a survey of 129 German banks we examine how the housebank relationship is reflected in the credit processes of these banks. We also pursue the hypothesis that those banks are more successful whose processes are more strongly organized according to relationship banking aspects. We found a positive correlation between the use of qualitative information (measured with two indicators) and the return on equity (ROE), which supports our hypothesis. Finally we identified three groups of banks: One group which credit processes are primarily designed under relationship banking aspects, a second group which process-design is rather arranged under transaction banking aspects and a third group with no clear focus.

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1 Introduction

Germany is considered to be a bank-based financial system with strong bank-customer relations (Allen/Gale (1995)). At this junction the housebank relationship is characterized by bank lending to small and medium-sized companies with a particularly close commitment, a phenomenon called “relationship banking” in the scientific literature (Elsas/Krahnert (1998)). By practicing relationship banking, banks are able to gather more information about the customers in order to rate their creditworthiness than these are required to publish. To obtain this benefit banks are willing to support their customers through certain periods (e.g. through subsidized credits) in order to make additional profits during other periods or through other business activities (Boot (2000)). In this context relationship banking also offers banks the opportunity to distinguish themselves from competitors (Boot/Thakor (2000)).

In the lending business relationship banking has to be distinguished from transaction-based lending in particular. Both variants are reflected in the underlying credit processes. The distinguishing feature of banks with a relationship approach is the ability to gain and to use qualitative information for customer evaluations. In contrast, the granting of credit in transaction-based lending occurs based only on “hard,” quantitative information (Berger/Udell (2002)).

On the basis of a survey among the 519 largest German banks (response rate 24.9 %), which were questioned about their processes in the loan business with small and medium-sized enterprises (SME), we examined to what extent banks have implemented relationship banking in their process design. Harker/Zenios (1998) consider the process design as one of several essential success factors for banks.

The central hypothesis of this paper is that a bank with a clear strategic focus of their credit processes on relationship banking is more successful (measured ROE) than a bank which operates without a clear focus. Based on an empirical study of German banks this paper shows that a strategic concentration of the credit process on relationship banking has a positive influence on the success of the bank. Moreover, our results indicate that a stronger use of “soft,” qualitative information positively affects the success of the bank. However, contrary to our expectations, we found weak signs that customer support beyond lending services negatively affects bank success, despite the probably greater possibilities of gaining qualitative information about the creditworthiness of the SME. Finally, we identified three groups of banks: One group which credit processes are primarily focused on relationship banking aspects, a second group which process-design is rather arranged under transaction

banking aspects and a third group with no clear focus and we found weak signs that the last group has on average even lower ROEs than the other two groups.

The remainder of the paper is structured as follows. First, the literature is reviewed and the research question is placed within the context of the scientific discussion about relationship banking. Subsequently, the methodological approach of the survey and the sample used are described. Afterwards, the analyses and results are presented. The paper ends with a summary and discussion of the results.

2 Literature survey and hypothesis development

In this paper we examine whether processes which are focused on relationship banking or transaction banking aspects have an influence on the performance of banks. Thus, two literature lines form the basis for this paper: first a review of relationship banking and second the discussion on whether or not process design has an effect on bank success.

In the scientific discussion, relationship banking in connection with the existence of long-term, close customer relationships is considered an appropriate instrument for reducing asymmetrical information between borrowers and lenders (Boot (2000)). It facilitates the continuous acquisition by banks of information about their customers.

Boot (2000) defines relationship banking as the supply of financial services whereby the intermediate invests in the acquisition of customized, usually secret information. This investment pays off through financial transactions in different services and/or over a longer business period with the customer. Berger/Udell (2002) emphasize that relationship banking is based on the close contact between borrower and lender. Through this relationship the bank has the opportunity to collect soft, qualitative information about the borrower. Thus the bank might for example learn something about the character and behavior of the entrepreneur in order to be able to better estimate his management skills. This close relationship is advantageous to both the bank and the customer: The customer can be confident that the bank is more willing to support him through temporary financial difficulties. At the same time, the bank can charge higher margins because of its informational head start on other lenders (thus, Schenone (2005) shows that banks can use their information advantage in the repeated granting of credits to unlisted companies; Petersen/Rajan (1995) show that banks subsidize young companies). However, Boot (2000) points out the danger of credit subventions in the initial phase of a customer relation, as he believes that banks are not able to realize higher yields in later phases of a customer relation due to greater competitive pressure.

Later in this paper we also distinguish relationship banking from transaction banking (e.g. Boot (2000), Berger/Udell (2002)). In contrast to relationship banking, transaction banking focuses on a single deal with one customer or the same deal multiple times with different customers (Boot (2000)). Hereby the acquisition of information is based on hard facts, e.g. balance results and financial ratios. Baas/Schrooten (2005) show that favorable credits can be granted to SMEs if their annual reports give comprehensive information about the situation of the company and contain more data than legally required.

There is already a multitude of empirical studies on relationship banking, which are usually based on interest rates, ratings or data from credit agreements (e.g. Petersen/Rajan (1994), Berger/Udell (1995), Degryse/van Cayseele (2000), Elsas/Krahnert (1998)).

One empirical object of investigation is whether qualitative information as a component of internal ratings for small and medium-sized enterprises improves the strength of forecasts of forthcoming failures (Brunner et al. (2000)). Grunert et al. (2005) show that a better forecast of a customer's failure is possible if the ratings include both qualitative and quantitative information instead of only relying on one kind of information. Lehmann (2003) also points out that regarding failure prognosis, models which include quantitative and qualitative information are superior in nearly all respects compared to purely quantitative models.

This paper discusses the design of credit processes implemented by banks in connection with their financial performance. Harker/Zenios (1998) consider process design to be one of several operational factors which affects bank performance. They argue against the naive assumption that processes with equal input (coworkers, machines, material, procedure, management) lead to the same output. Rather, they maintain that process design is a driver which influences the output. In a study of sales processes in retail banking, Frei et al. (1999) show that good and consistently uniform processes can increase the success of a bank.

Thus, the hypotheses of this paper are based on the assumption that housebanks which concentrate their credit processes consistently on relationship aspects are more successful. In this regard, we differentiate between two fundamental design options for credit processes: first, banks have the possibility of gaining qualitative information through customer service and of using this information (e.g. for internal rating), second banks can design their credit processes with a focus on transaction banking. We will examine the following hypotheses:

H1: Banks with various possibilities of gaining qualitative information through customer service are using qualitative information more often in internal ratings.

H2: Banks which include qualitative information in their credit processes are more successful.

H3: We can distinguish relationship banks from transaction banks in process design and the use of qualitative information.

3 Data collection and methodology

The data basis of this work is a written survey among the 519 largest German banks (based on the total assets of 2002). The survey was conducted in 2004 (Wahrenburg et al. (2005)). The managers responsible for the credit processes in the loan business with SMEs were asked to answer a total of 33 open and closed questions, some of which requested additional detail. In the run-up to this survey the questionnaire was validated extensively in expert workshops and through pre-tests. Six weeks after the questionnaires were sent out, a second forwarding followed to banks that had not yet responded. After an additional six weeks, each non-responsive bank was contacted by telephone. At the end of the survey phase, 129 completed questionnaires had been returned, which equals a response rate of 24.9%.

The content of the questionnaire can be divided into three subject areas: process optimization and outsourcing in the credit process, design of individual parts of the credit process, and future visions of the credit process. The answers to the questionnaire were supplemented by income statement and balance sheet data from the 2003 annual reports, which was obtained for the sample banks from Bankscope. The answers from the survey are to a large extent five-point ordinally scaled, while the data from Bankscope is metrically scaled.

Figure 1 shows the distribution of the participating banks and of the population in the three institution groups of the German banking market. Within the sample, private banks and cooperative banks are slightly overrepresented, whereas the group of state and savings banks is underrepresented. A one-sample-t-test of the proportion values revealed that only the test statistic of the group state and savings banks ($z=-1.917/p=0.058$) is in a 10%-confidence level, which means that the average values of the sample and the population might be different. The test statistics of private banks ($z=0.405/p=0.686$) and cooperative banks ($z=1.535/p=0.127$)

revealed no significant difference. At the 5%-level of significance there is no difference between the average values of the sample and the population. Therefore it is permissible to draw conclusions based on distributions in the sample about the distribution in the total population. This is confirmed by a Chi square test (probability of error of 0.134, Chi square = 4.021) for the null hypothesis that the values in the sample correspond to those in the population.

Figure 2 displays the particle size distribution of the bank sample and the population measured by total assets. The small portion of banks with total assets of less than 1 bn EUR can be explained by the fact that we only addressed the 519 top German banks based on total assets. The total assets of the smallest banks in the sample are more than 800 million EUR.

The average total amount of assets of the sample is 28.3 bn EUR and the median is 2.0 bn EUR. The clear difference between the median and average values is due to the skewness of the distribution of the examined banks. Some banks show total assets that are clearly above average compared to the total sample. The population's median of 1.9 bn EUR is almost equivalent to that of the sample. However, the average total assets of 14.7 bn EUR are clearly lower. The reason is that banks with total assets of more than 100 bn EUR participated in the survey to a much larger extent than others. If these institutions are not considered, the average value of the sample (4.9 bn EUR) approaches the average value of the population (5.4 bn EUR).

The Chi square test confirms that the portion values in the sample match those in the population with a probability of error of 0.141 (Chi square = 8.298) for the null hypothesis. Thus the null hypothesis is not rejected and conclusions drawn from the sample can be used to describe the population. The one-sample-t-test also confirms that conclusions taken from the value of a unit are statistically justified in comparison to the population. Only for the group with total assets starting from 100 bn EUR does the test value lie within the 10%-confidence level, meaning that the portion values may be different (Figure 2).

4 Results

4.1 Descriptive results

At the beginning of this section a set of descriptive results is presented in order to describe what philosophy the banks have about the advising of their small and medium-sized clients and how they implement it. All results are summarized and presented in tables.

4.1.1 Collection of qualitative information

The results of our survey show that banks highly esteem their customers and desire a trusting, long lasting relationship with them. Thus they agree to 85.9% with the statement that customer relationships are the most valuable asset of their banks (D1, for detailed results of this section see Table 1). Somewhat more weakly in comparison to this statement, but still very explicitly, they affirm the fact that SME customer representatives develop a bond of trust with their customers and plan to accompany them for a long time (D2).

The strict assignment of customer advisors to their customers has been realized in most banks. Among the questioned banks, most of the customers are permanently assigned to one customer advisor; 69.3% stated an assignment rate of 80–100% (D3).

The SME customer representatives also advise their customers concerning different services – not only about loans. 121 of the 129 banks indicated that in principle the advisors advise their customers on investment services, payments or other services in addition to lending services. (D4).

The fact that customers are often advised on a wide range of services by the same advisor is also shown in the comparison of allocated time slices of activities of customer advisors. SME advisors spend on average most of their time advising on lending services (D5a). The consultation on other services (D5b) and the support of the entrepreneur in financial matters (D5d) follow. Explicitly asked, if the customer advisor gives advice to the customer beside the credit product e.g. also on investment products, a big majority affirmed this (D4). This supports the assumption that the advising of the customer not only concerns the granting of credit. Thus, the customer advisor has better possibilities to get to know the customer more deeply than if he were only to advise him on the loan business.

This close and long-term business connection between the customer advisor and his customer as well as the comprehensive support of the customers show that Germany's customer–bank relationships typically include many opportunities to gain qualitative information. This is a necessary condition in order to be able to practice relationship banking.

4.1.2 Use of qualitative information

As described, banks have different possibilities of acquiring qualitative information. The more these are used for the evaluation of the solvency of a customer, the more one can speak of the granting of credit under relationship aspects.

We addressed the use of qualitative information in the context of the survey at different points: with the internal rating in the context of granting a credit, with the decision as to whether a credit is a nonperforming loan, and when pricing a credit. With the internal rating qualitative information can be considered in two different ways: as a standardized component of the internal rating or by an individual adjustment of the rating grade by the customer advisor/rating officer (Brunner et al. (2000)).

The programming of the internal rating is raised in the narrow majority of the questioned banks by the sales department (D6, for detailed results of this section see Table 2), which is more approached to the customers. In the narrow minority it is done by back office, which probably initiates independent, transaction-based internal ratings.

During the process of granting a credit, financial ratios have on average a higher weight than qualitative evaluations in the internal rating (D7). Thus, financial ratios have for instance one and a half times the weight of qualitative information. The fact that the composition of the internal ratings can be quite different is seen in the standard deviations. In particular the influence of qualitative information is very differently pronounced (D7b).

Otherwise to inquiring about the direct influence of qualitative information on the internal rating, we asked whether the customer advisor can deviate from the automatically provided rating. One reason could be that the advisor has qualitative information which is not standardly registered during the rating programming. On average the majority of the questioned banks agree with this statement (D8). However, the high standard deviation shows how different the questioned banks have designed the possibility of deviation from the automatically provided rating.

Furthermore, the sales department is involved in the monitoring of standing credits. Simply 6% of the questioned banks denied this. Averagely the monitoring of standing credits is the most important activity of the sales departments next to customer advising (D5e).

Among the criteria used to decide on a classification as a nonperforming loan, the qualitative impressions of the wholesale banking advisor play an important role (D9). Although this criterion has the lowest impact on average, however, this answer has the highest standard deviation of all answers (D9e). This shows different influences of the qualitative impressions on the decision about the classification as a nonperforming loan within the different banks.

As an additional indicator we asked whether the price definition of the credit is detached from the profitability of the entire customer relationship. The definite majority of the banks negate

this (D10). This can be interpreted as confirmation for the statement that banks are willing to accept reductions in the profitability of the loan business, because they bring the entire relationship with the customer over several business transactions into focus (Petersen/Rajan (1995)). However, Elsas/Krahn (1998) could not find support for such price concessions in customer interest rates. The willingness of the questioned banks was lower to depend the credit decision on the demand of other products by the customer (D11).

4.1.3 Performance indicators

In a third step the success of the banks in the SME loan business is examined. Here we consider a performance indicator which was collected within the survey as well as performance indicators which were taken from the external reporting of the banks.

In order to find out which form of process design in the loan business with SMEs is successful, we have to define superior ratios for financial success. For banks these are usually measured by the return on equity (ROE)² and by the operating margin (OpM).³ These ratios are well suited for the evaluation of an entire bank; however, they only permit incomplete conclusions on individual business divisions (e.g. the SME loan business) since the success or failure of all bank areas is reflected in the performance of the total bank. Our sample, however, includes many institutions with regional orientation, for which the SME loan business is the most important business division besides the private customer business. Thus, the business with SME clients is a substantial driver for the performance of the total bank in the external reports.

In our questionnaire we asked as indicator for the profitability of the banks in the SME business. We inquired about the portion of credits in the portfolio with a profit after loan losses and cost of capital. The larger this portion, the larger the value proposition of the division should tend to be. The evaluation of the answers is remarkable due to the fact that every third person answered this question with “don’t know”. From the answers it was not clear whether this is generally not known or whether only these particular respondents did not know this number.

The average value of 3.41 (D12, for detailed results of this section see Table 3) shows that, on average of all answers, almost 60% of all customer relationships generate an excess profit.

² Return on equity = net profit / average equity

³ Operating margin = 1 – (administration effort + loan losses) / operating income

In the external reporting banks are not obliged to provide details about the SME segment. The results on the total bank level are a measurable indication and have a greater significance the higher the importance of SME business for the bank is. In 2003 the return on equity (ROE) of the questioned banks amounted on average to 4.49% (D13). The operating margin, a measure for the operational business without special effects, averaged 14.86% for all institutions (D14). This means that of 100 EUR operating income, 14.86 EUR remained after subtraction of operational costs and loan losses.

4.2 Analyses

4.2.1 Using of qualitative information

The descriptive analysis indicates that banks deploy qualitative information very differently. In the following we want to address which banks attach greater importance to qualitative factors. For this reason we set the answers to questions D6 to D11 (Table 2) on qualitative information in relation to the remaining answers.

A comparison of the average values between the bank groups in Germany shows that state and savings banks use qualitative information in the internal ratings most strongly (Table 4). Private banks trust most strongly in financial ratios.

A correlation analysis of the bank size (total assets) shows that qualitative information in an internal rating is used more often by smaller banks (Table 5). Reasons for this fact could be that smaller banks are often regional banks, which estimate and subsidize regional entrepreneurs individually. Furthermore, smaller banks do not have the totality of data necessary to reliably calibrate their internal rating systems. However, the fact that smaller banks can probably count on the rating systems of their federation argues against this last point.

In addition qualitative information used in internal ratings will have a greater importance if one customer advisor is permanently assigned to the customer (significant correlation - Table 5).

Also, no other characteristics for the acquisition of qualitative information were significantly correlated to their deployment during the evaluation of the customers' creditworthiness.

A further indication of the use of qualitative information under relationship aspects becomes apparent during the price setting for a credit. Banks whose SME customer representatives also spend a great deal of time advising managing directors or owners in private financial

questions (cross selling) tend to be more open to price deductions (Table 6). These banks can obviously gain better private information about the managing director/owner and thus judge his/her behavior in financial questions. However, customer advisors who advise the entrepreneur in private financial matters more seldom have the possibility to deviate from the automatically provided rating. Other characteristics of the assessing of qualitative information were not significantly correlated with the price definition of the credit.

The univariate analyses show that banks which have more opportunities to gain qualitative information also tend to deploy this information. That is, the organizational orientation towards the customer (e.g. higher ratio of permanently customer advisors) is also reflected in the extent of business with the customer.

For a further analysis we calculate an OLS-regression. We use the portion of qualitative information in the internal rating as dependent variable. Our independent variables are different factors of collecting qualitative information which result from the univariate analysis. We find different factors which describe significant the portion of qualitative information in the internal rating (Table 7). The model is significant ($F = 6.818$; $p < 0.001$), the adjusted R-square value is 23.1%. The results confirm the upper findings. State and saving banks use qualitative information more than cooperative banks and private banks. As well as banks with a higher portion of strictly assigned customer advisors to clients use qualitative information more. An additional finding is that banks where the internal rating is programmed by the sales department use a higher portion of qualitative information in the internal rating. Surprisingly there is a negative correlation between the portion of qualitative information in the internal rating and the statement that the customer relationships are the most valuable asset of the bank. This can derive from the small standard deviation and the strong affirmation to this statement from all questioned banks (D1).

The analysis shows that banks which have more opportunities to gain qualitative information also tend to deploy this information. The organizational orientation towards the customer (e.g. higher portion of strictly assigned customer advisors) is also reflected in the extent of business with the customer.

4.2.2 Relationship banking and bank performance

Due to the different significance of the performance indicators presented above, we conducted a correlation analysis. This shows that the numbers derived from the banks' report system

demonstrate highly significant positive correlations to each other (Figure 3). The portion of profitable customer relations is significantly positively correlated with the operational margin.

On the basis of the correlation of the performance indicator obtained in the survey with the operational margin as well as the correlations of the performance indicators from the external reporting system among themselves, all indicators confirm their meaning fullness as performance indicators. In the context of the multivariate analysis we look at the return on equity (ROE), since this indicator is present for all banks in the sample. The portion of profitable customer relationships was provided only by less than two-thirds of the banks, which reduces the representativeness of the sample.

In the last sections we explained how differently processes of collecting and using qualitative information are organized within the 519 largest German banks. In this section we want to examine with the help of a multivariate regression whether a stronger organization according to relationship aspects can influence the success of banks.

The model is an OLS regression including the return on equity (ROE) as dependent variable. We tested variables for the acquisition as well as the use of qualitative information. In addition, we included the respective bank group and the balance sheet total as control variables. The results of the regression are shown in Table 8. The model is significant ($F = 5.553$; $p < 0.001$), the adjusted R-square value is 18.4%.

The significantly positive coefficient of “deviation from the automatically provided rating” indicates that the increased possibility for customer advisors to deviate from the automatically generated rating affects the bank performance positively. Also a higher weighting of qualitative information when deciding on whether a credit should be classified as a nonperforming loan positively affects the return on equity (ROE). Contrary to our expectations, the dedication of a larger slice of time to advising of the entrepreneur in private financial matters has a significantly negative influence on the bank’s success.

Furthermore, the control variables bank size (total assets) and bank group have a significant influence. Based on the total assets smaller banks have a slightly higher ROE. The ROE of private banks is on average the largest, while those of state and savings banks are on average the lowest.

The results show a positive correlation between using qualitative information (measured with two indicators) and the return on equity. The result of gaining qualitative information shows that only one indicator is significantly correlated with the ROE – surprisingly, however,

negatively. The fact that we could not find significant correlations with the remaining questions about the acquisition of qualitative information is possibly substantially related to the fact that on average almost all banks permanently assign one advisor to a customer (see section 4.1.1). A stronger distinctive feature is the question concerning how strongly banks use this qualitative information.

We checked the model in different ways for robustness. The results are identical for forward and backward regression. We did not find evidence for heteroscedasticity with a graphical test.

In order to test the robustness of the results we used the portion of SME customer relationships with a profit after loan losses and cost of capital for an additional regression.

The independent variables, excepting the dummy for cooperative banks, show the same signs like in the first model (Table 9). In opposite to the first model the second is not significant, what can derive from the smaller size of the sample and that the dependent variable is five-point scaled.

For further robustness checks we wanted to get special success information of the SME segment. But we had to conclude that segment information of the examined banks is not a useable source, because only consolidated bank groups with listed shares or bonds are obliged to publish this information, and larger institutions usually do not run the business with small and medium-size enterprises as a separate segment. Due to the fact that many banks in our sample do not have to provide consolidated accounts or do not issue listed bonds, published segment information does not exist for the majority of the banks in the sample. However our sample includes many institutions with regional orientation, for which the SME loan business is the most important business division besides the private customer business, the business with SME clients is a substantial driver for the performance of the total bank in the external reports.

Pre-tests with managers in the SME loan business of particular banks showed that only few detailed size and performance indicators were available to the interviewees themselves, and that the time necessary to answer the questionnaire would substantially increase if they were asked to provide such data. Therefore, we had to refrain from asking for detailed financial numbers in the survey. Nevertheless, indicators were collected which permit at least indirect conclusions about the profitability of the questioned institutions in regard to the SME loan business.

4.2.3 Group analysis

To find out if there are different types of banks in credit process-design we made a cluster analysis (method: average linkage between groups). Separating variables were the portion of customers with strictly assigned customer advisors (standing for collecting qualitative information), the possibility of banks employee to deviate from automatically provided ratings (using qualitative information for internal rating) and the independency of price definition and credit decision from customer relationship's profitability and demand for other products (using qualitative information for customer loyalty). We identified three groups of banks: One group which credit processes are primary designed under relationship banking aspects ("relationship-group"), a second group which process-design is arranged rather under transaction banking aspects ("transaction-group") and a third group with no clear arrangement ("ambiguous-group"). An analysis of the mean values for the three groups is shown in Table 10.

Compared to the transaction-group and the ambiguous-group the banks in the relationship-group are significantly rather disposed to price concessions and depend their credit decision more often on the demand for other products.

In contrast the banks in the transaction-group have a significant lower portion of strictly assigned customers to customer advisors, the representatives advise fewer investment products, spend less time for monitoring of standing credits, their internal rating contains lower portion auf qualitative information and the employees have less the possibility to deviate from an automatically provided rating than the two other groups.

The mean values of the third group are sometimes like the one of the first group's means and the one like the second group's. But the ROE is significantly lower than the ROE of the relationship-group and the transaction-group.

To carry on the analysis of the groups, we made three multinomial regressions (Table 11). As dependent variable we used the three groups of our cluster analysis. The first regression was carried out by all above described variables, which can explain relationship or transaction banking. In the second we regressed without the separating variables of the cluster analysis. Finally, in the third regression we calculated with the significant variables.

The multinomial regressions support our findings of the mean value analysis (Table 10). As expected the groups can be perfectly divided by the variables of the cluster analysis. Beside these variables the transaction-group can be differed from the relationship-group by the lower

portion of qualitative information in the internal rating, less spent time by customer advisors in monitoring of standing credits and less advice to customers on investment products by their customer credit advisor. Also the ambiguous-group can be differed from the transaction-group. Only the statement that customer relationships are the most valuable asset of the bank is against our expectation significant higher for the transaction-group than the other two.

The differentiation between the relationship-group and the ambiguous-group is in particular funded by the separation variables of the cluster analyses. Especially the higher willingness to make price concessions and to depend credit decisions on the demand for other products characterizes the first group as relationship banks. This can indicate the willingness for a long-term customer relationship (Petersen/Rajan (1995)).

Altogether we found well support for the existence of three bank groups in our sample. They differ by customer service (e.g. strictly assigned advisors, advice on different products), the use of qualitative information (e.g. in the internal rating) and in stabilization of customer relationship (e.g. willingness for price concessions). Beside a relationship-group, which is focused on customer relationship, and a transaction-group, which is focused on the credit product transaction, we found a group with no clear focus. A mean value analysis has shown that this group has smaller ROEs then the banks of the other two groups.

5 Conclusion

This paper examines to what extent those banks are more successful whose process organization shows evidence of relationship ranking. The motivation for this question is that we presume that relationship banking is a distinctive feature of banks in competition (Boot/Thakor (2000)) and that the process organization has a positive effect on the bank's success (Harker/Zenios (1998)).

Based on a survey of the 519 largest German banks (response rate: 24.9%) we conducted various analyses. The results show that the majority of the questioned banks attach a great importance to customer relationships and that the banks' customer advisors have various possibilities of acquiring "soft," qualitative information about their customers. The use of this information varies substantially. Those banks whose customer advisors have better opportunities to gain qualitative information make more use of this information. Banks in the group of state and savings banks place significantly more weight on qualitative information in the internal ratings than private banks.

Our multivariate analysis shows that the use of qualitative information positively affects the bank performance. This can be seen as confirmation of the existing literature (Grunert et al. (2005), Lehmann (2003)) which asserts that a better prediction of the customer creditworthiness is possible when both quantitative and qualitative information is considered. The performance of banks seems to be better if they make use of their information in this way. We found weak evidence of a negative influence of a process design with better possibilities of gaining qualitative information. This may be due to the fact that the questioned banks have as far as possible already permanently assigned customer advisors. However, the possibilities of acquiring qualitative information are only used by a part of these banks. A specific distinctive feature is the frequency of the use of qualitative information in contrast to the organization of the customer service.

Finally, we identified three groups in our sample: A relationship-group with a high portion of strictly assigned customers, a high portion of qualitative information in the internal rating and more willingness for price concessions as well as a higher dependence of credit decision on the demand for other products (Petersen/Rajan (1995)). Concerning the banks in the transaction-group, the customer advisors are more concentrated on credit products, are often not strictly assigned and use less qualitative information in the internal rating. The third group has no clear focus. It has a high portion strictly assigned advisors, a high portion of qualitative information in internal ratings but is hard in pricing. A mean value analysis has shown that the ROE of the ambiguous-group is significant lower than these of the other two groups.

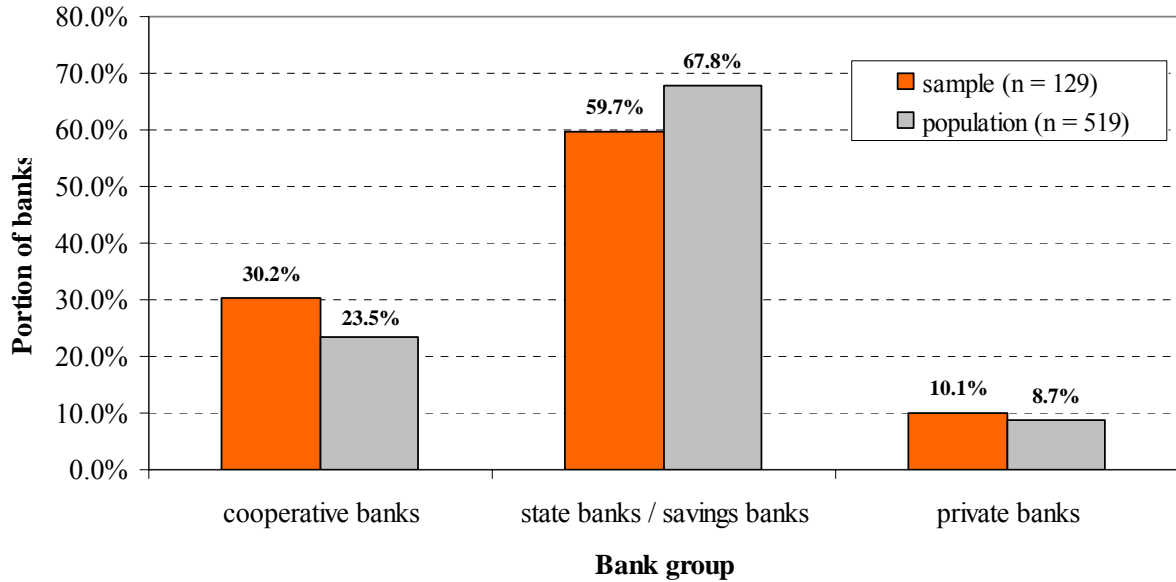
This paper presents a technique for deriving relationship banking from the organization of a bank. With reference to one of the main results of Frei et al. (1999), namely that banks with consistent, uniform processes are more successful, the following question arises: Why have many German banks created various possibilities of acquiring qualitative information in their customer service, yet they nevertheless use this information quite differently? Does this mean that banks need a more consistent organization of the processes leading to relationship banking or transaction banking?

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Appendix

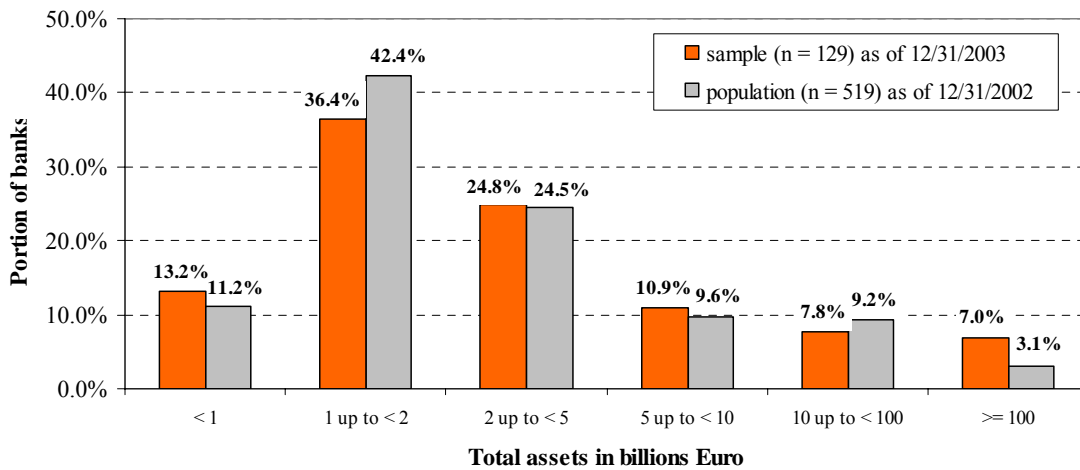
Figure 1: Banking groups in the sample



one-sample-t-test	z = 1.535 p = 0.127	z = -1.917* p = 0.058	z = 0.405 p = 0.686
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* Significant at the 0.10-level (two-sided)

Figure 2: Distribution of the total assets (in Billions Euro) of the participating banks



one-sample-t-test	z = 0.662 p = 0.509	z = 1.403 p = 0.163	z = 0.080 p = 0.936	z = 0.456 p = 0.649	z = -0.613 p = 0.541	z = 1.722* p = 0.088
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* Significant at the 0.10-level (two-sided)

Table 1: Descriptive results on the acquisition in order to gain qualitative information

D1	Customer relationships are the most valuable asset of the bank.	1 – totally disagree 5 – totally agree	$\mu = 4.84$ $\sigma = 0.43$ $n = 128$
D2	The customer advisor has to develop a mutual trust with customers and a long-term business relationship.	1 – totally disagree 5 – totally agree	$\mu = 4.59$ $\sigma = 0.52$ $n = 128$
D3	Portion of the SME customers with strictly assigned customer advisors.	1 – 0–20% 2 – 20–40% 3 – 40–60% 4 – 60–80% 5 – 80–100%	$\mu = 4.36$ $\sigma = 1.17$ $n = 124$
D4	On which other services do customer advisors give advice to their SME customers?	1 – investments 2 – payments 3 – others	$n = 121$ <u>answers (to 1 / 2 / 3):</u> yes / yes / yes 69 no / yes / yes 3 yes / no / yes 9 yes / yes / no 13 yes / no / no 11 no / yes / no 4 no / no / yes 12
D5	How large is the portion of the following activities in the everyday work of a customer advisor in the SME segment?		
D5a	Advice on credit services	1 – not at all 5 – very high	$\mu = 2.94$ $\sigma = 0.60$ $n = 124$
D5b	Advice on other services	1 – not at all 5 – very high	$\mu = 2.33$ $\sigma = 0.74$ $n = 125$
D5c	Active customer acquisition	1 – not at all 5 – very high	$\mu = 2.32$ $\sigma = 0.87$ $n = 125$
D5d	Support of the entrepreneur in private financial tasks	1 – not at all 5 – very high	$\mu = 2.27$ $\sigma = 0.84$ $n = 127$
D5e	Monitoring of standing credits	1 – not at all 5 – very high	$\mu = 2.25$ $\sigma = 1.05$ $n = 125$
D5f	Processing/handling of credit requests	1 – not at all 5 – very high	$\mu = 2.17$ $\sigma = 1.04$ $n = 125$
D5g	Acquisition of information (Continued education, training, etc.)	1 – not at all 5 – very high	$\mu = 2.05$ $\sigma = 0.73$ $n = 124$
D5h	Service for customers (e.g. payments)	1 – not at all 5 – very high	$\mu = 1.70$ $\sigma = 0.91$ $n = 125$

Table 2: Descriptive results on the use of qualitative information

D6	Internal rating programmed by sales department	1 – yes, sales department 0 – no, back office	$\mu = 0.54$ $\sigma = 0.500$ $n = 128$
D7	How strongly does the following information enter into the internal rating of a SME credit application?		
D7a	Financial ratios	1 – 0–20% 2 – 20–40% 3 – 40–60% 4 – 60–80% 5 – 80–100%	$\mu = 3.78$ $\sigma = 0.81$ $n = 125$
D7b	Qualitative evaluations of employees	1 – 0–20% 2 – 20–40% 3 – 40–60% 4 – 60–80% 5 – 80–100%	$\mu = 2.56$ $\sigma = 1.11$ $n = 124$
D8	An employee of the bank has the final decision over the rating and can deviate from automatically provided ratings.	1 – totally disagree 5 – totally agree	$\mu = 3.74$ $\sigma = 1.26$ $n = 128$
D9	Which criteria lead to an immediate classification of the credit as a nonperforming loan (workout)?		
D9a	Missing repayments of the credit	1 – totally disagree 5 – totally agree	$\mu = 3.69$ $\sigma = 0.56$ $n = 129$
D9b	Financial ratios relating to balance sheet items point to financial difficulties of the customer (e.g. low capital ratio, high losses)	1 – totally disagree 5 – totally agree	$\mu = 2.98$ $\sigma = 1.01$ $n = 128$
D9c	Early warning systems of the bank forecast financial difficulties	1 – totally disagree 5 – totally agree	$\mu = 2.88$ $\sigma = 1.01$ $n = 129$
D9d	Overdraft of the credit limit	1 – totally disagree 5 – totally agree	$\mu = 2.81$ $\sigma = 0.97$ $n = 129$
D9e	Qualitative impressions of the SME customer advisor	1 – totally disagree 5 – totally agree	$\mu = 2.30$ $\sigma = 1.07$ $n = 128$
D10	Price definition of the credit is independent of the profitability of the entire customer relationship	1 – totally disagree 5 – totally agree	$\mu = 1.40$ $\sigma = 1.20$ $n = 128$
D11	Credit decision is independent of the demand for other products by the customer	1 – totally disagree 5 – totally agree	$\mu = 2.26$ $\sigma = 1.07$ $n = 127$

Table 3: Descriptive results on performance indicators

D12	Portion of SME customer relationships with a profit after loan losses and cost of capital	1 – 0–20% 2 – 20–40% 3 – 40–60% 4 – 60–80% 5 – 80–100%	$\mu = 3.41$ $\sigma = 1.08$ $n = 83$ (don't know = 61)
D13	Return on equity (ROE) after taxes 2003	metric	$\mu = 4.49$ $\sigma = 5.61$ $n = 129$
D14	Operating margin (OpM) before taxes 2003 (1 – (administration effort + loan losses) / operating income)	metric	$\mu = 14.86$ $\sigma = 14.93$ $n = 129$

Table 4: Assignment of qualitative information structured in bank groups

Average values of the answers	State and savings banks	Cooperative banks	Private banks
Qualitative information as a component of internal ratings	0.421***	0.380	0.296***

Oneway-ANOVA: F=5.524, p=0.006

*** Significantly different at the 0.01-level (two-sided).

(A Waller-Duncan-Test confirms the differences between state and savings banks as well as private banks at the 0.01%-confidence level)

Table 5: Qualitative information and the bank size as well as support service approach

	Total assets	Proportion of customers with permanently assigned customer advisors
Correlation approach	Pearson	Pearson
Qualitative information as a component of the internal ratings	-0.156* (p = 0.084)	0.312*** (p = 0.001)

* Correlation is significant at the 0.10-confidence level (two-sided).

*** Correlation is significant at the 0.01-confidence level (two-sided).

Table 6: Correlations with advice in private financial matters

	Price definition of the credit is independent of the profitability of the entire customer relationship.	An employee has the final decision about the rating and can deviate from automatically generated ratings.
Correlation approach	Spearman	Spearman
Time portion for advising in private financial matters	-0.183** (p = 0.042)	-0.216** (p = 0.017)

** Correlation is significant at the 0.05-confidence level (two-sided).

Table 7: Regression: Qualitative information in internal rating and relationship banking

	Non standardized coefficient	T	Significance
B			
(constant)	0.484***	4.333	0.000
Portion of the SME customers with strictly assigned customer advisors.	0.030***	3.697	0.000
Customer relationships are the most valuable asset of the bank.	-0.044**	-2.049	0.043
Internal rating programmed by sales department	0.041**	2.077	0.040
Dummy for cooperative banks	-0.060***	-2.946	0.004
Dummy for private banks	-0.070**	-2.049	0.043
Total assets 2003	0.000*	-0.157	0.089

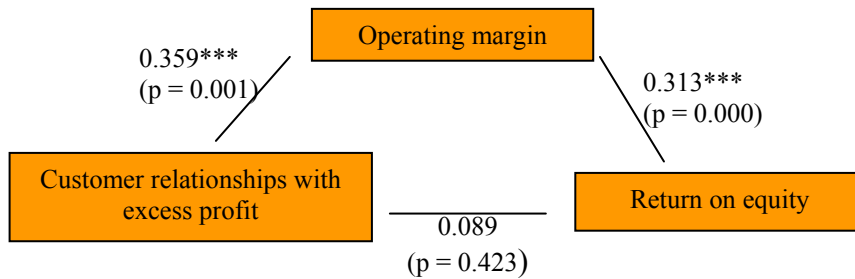
F=6.818***, adjusted R-square = 23.1%

* Significant at the 0.10-confidence level (two-sided)

** Significant at the 0.05-confidence level (two-sided)

*** Significant at the 0.01-confidence level (two-sided)

Figure 3: Correlations of performance indicators



*** Correlation is significant at the 0.01-confidence level (two-sided).

Table 8: Regression: Return on equity and relationship banking

	Non standardized coefficient	T	Significance
B			
(constant)	-6.868**	-2.510	0.013
Time portion for advising in private financial matters	-1.852***	-2.923	0.004
Rating: Employee can deviate from the automatically provided rating	0.869**	2.448	0.016
Qualitative information as a criterion for the classification as a nonperforming loan	11.340*	1.872	0.064
Total assets 2003	-0.013***	-2.879	0.005
Dummy for cooperative banks	2.300**	2.437	0.016
Dummy for private banks	4.127**	2.580	0.011

F=5.553***, adjusted R-square = 18.4%

* Significant at the 0.10-confidence level (two-sided)

** Significant at the 0.05-confidence level (two-sided)

*** Significant at the 0.01-confidence level (two-sided)

Table 9: Regression: Portion of customer relationships with excess profit

	Non standardized coefficient	T	Significance
B			
(constant)	-3.358	3.901	0.000
Time portion for advising in private financial matters	-0.148	-0.798	0.428
Rating: Employee can deviate from the automatically provided rating	0.113	1.044	0.300
Qualitative information as a criterion for the classification as a nonperforming loan	0.054	0.028	0.978
Total assets 2003	-0.002*	-1.654	0.100
Dummy for cooperative banks	-0.081	-0.284	0.777
Dummy for private banks	0.458	1.042	0.301

F=1.181, adjusted R-square = 1.4%

* Significant at the 0.10-confidence level (two-sided)

** Significant at the 0.05-confidence level (two-sided)

*** Significant at the 0.01-confidence level (two-sided)

Table 10: Mean values for three bank types

Variable	Relationship-Group (1)	Transaction-Group (2)	Ambiguous-Group (3)
Customer relationships are the most valuable asset of the bank.	$\mu = 4.83$ (-/-) $\sigma = 0.379$	$\mu = 4.93$ (-/-) $\sigma = 0.267$	$\mu = 4.82$ $\sigma = 0.477$
The customer advisor has to develop a mutual trust with customers and a long-term business relationship.	$\mu = 4.63$ (-/-) $\sigma = 0.490$	$\mu = 4.93$ (-/-) $\sigma = 0.497$	$\mu = 4.59$ $\sigma = 0.543$
Portion of the SME customers with strictly assigned customer advisors.	$\mu = 4.47$ (***/**) $\sigma = 0.860$	$\mu = 1.64$ (***/***) $\sigma = 0.745$	$\mu = 4.80$ $\sigma = 0.516$
Customer advisors give advice to customers also on investment products.	$\mu = 0.89$ (*/-) $\sigma = 0.320$	$\mu = 0.64$ (*/*) $\sigma = 0.505$	$\mu = 0.86$ $\sigma = 0.350$
Support of the entrepreneur in private financial tasks	$\mu = 2.14$ (-/-) $\sigma = 0.803$	$\mu = 2.21$ (-/-) $\sigma = 1.188$	$\mu = 2.37$ $\sigma = 0.754$
Monitoring of standing credits	$\mu = 2.43$ (**/-) $\sigma = 0.879$	$\mu = 1.64$ (**/**) $\sigma = 1.151$	$\mu = 2.29$ $\sigma = 1.040$
Internal rating programmed by sales department	$\mu = 0.57$ (-/-) $\sigma = 0.504$	$\mu = 0.50$ (-/-) $\sigma = 0.519$	$\mu = 0.52$ $\sigma = 0.503$
Proportion of qualitative information in the internal rating	$\mu = 0.42$ (**/-) $\sigma = 0.113$	$\mu = 0.30$ (**/**) $\sigma = 0.122$	$\mu = 0.40$ $\sigma = 0.100$
An employee of the bank has the final decision over the rating and can deviate from automatically provided ratings.	$\mu = 3.87$ (*/-) $\sigma = 1.167$	$\mu = 4.36$ (**/**) $\sigma = 0.633$	$\mu = 3.58$ $\sigma = 1.355$
Qualitative information as a criterion for the classification as a nonperforming loan	$\mu = 0.26$ (-/-) $\sigma = 0.077$	$\mu = 0.26$ (-/-) $\sigma = 0.091$	$\mu = 0.26$ $\sigma = 0.69$
Price definition of the credit is independent of the profitability of the entire customer relationship	$\mu = 1.83$ (***/***) $\sigma = 0.379$	$\mu = 4.07$ (***/-) $\sigma = 0.917$	$\mu = 4.19$ $\sigma = 0.917$
Credit decision is independent of the demand for other products by the customer	$\mu = 1.70$ (***/***) $\sigma = 0.535$	$\mu = 2.57$ (***/-) $\sigma = 1.158$	$\mu = 2.41$ $\sigma = 1.138$
State and saving banks	$\mu = 0.70$ (-/-) $\sigma = 0.466$	$\mu = 0.57$ (-/-) $\sigma = 0.514$	$\mu = 0.57$ $\sigma = 0.498$
Cooperative banks	$\mu = 0.23$ (-/-) $\sigma = 0.430$	$\mu = 0.21$ (-/-) $\sigma = 0.426$	$\mu = 0.34$ $\sigma = 0.477$
Private banks	$\mu = 0.07$ (-/-) $\sigma = 0.254$	$\mu = 0.21$ (-/-) $\sigma = 0.426$	$\mu = 0.09$ $\sigma = 0.286$
Total assets 2003	$\mu = 18.70$ (-/-) $\sigma = 58.480$	$\mu = 12.92$ (-/-) $\sigma = 24.460$	$\mu = 31.79$ $\sigma = 116.002$
ROE 2003	$\mu = 5.86$ (-/*) $\sigma = 6.169$	$\mu = 5.96$ (-/*) $\sigma = 4.311$	$\mu = 4.06$ $\sigma = 4.887$
N	30	14	79

Explanation of significant deviations:

(to group 2 / to group 3)

(to group 1 / to group 3)

See groups 1 and 2

* Significant at the 0.10-confidence level (two-sided)

** Significant at the 0.05-confidence level (two-sided)

*** Significant at the 0.01-confidence level (two-sided)

Table 11: Multinomial regressions on three bank types

Variable	All variables		Without separating variables		Significant variables	
	Group 1 to reference group 2	Group 3 to reference group 2	Group 1 to reference group 2	Group 3 to reference group 2	Group 1 to reference group 2	Group 3 to reference group 2
Constant	-33.007 (p=1.000)	120.954 (p=1.000)	78.613*** (p=0.000)	74.946*** (p=0.000)	68.280*** (p=0.000)	65.858*** (p=0.000)
Customer relationships are the most valuable asset of the bank.	12.976 (p=1.000)	-10.517 (p=1.000)	-17.643*** (p=0.000)	-17.567*** (p=0.000)	-13.873*** (p=0.000)	-13.697*** (p=0.000)
The customer advisor has to develop a mutual trust with customers and a long-term business relationship.	-3.826 (p=1.000)	2.280 (p=1.000)	0.889 (p=0.384)	0.830 (p=0.443)		
Portion of the SME customers with strictly assigned customer advisors.	-23.333 (p=1.000)	23.254 (p=1.000)				
Customer advisors advise customers also on investment products.	7.180 (p=1.000)	-12.389 (p=1.000)	2.629** (p=0.041)	2.810* (p=0.054)	1.774** (p=0.044)	1.834* (p=0.076)
Support of the entrepreneur in private financial tasks	1.770 (p=1.000)	0.310 (p=1.000)	0.735 (p=0.191)	1.177* (p=0.063)		
Monitoring of standing credits	4.048 (p=1.000)	-6.608 (p=1.000)	-1.026* (p=0.063)	-0.901 (p=0.127)	0.686* (p=0.090)	0.788* (p=0.077)
Internal rating programmed by sales department	-3.341 (p=1.000)	-2.639 (p=1.000)	-1.072 (p=0.380)	-0.833 (p=0.516)		
Qualitative information as a component of internal ratings	37.578 (p=1.000)	3.572 (p=1.000)	15.115*** (p=0.007)	17.315*** (p=0.005)	11.059*** (p=0.004)	12.706*** (p=0.003)
An employee has the final decision about the rating and can deviate from automatically generated ratings.	8.323 (p=1.000)	-6.629 (p=1.000)				
Qualitative information as a criterion for the classification as a nonperforming loan	-99.301 (p=1.000)	81.222 (p=1.000)	7.851 (p=0.340)	6.591 (p=0.450)		
Price definition of the credit is independent of the profitability of the entire customer relationship	3.459 (p=1.000)	-37.788 (p=1.000)				
Credit decision is independent of the demand for other products by the customer.	1.678 (p=1.000)	-7.089 (p=1.000)				
Cooperative banks	7.258 (p=1.000)	-12.605 (p=1.000)	2.583* (p=0.078)	1.785 (p=0.245)		
Private banks	-23.000 (p=1.000)	13.470 (p=1.000)	0.500 (p=0.726)	-0.843 (p=0.675)		
Total assets 2003	0.025 (p=1.000)	-0.022 (p=1.000)	0.002 (p=0.891)	-0.018 (p=0.540)		
ROE 2003	0.495 (p=1.000)	-0.413 (p=1.000)	-0.166 (p=0.152)	-0.063 (p=0.603)		
N	107		107		107	
-2 Log-Likelihood	0,00		135,509		100,750	
Chi-Square	174,980		39,471		22,498	
p-Value	0,000		0,024		0,003	
Nagelkerke R-Square	1.00 (perfect match)		0.38		0,004	

* Significant at the 0.10-confidence level (two-sided)

** Significant at the 0.05-confidence level (two-sided)

*** Significant at the 0.01-confidence level (two-sided)