



Financial Ratios Analysis in Determination of Bank Performance in the German Banking Sector

Sandrine Lardic^{1*}, Virginie Terraza²

¹EDEHN, Le Havre University, France, ²Centre for Economics and Management, University of Luxembourg, Luxembourg.

*Email: Sandrine.lardic@univ-lehavre.fr

Received: 01 February 2019

Accepted: 04 April 2019

DOI: <https://doi.org/10.32479/ijefi.7888>

ABSTRACT

This paper uses dynamic panel data methods to examine the determinants of bank's performance in the German banking sector. The main determinants considered are indicators of solvency and liquidity, which makes it possible to observe the behavior of the banks in terms of risk before and during the financial crisis. The study is motivated by the hypothesis that the behavior of German banks depends on bank-specific variables which have an effect on loan policy of institutions. Universal banks in Germany can be divided into three main types of institutions: commercial, public-sector and cooperative banks. The analysis is conducted in a disaggregated manner by classifying the banks into main categories. Each category is examined separately so as to detect possible similarities or differences in the behavior of each panel on banks' performance. The empirical analysis relates to a sample of 1624 German banks observed over the period 2000-2014.

Keywords: Banking Profitability, Financial Crisis, Financial Market Structure.

JEL Classifications: D21, G21, E44, C23, G32, L25

1. INTRODUCTION

The financial deregulation and liberalization of the economies in the 20th century, has changed the role and the institutional forms of banks in most European countries. Historically, almost all European countries had a so-called "three pillar" banking system comprising private banks, savings banks and cooperative banks. Under the pressure of globalization of the financial systems to converge on liberal market financial practices, several European countries have implemented changes in their banking systems, which have affected the two "pillars" of the savings and cooperative banks. In some European countries, cooperative banks have completely disappeared as specific groups of financial institutions and in some others, there is a convergence of objectives with private banks suppressing the substantial difference between these banks and international commercial banks.

The structure of German banks is almost unique in Europe as the German savings banks and cooperative banks have maintained most of their traditional features. Germany financial system conforms to a coordinated market model characterized by higher levels of bank participation in firms. However a part of the German banks have also adapted his system under pressures of the international economy in the 1970s. Consequently, commercial banks gradually moved into investment banking and trading activities while reducing their links to the industrial sector. The private segment of the banking sector is actually dominated by 3 big banks: Deutsche Bank, Commerzbank and UniCredit controlling one third of all commercial banks assets which makes them systemically key banks. Traditionally, the big banks have acted as house banks to the larger German industrial enterprises providing long-term loans for investment. Currently, roughly 50 per cent of the German banking sector consists of not-for-profit organizations. The bank business model put some pressure on

savings and cooperative banks, but they remained on their strong positions in the banking market as shown by Dilek et al. (2013).

Apart from the important role those savings banks and cooperative or mutual banks can play in several European banking systems, studying these two groups of banks is particularly interesting because of their unconventional organizational design in Germany, which sets them apart from private banks that solely operate in the interests of their shareholders. Moreover, under the influence of the financial crisis, and the experience of much bank failures, policy makers and regulators have adopted a skeptical view of the merits of private banks and are now trying to find ways of limiting their riskiness.

In this paper, we measure banks performance according to their specialization in order to analyze groups of banks and their disparities in determination of a bank performance. This procedure can improve managerial performance by identifying best and worst practices associated with high and low measured efficiency. In the practice, bank regulators screen banks by evaluating banks' liquidity, solvency and overall performance in order to intervene when there is need and to gauge the potential for problems. We propose to use financial ratios of solvency and liquidity which makes it possible to observe the behavior of the banks in terms of risk before and during the last financial crisis. The data used in the empirical study is obtained from Bankscope, a regular financial database of Fitch, IBCA and Van Dijk desk. The sample includes annual financial data of 1624 German banks observed over the period 2000-2014. The sample is divided into multiple panel data sets by classifying the banks according to their specialization. Each category is examined separately so as to detect possible similarities or differences in the behavior (i.e. the determinants) of each panel on banks' performance. The fact that all banks could not be included in the study constrains the validity of our analysis (Appendix A) particularly for the analysis of the commercial banks performance due to the lack of transparency in these data. However, as the private German banking system is highly concentrated, the three largest German banks (Deutsche Bank, Commerzbank, and UniCredit) may offer us a comprehensive analysis of some evolutions of this sector during the period. All the other banks specializations are relatively well enough informed.

2. DETERMINANTS FACTORS OF BANKS PERFORMANCE

Our sample is an unbalanced panel dataset of 1624 commercial banks, cooperative banks and saving banks in Germany over the years from 2000 to 2014 (Appendix B). Regarding the database, we eliminated 1% of the extreme observations. As a result we work with an unbalanced panel, but our results are much more stable.

In the Appendix B, we list the variables used in this study. The profitability variable is represented by two alternative measures: the ratio of the net return to total assets, (ROA), the ratio of the net return to the equity, (ROE). ROA has been used in most bank performance studies (for example Sufian, 2011). It measures the profit earned per Euro of assets and reflects how well bank

management uses the banks' real investment resources to generate profits. But this ratio does not take into account off balance sheet activities integrated in the results of the ROE ratio. Furthermore, we use an adjusted ROA, the return on average assets (ROAA), and an adjusted ROE (ROAE) respectively accounting for seasonal variations in assets or in equities during a fiscal year.

To identify potential size effects, we use total assets (TA) as an alternative size variable in our analyses. Indeed, one of important questions in the literature is which bank size maximizes bank profitability. Economic theory suggests that market structure affects firm performance since larger institutions could provide services at lower cost until diseconomies of scale set in. Literature has shown that the relationship between the bank size and profitability can be positive or negative (Staikouras and Wood, 2004; Athanoglou et al., 2008; Dietrich and Wanzenried, 2010; Naceur and Omran, 2011).

We use the ratio of equity to total assets (EQTA) and the ratio of equity to net loans (EQNL) to proxy the capital variables. Capital is one of the bank specific variables that influence the level of bank profitability. Capital creates liquidity for the bank, reduces the chances of potential losses and protects the bank's debtors. Capital adequacy ratio is an indicator of the internal strength of the bank to withstand losses during crisis. The ratio of equity on total assets measures the weight of the capital of the bank. This ratio estimates the funds' repartition of banks between debts and own capital. Then it seems that a high level of capital adequacy is an indicator of low debts and consequently of lower risk of insolvency. In the literature some studies have shown positive relationship between capital and profitability such as Al-Jarrah et al. (2010); Ommeren (2011); Rao and Lakew (2012), Terraza (2015). A second ratio of capital measures the financial level of banks calculating the proportion of own capital on the debt which banks use to finance their loans. Loan is the major asset of banks from which they generate income and the quality of loan portfolio is one determinant of the profitability of banks and an indicator of bank liquidity, another factor that determines the level of bank performance. Liquidity refers to the bank's ability to meet any and all necessary financial obligations, mainly of depositors.

Different studies have resorted to different proxies for liquidity including Bashir and Abdel-Hameed (2001), Hassan and Bashir (2003), and Alkassim (2005) where they found that the liquidity ratio has a significant impact on various measures of profitability. According to Dang (2011) adequate level of liquidity is positively related with bank profitability. Different financial ratios can be used to measure liquidity. The most common financial ratios that reflect the ability of banks to cover quickly short term-debts positions are net loans to total assets (NLTA) and total loans to customer deposits total (TLCDDT). The NLTA ratio measures the debt amount of the bank as a percentage of total assets. This liquidity ratio indicates what percentage of the assets of the bank is tied up in loans. This ratio does not directly measure liquidity; it gives an indication of how much of the bank assets are tied into illiquid loans. The higher this ratio the less liquid the bank will be and the more risk a bank may be to higher defaults. This ratio can be interpreted as well as a measure of the risk of liquidity as the credit risk. An increased

exposure to credit risk is normally associated with decreased bank profitability and, hence, we expect a negative relationship between ROAA and the NLTA ratio. Another liquidity ratio is net loans-to-deposits TLCDT. This ratio compares illiquid assets to their own financial source. This liquidity or funding ratio indicates to what extent the banks relatively illiquid loans are funded by relatively stable customer deposits rather than wholesale or market funding. Ideally this ratio should be below 100%. Indeed, the higher the TLCDT ratio is, the higher the dependence on non-deposit funding. Since deposits are viewed to be more stable and cheaper source of fundings, greater dependence may signal higher funding risks and higher riskiness for a bank. A range between 70- 90% of this ratio is seen as optimal (Golin and Delhaise, (2013)). Indeed, if the ratio is too high, it means that banks might not have enough liquidity to cover any unforeseen fund requirements; if the ratio is too low, banks may not be earning as much as they could be. This ratio is often used by policy makers to determine the lending practices of financial institutions. The liquid assets to total customer deposits and short term funding (LACUST) show the ability of a bank to meet its liabilities. The numerator is computed from all reserve assets of the banks. This ratio can be considered as a proxy for what percentage of customer deposits and short term funding could be met if they were withdrawn suddenly. The higher the ratio is, the more liquid the bank is to repay its short term liabilities with the liquid assets from its balance sheet. Consequently, we can expect a positive sign for the coefficients of this variable in the determination of the bank profitability.

These last years the capacity of an establishment to increase net loans to customer deposits was considered by the analysts, as an important criterion of banks performance. The consequence was the slowdown of banks deposits in order to develop off balance sheet activities and the use of leverage effects investing in securities to generate additional profits. The advantage of this strategy is the option of by passing limits fixed by the regulators, the possibility to avoid accumulation of capital and the potential reduction of customer deposits. In this paper, we use the ratio defined as the Off-balance sheet items divided by off-balance sheet items plus total assets (OFFBAL) in order to measure the importance of liabilities off balance sheets compared to the whole activity of the bank. Goddard et al. (2004) tested the effect of this ratio on the profitability of the European and American banks and they found that the coefficient of regression is negative for Germany but it's positive for England. For other countries, the coefficients are not significant.

The suppression of some outliers can give a non-integer number of banks.

Table 1 reports the descriptive statistics for the variables used in our analyses. On average, the banks in our sample have a ROAA of 0.29%, a ROAE of 4.17%. The difference between mean and quartiles for all ratios indicates that there exist large profitability differences among the banks in our sample. On average, the capitalization of banks is 7.18%, which, however, differs among banks. The quartiles show that on average the vast majority of banks are below the 8% supervision requirement during the whole period: 75% of banks have a ratio lower than 7.90. However we observe some significant differences between the results of the different time periods: we observe an upward trend since 2004 and from 2011 the capital ratio is in average above the 8% supervision requirement for all banks (Table 1 in Appendix C). The results differ also according to the specialization of banks. The ratio of commercial bank is always higher than 11% for the entire period while until 2011, Cooperative and saving banks are low capitalized banks (Tables 2 and 3 in Appendix C). The credit risk ratio measured by the ratio of the net loans to total assets (NLTA), amounts to 58.23% which indicates on average, a relatively low level of liquidity among the banks in our sample with respect to this variable. The second measure of liquidity confirms the previous result. The ratio of LACUST amounts to 17.40% on average and the median is quite similar. Finally, the credit ratio to deposits (TLCDT) compares illiquid assets from its own source of income. As pointed out above, in average, a substantial part of the total income of the banks in our sample stems from illiquid operations. In order to better explain the origin of income, the last ratio despite off balance sheet activities in accordance with the whole activities of banks. As observed this ratio is quite low compared to the current trend. To see in detail the behavior of banks during the period, we observe the average of the ratios estimated each year (Table 3 in Appendix C). Figure 1 examine the profitability performance of banks during the period 2000-2014. Profitability is measured in terms of ROAA, and return on average equity (ROAE).

From 2000 to 2004, banks' profitability measured by the ROAA ratio is relatively stable around 0.25% before attempt more than 0.30% from 2005. It shows that prior the crisis period of 2008, the ROAA ratio was usually higher than 0.3% but in a decrease tendency to attempt 0.2% at the time crisis period. After the 2008 crisis, the ratio has increased from 2009 to 2010, but without on average recovers the level of 2005 and since 2011, the downward trend continues. A similar trend is observed for the ROAE ratio. From 2011 however, the rate of return to shareholders slightly decline to attempt 3.91% in 2012. This indicates that the banks significantly progressed in profitability only during the periods of 2004-2005 and 2009-2010. We lead specific analysis

Table 1: Descriptive statistics

Statistics	ROAA	ROAE	TA	EQTA	EQNL	NLTA	LACUST	TLCDT	OFFBAL
Mean	0.29	4.17	4435244.28	7.18	14.94	58.23	17.40	229.08	5.52
Quartile1	0.14	2.39	222100.00	5.12	8.48	51.09	8.85	67.41	3.15
Median	0.23	3.71	529500.00	6.27	10.75	60.16	13.71	82.45	4.54
Quartile3	0.35	5.41	1306100.00	7.90	14.13	67.53	20.12	98.08	6.49
Std.	0.39	2.81	64327572.3	5.95	36.96	14.57	24.92	3026.57	5.20
Min.	-8.24	-9.85	322.00	0.00	0.00	0.00	0.00	0.00	-0.81
Max.	9.68	18.35	2587312000	100.00	985.42	99.97	926.58	124160	93.86
Number of banks	1371.8	1349	1375.8	1375.8	1369.06	1374.4	1372.2	1369.1	1352

by classifying banks into categories. Table 3 in Appendix C compare the profitability measures according different groups of banks in order to examine whether performance is specialties dependent. Figure 2a below show the trend of ROAA and ROAE by specialization (ROAAsp and ROAEsp).

As mentioned above, performance strongly declined in 2008 for all specialties may be because of the effect of the global economic crisis and its effect on the domestic one. Again performance improved in 2010 after the recovery. However commercial banks performance exhibits an erratic and downward trend in the study period suggesting that the pricing ability of commercial banks was generally lower in recent years than previously. We observe that cooperative and saving banks exhibit a lower profitability than commercial private banks but since 2009 the gap between cooperative banks and commercial banks has narrowed for the benefit of cooperative banks. Then, on average the performance of cooperative banks in the country has been increasing compared

to the financial performances of our commercial banks sample. This shows that investments in cooperative banking in Germany have been profitable and it is an avenue to attract foreign direct investment. To explain the evolution of the ratio for commercial banks, we show the evolution of the ratios for the 3 biggest banks in Germany. We observe from Figure 2b that the effects of the crisis are more pronounced with a negative ratio of their performance during the two crisis period: In 2003 the ROAA for UniCredit is -0.48 while for Commerzbank is -0.55 and in 2009 this ratio attempts -0.63 for Commerzbank. The more volatility of these banks is well reflected showing sharp strike and big drops in performance during the period.

To better understand these shapes, first we observe the evolution of total assets of banks during the period. Figure 3 show the upward trend of total assets of commercial banks sector before the crisis from 2006 until 2008 and small decline after. If cooperative banks remain relatively constant in their evolution of total assets, saving

Figure 1: Profitability measures

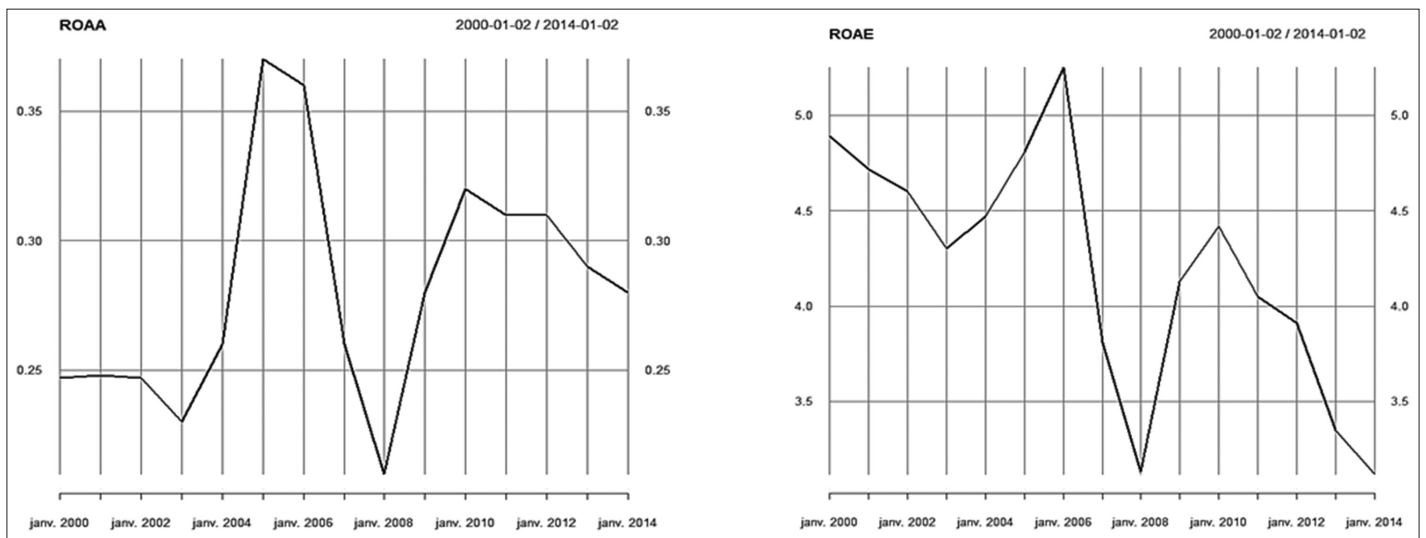


Figure 2a: Profitability measures of different groups

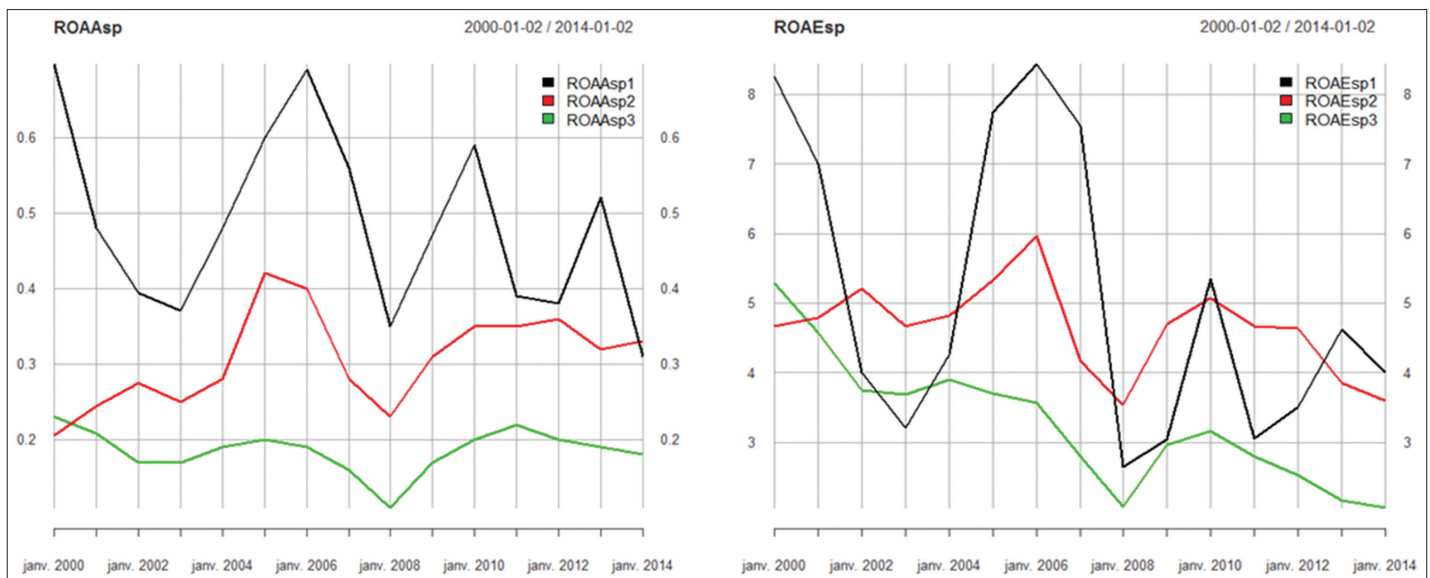


Figure 2b: Profitability measures of the biggest commercial banks

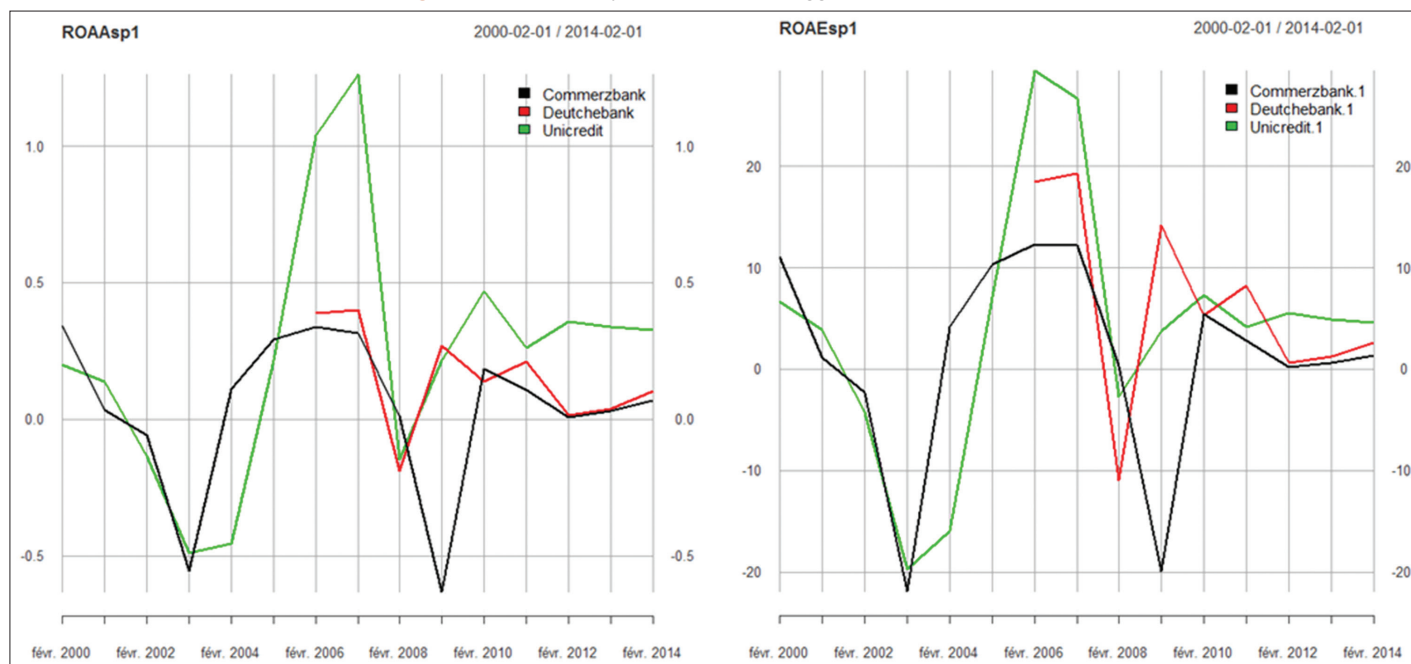
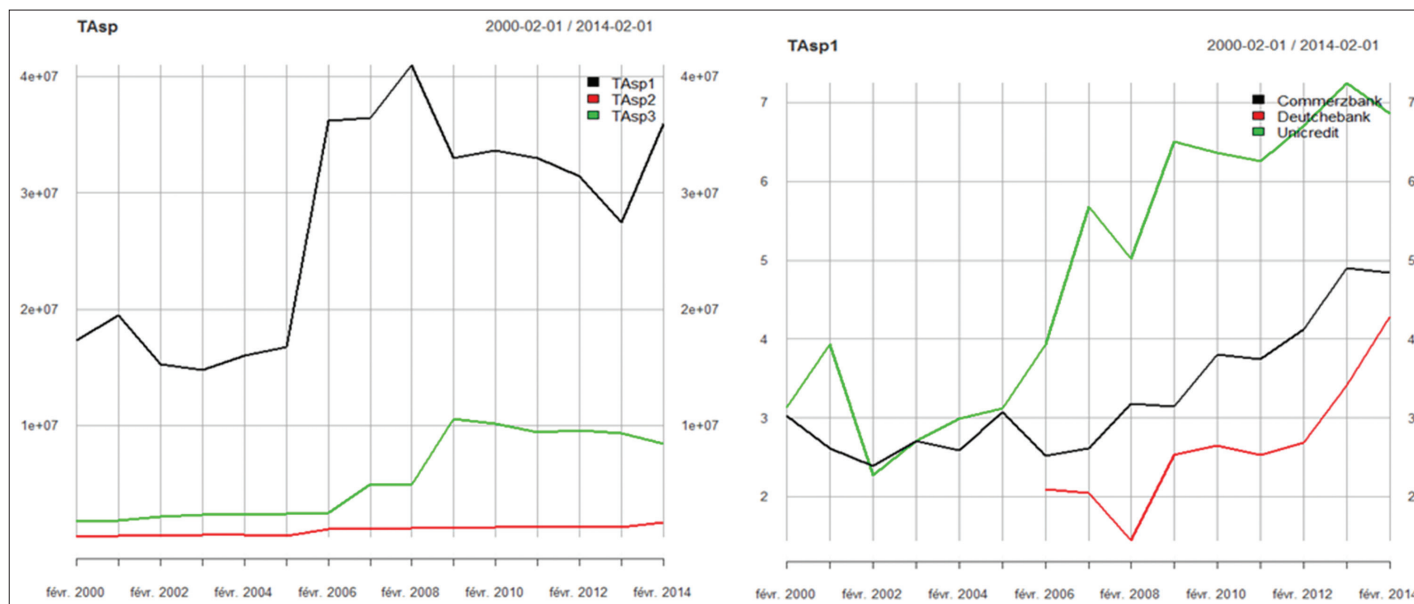


Figure 3: Total assets of different groups



banks earn a relatively big share of income of total assets since 2009 compared to cooperative banks. On the second Figure 3 below, we observe the evolution of total assets of the 3 biggest banks. Deutsche Bank is one of the largest banks. In 2014, their total assets amounted to approximately 1.7 billion euros, to 558 million euros for Commerzbank and 300 million euros for UniCredit.

From the previous results, we notice that the performance ratio of commercial banks measured by the ROAA decreases passing from 0.69 in 2006 to 0.31 in 2014 while in the same time the total assets progress heavily from 2005 until the crisis and remains more or less stable from 2008. Then a second analysis will be to compare the structure of banks incomes using the equity multiplier

(EM) defined as total assets divided by common equity. This ratio represents the degree of financial leverage of a bank estimating which assets are funded with equity relative to debt. Table 2 reports the equity multiplier and compares its values with those of the EQTA ratio during the whole period for all groups of banks.

From Table 2, we observe that EM is higher for cooperative and saving banks than for the commercial banks due to a lower amount of capital generated by this category of banks. By decreasing equity, a bank can increase ROAE based on any given level of ROAA but can also decrease ROAA for a given level of ROAE¹. From 2008,

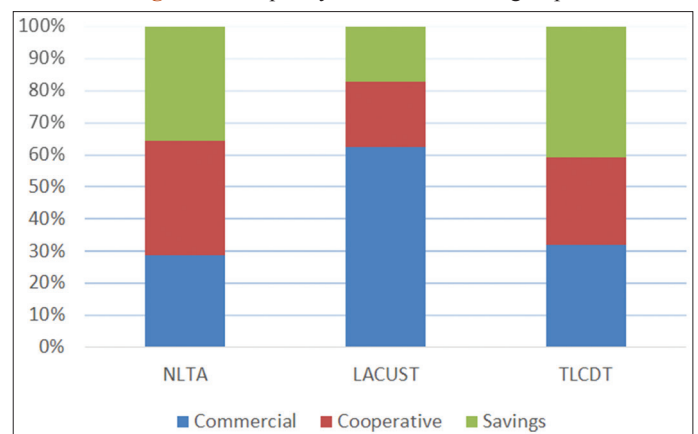
1 The ROAA times the equity multiplier yields the ROAE. This equation is referred to as the *Extended Du Pont Equation*.

Table 2: Financial leverage of banks

Year	EM_Sp1	EM_Sp2	EM_Sp3	EQTA_Sp1	EQTA_Sp2	EQTA_Sp3
2000	7.21	18.64	22.28	13.87	5.37	4.49
2001	8.88	18.68	21.95	11.27	5.35	4.56
2002	8.17	18.07	21.32	12.24	5.53	4.69
2003	7.69	17.67	20.53	13.00	5.66	4.87
2004	7.29	17.12	19.65	13.71	5.84	5.09
2005	8.29	15.48	18.45	12.07	6.46	5.42
2006	7.17	14.73	17.86	13.95	6.79	5.60
2007	6.82	14.56	17.64	14.67	6.87	5.67
2008	7.39	14.93	17.76	13.54	6.70	5.63
2009	7.45	14.75	16.72	13.43	6.78	5.98
2010	6.57	14.16	15.63	15.21	7.06	6.40
2011	6.57	13.21	13.07	15.23	7.57	7.65
2012	6.08	12.32	12.18	16.45	8.12	8.21
2013	6.20	11.49	11.51	16.13	8.70	8.69
2014	6.32	11.06	10.89	15.82	9.04	9.18
Mean	7.21	15.12	17.16	14.04	6.79	6.14

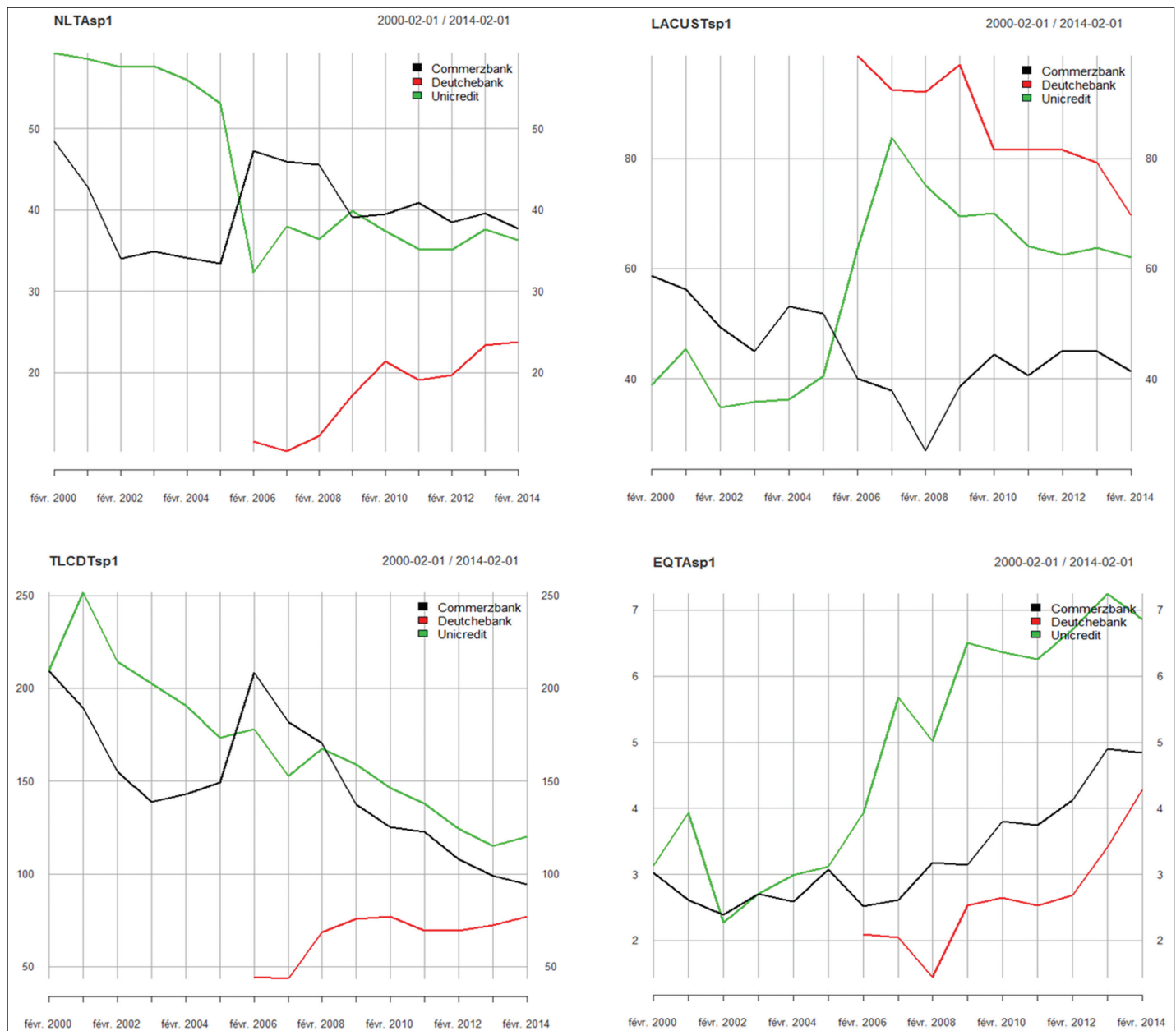
the economic tendency is to increase capital of banks in order to maintain efficiency and profitability performance. The trend reflected by ROAA is then reflected in the equity multiplier. The EM ratio has continued to fall at a decreasing rate for commercial banks, indicating a decrease of 14.41% in 2014 compared to 2008 and a decrease of 22.64% compared to 2002. The decline in the EM ratio is as a result of capital levels which have significantly improved. However, all specialties of banks suffered bank performance decreases from 2005. Commercial banks have known an increase in profitability from 0.35% in 2008 to 0.59% in 2010 before falling to 0.31% in 2014. One explication of the highest ratio for commercial banks' profitability compared with the other banks specialties during the period is also probably due to strong decrease in the EM ratio as a result of capital levels. In contrast, among the different banks specialties, saving banks have experienced the higher leverage and stayed at a lower level of profitability around 0.2% during the whole period. During a crisis, poor asset quality and low levels of liquidity are the two major causes which may bank failures. Then banks may decide to diversify their portfolios and or raise their liquid holdings in order to reduce their risk. To verify these features, credit risk and liquidity ratio are represented below differencing the category of banks (Table 2 in Appendix C).

Figure 4a show the rate of average liquidity in terms of net loan to total assets ratio (NLTA), total loans to customer total deposit (TLCDT) and liquid assets to total customer deposits and short term funding (LACUST). We observe that on average, liquidity ratios are relatively low for all categories of banks. Liquidity levels have been slightly falling during the period but contracted most between the years 2009-2010 as the result of the financial crisis. The ratio of net loans to total assets does not directly measure liquidity; it gives an indication of how much of the bank assets are tied into illiquid loans. A level upside of 50% suggests an increase in loan provisions of all banks which induce a reduction of the amount of available liquidity. Generally, a higher NLTA may indicate possible liquidity problems for banks which are confirmed by the estimation of the LACUST ratio under 20% for cooperative and saving banks. This ratio is enhanced (49.1%) for commercial banks but it remains under 50%. A loan-to-deposit ratio inferior to 100% can indicate that banks have cash enough on hand for contingencies which is the case for cooperative banks with a ratio

Figure 4a: Liquidity ratios of different groups

around 80% and for commercial banks with a ratio of 94.91%. For these banks it's a good benchmark in order to combining prudence and regulatory requirements. Finally, commercial banks present the highest level of liquidity then the other groups of bank specialties.

Since this banking sector is very concentrated, we compare the evolution of the mean of liquidity ratios of our sample of commercial banks to the 3 biggest banks of the sector (Appendix D and Figure 4b). We observe an upward trend of the NLTA ratio until the crisis, a sudden drop with the crisis and an increase of the ratio afterwards more pronounced for Deutsche bank passing from around 12% in 2008 to 24% in 2014. In general, we observe a lower ratio for the biggest banks during the period compared with the mean ratio of commercial banks. This tendency is more pronounced for the Deutsche bank knowing a low amount in loan provisions during the period confirmed by the low level of the TLCDT ratio. The change in the trend signifies the slowing down in net loans indicating a fall in the amount of customer and short term funds. For Commerzbank and UniCredit, the TLCDT ratio has been gradually falling during the period from 208.53% in 2006 to 107.85 in 2012 for Commerzbank, for example. In terms of the degree of capital adequacy, while the capital ratio is above 8% in mean for commercial banks, this ratio is just around 4% in average for Commerzbank and UniCredit but under 3% in mean for the Deutsche bank which is largely inferior to the capital

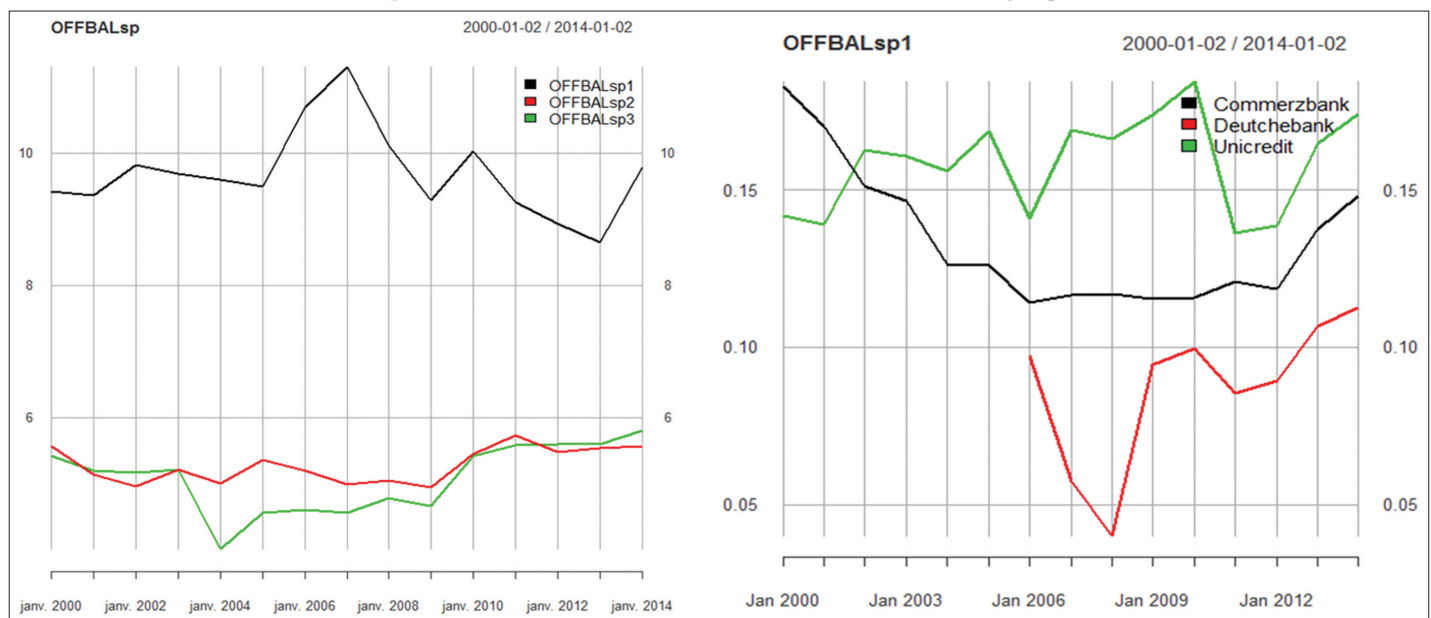
Figure 4b: Evolution of liquidity and solvability ratios of the biggest commercial banks

requirement. As a consequence, a large disparity appears between commercial banks in Germany according to their exposition to credit risk. The 3 biggest are the primary contributors to liquidity creation but a question remains concerning the efficiency of the prudential mechanism, in particular we observe that the relation between bank capital and liquidity creation seems to be not pertinent for these banks.

Indeed, banks liquidity needs depend significantly on the balance-sheet structure, product mix, and cash flow profiles of both on- and off-balance-sheet obligations. The German corporatist structure relies much more on banks for financing rather than the securities markets that dominate the U.S. and British systems.

Figure 5 confirm this result giving the part concerning off balance sheet activities of banks on the global activities. Large banks have a different performance in terms of risk and return outcomes.

Commercial banks can more easily operate on the international markets and then can obtain a larger share of their income in the form of trading income and fees. Furthermore, large banks held a relatively small share of their assets in the form of loans rather than, for instance, securities, and they attract a relatively large share of their short-term funding in the form of non-deposit or wholesale funding. Obviously, cooperative and saving banks can be also large banks but German corporatist practices are centered on the German mentality of shareholders as stakeholders rather than outsider investors. The shares of German companies are not widely distributed compared to the broad distribution of company stocks held by mutual funds, pension funds, insurance companies, private institutions, and individuals in some other European countries. In contrast, Most of commercial banks depend more heavily on wholesale funding markets than on the retail depositors see Figure 4 on the left below. Wholesale funding sources are usually less stable and have higher volatility. On the second Figure 4 on

Figure 5: Evolution of the off balance sheet ratio for the different groups

the right, it appears that the ratio of the 3 biggest banks is very low comparing with the ratio of commercial banks in our sample. Indeed, the ratio is under 20% during the period and even under 1% for the Deutsche bank in 2008. Surprisingly, it seems that off balance sheet represents a small proportion of the global activity of the three biggest banks. We think that this conclusion may be taken with caution because of the lack of transparency due to the nature of this ratio.

3. MODEL AND DATA

Following the recent literature in panel data studies (e.g. Salas and Saurina (2002), Merkl and Stolz (2009) on banking related studies, Calderón and Chong (2001), Cheng and Kwan (2000), Beck and Levine (2004), Santos-Paulino and Thirlwall (2004) and Carstensen and Toubal (2004) on macroeconomic studies), a dynamic approach is adopted in order to account for the time persistence in the performance structure:

$$Y_{it} = \gamma Y_{it-1} + \sum_{j=0}^J \beta_j X_{i,t-j} + u_{i,t} \quad i = 1, \dots, N; t = 1, \dots, T \quad (1)$$

with $u_{it} = \mu_i + \lambda_t + v_{it}$, where

Where Y (respectively ROAA, ROAE), the endogenous variable, is bank ratio of performance. The subscript i denotes the bank and t denotes the time period. u is the error term of the model, μ and λ are respectively bank and time specific effects. Y_{it-1} represent the one period lagged dependent performance of bank i , β_j is the vector of coefficients to be estimated, X_t the vector of explanatory variables. Six bank characteristic indicators are used as internal determinants of performance. They include the total assets (TA), the ratio of EQTA, the ratio of equity to total loans (EQNL), a credit risk ratio defined as net loans to total assets (NLTA), the liquidity risk defined as liquid assets to customer deposits and short term fundings (LACUST) and the ratio total loans to customer deposit total (TLCDT). is the speed

of adjustment to equilibrium. A value of between 0 and 1 implies that profitability persists. A value of γ close to 0 means that the market is fairly competitive. A value of γ close to 1 implies a less competitive structure.

To estimate our dynamic panel data model, we use the system-GMM estimator (SYS-GMM) (Blundell and Bond, 1998; Blundell et al., 2001). This method uses a set of instrumental variables to solve the endogeneity problem arising from the potential correlation between the error term and the independent variable in dynamic panel data models (Topcu, 2013). The set of instruments includes all the available lags in difference of the endogenous variables and the strictly exogenous regressors (Arellano and Bond, 1991), but also the lagged values of the dependent variable. Dynamic panel data models, with unobserved individual-specific heterogeneity, have been widely used. Several estimators have been used for estimating the parameters in such dynamic models. A standard estimation procedure is to first-difference the model, so as to eliminate the unobserved heterogeneity, and use moment conditions where endogenous differences of the variables are instrumented by their lagged levels. This corresponds to the first-difference (DIF-)GMM estimator (Arellano and Bond, 1991). However, the DIF-GMM estimator was found to be inefficient since it does not utilize all available moment conditions (Ahn and Schmidt, 1995). Moreover, it has poor finite sample properties in dynamic panel data models with highly autoregressive series and a small number of time series observations (Alonso-Borrego and Arellano, 1999; Blundell and Bond, 1998): In those cases the instruments become less informative. To improve the performance of the estimator, Blundell and Bond (1998) proposed taking into consideration extra moment conditions from the level equation that rely on certain restrictions on the initial observations, as suggested by Arellano and Bover (1995). The resulting SYS-GMM estimator has been shown to perform much better than the DIF-GMM estimator in terms of finite sample bias and mean squared error, as well as with regard to coefficient estimator standard errors since the

Table 3a: Estimation results for the whole period (ROAA dependent variable)

ROAA	2000-2014			
	All	Sp1	Sp2	Sp3
L.ROAA	0.139 (0.017)	0.11 (0.024)	0.111 (0.008)	0.21 (0.019)
EQTA	0.023 (0.004)		0.094 (0.006)	0.021 (0.011)
EQLN				0.017 (0.004)
L.EQLN		0.0012 (0.0003)	-0.035 (0.003)	
NLTA	-0.0022 (0.0012)		-0.007 (0.001)	
L.LACUST	0.0014 (0.0004)	0.0015 (0.0005)		0.0008 (0.0003)
TLCDT			0.0008 (0.0003)	
L.OFFBAL		0.011 (0.004)		0.0008 (0.0004)
C ¹	0.18 (0.078)		0.45 (0.053)	-0.35 (0.07)
AR(2) test*	0.22	0.72	0.45	0.042
nobs (%)		6.06	61.77	32.17

To compensate the standard error downward bias associated to the two-step SYS-GMM estimator, we apply the finite-sample correction to the two-step covariance matrix derived by Windmeijer (2005). Standard errors are in brackets. *Arellano-Bond test. An "L." in front of a variable means one lag of this variable. ¹Note that including a constant does not impact the other parameter estimates since it is identified only by the level errors

instruments used for the level equation is still informative as the autoregressive coefficient approaches unity (Blundell and Bond, 1998). However, it was pointed out later on, (Hayakawa, 2007; Bun and Windmeijer, 2010), that the weak instruments problem still remains in the SYS-GMM estimator.

We estimate our model over the entire time period from 2000 to 2014. The results's instability has led to us to introduce additive time effects in the regression², which turned out significant, translating the importance of the time dimension over the studied period. In many studies, a time effect is included to represent an aggregate shock that is common to all the cross-section units. In order to better investigate the impact of the recent financial crisis on the determinants of banking profitability, we then split up the sample into three time periods, namely the first crisis period ranging from 2000 to 2004, the 2008 crisis period from 2005 to 2009 and post-crisis period from 2010 to 2014.

To verify the consistency of the GMM estimator, we consider the Arellano-Bond test for autocorrelation. This test examines the null hypothesis of no order serial correlation in the first-differenced residuals. We test second-order correlation AR(2), which should accept the null hypothesis. If not, it would mean that lags of the dependent variable (and any other variables used as instruments that are not strictly exogenous) are *in fine* endogenous, and thus bad instruments (Arellano and Bond, 1991). But this case is rejected by the test for AR(2) errors for our regressions.

Estimation results are given from Tables 3a and b & 4a and b. Our lagged dependent variables which measure the degree of persistence of our profitability measures ROAA, ROAE are statistically significant across all models, indicating a high degree of persistence of bank profitability and justifying the use of dynamic models. Overall, we observe some significant differences between the estimation results of the different time periods, and according the specialization of banks both with respect to the significance and the size of the coefficients.

2 Note that "the asymptotic bias of the fixed effect estimator in the linear dynamic panel regression model is sourced in the presence of the individual effect not the presence of the time effect when these components enter the model in an additive and separable form" (Hyungsik et al., 2015).

As observed, for the whole period, linear measures of total assets show a general positive trend but it seems that total assets have no impact on profitability of all types of banks. To test the robustness of the results, we observe the impact of the variable according the different time period considered. For commercial banks a size profit relationship appears. More precisely, we observe a downward trend or a relative stability of total assets over the period 2000-2001 and in the same time an increase of the equity multiplier of the banks due to a low level of bank capital (Appendix C Table 3). The result is a positive relation between the profitability and total assets during this period. From 2005, TA progresses, knows high levels and respectively ROAA and ROAE achieve the outstanding level of 0.69% and 8.44% respectively in 2006. From 2008, however, the two variables fall below 2005 level: The equity multiplier of the banks decreases due to a decrease in total assets. It explains the negative relation observed between total assets and ROAA during the 2008 crisis period for commercial banks. For cooperative and saving banks, no explicit relation appears between total assets and profitability measures.

The capital ratio (EQTA) has a positive and significant effect on bank profitability as measured by ROAA and ROAE for cooperative banks for all different time period. The capital adequacy ratio has a more pronounced impact on shareholders return during the financial crisis period (1.11). A high capital adequacy may reduce the risks of the cooperative banks, but, in the same time, the shareholders do not benefit from the leverage effect. Comparing to ROAE, the ROAA takes into account the risks derived from the leverage and during the crisis period the effect of the solvency is positive but weaker (0.19) for cooperative banks. For saving banks, the ratio has a negative impact on ROAA during the 2010-2014 due to an important augmentation of total assets of these banks and a positive impact on ROAE on the 2000-2004 periods due to a low level on capital. Concerning, commercial banks, the capital ratio has a negative and significant effect on bank profitability during the financial crisis 2007-2009. Indeed, commercial banks don't be able to convert their amount of deposits into higher income earnings as the demand for lending decrease during this period.

The EQNL capital ratio affects positively and significantly the profitability of saving banks in any time period. Indeed,

Table 3b: Estimation results in sample periods (ROAA dependent variable)

ROAA	2000-2004			2005-2009			2010-2014		
	Sp1	Sp2	Sp3	Sp1	Sp2	Sp3	Sp1	Sp2	Sp3
L.ROAA	0.096 (0.072)	0.06 (0.034)	0.416 (0.08)	0.28 (0.068)	0.08 (0.017)	0.17 (0.029)	0.13 (0.06)	0.25 (0.026)	0.13 (0.03)
TA	2.58e-9 (9.4e-10)			-1.3e-9 (3.06e-10)					
L.TA	1.19e-9 (5e-10)								
E.QTA		0.22 (0.025)		-0.02 (0.007)	0.19 (0.02)			0.056 (0.01)	-0.02 (0.01)
L.EQTA	-0.02 (0.01)		-0.306 (0.05)			-0.16 (0.027)			-0.023 (0.006)
EQLN	0.002 (0.001)		0.182 (0.03)	0.002 (0.0008)	-0.09 (0.012)	0.05 (0.012)		-0.027 (0.004)	0.03 (0.006)
L.EQLN		-0.079 (0.011)		-0.008 (0.0047)	-0.011 (0.003)				
NLTA		-0.012 (0.002)					0.0007 (0.0006)	-0.005 (0.0013)	
L.NTA					0.0017 (0.001)			0.0026 (0.001)	
L.ACUST									0.001 (0.0006)
L.LACUST							0.026 (0.012)		
TLCDT									
L.TLCDT									
OFFBAL									
L.OFFBAL	0.03 (0.015)		0.006 (0.001)	0.002 (0.001)		0.003 (0.0007)			
C		0.47 (0.14)			0.74 (0.19)			0.43 (0.07)	
AR(2) test*	0.14	0.045		0.61 (0.21)	0.17	0.57	0.89	0.29	0.11
nobs (%)	6.18	58.34	35.48	5.46	64.31	30.23	6.68	61.33	31.99

Standard errors are in brackets. *Arellano-Bond test

profitability of saving banks is strongly dependent of the amount of total loans provisions.

As expected, credit risk measured by NLTA is negatively and significantly related to bank profitability measures. This shows that in the German banking system managers, cooperative banks seem to have adopted a risk-averse strategy, mainly through policies that improve screening and monitoring credit risk. There is also empirical evidence that liquidity, measured by TLCDT, positively affects ROAE of cooperative and saving banks from the second sub-period. Indeed, from 2008, loan provisions have significantly increased during the crisis. However, a ratio raised for these banks does not mean the insufficiency of the deposits with regard to the credits, but rather the importance in volume of the credits given by these banks. The hypothesis, according to which the cooperative banks are rather specialized in retail banking by financing widely by liquid assets, is so verified. The variable TLCDT, have no impact on profitability of German commercial banks. Indeed, total loans are associated with decreased large bank profitability and, hence higher provisions usually indicate higher probability of non-performing ratios and lower asset quality. Then, higher liquidity would be associated with lower profitability for commercial banks. This explains why commercial banks suffer from the lack of provisions to cover expected credit losses over the crisis period (2008-2009). After the crisis the ratio declines but without reaching the 100% level as for the other specialties of banks.

The variable LACUST have a statistically significant effect on banks profitability essentially during the last sub-sample. This means that after the crisis period banks are be able to cope with long term liquidity and has less risk exposure, this positively impact the ROAE and thus the financial performance of the bank. We observe also a positive impact of this variable on the ROAA of banks. In the financial system, good funding liquidity may allow to increase trading activities of banks, which in turn can improve market liquidity. Conversely, tightened funding liquidity dissuades capital-constrained investors from taking positions, adversely affecting market liquidity. German bank's funding source depends on the bank's business model. Commercial or private banks have become stock market corporations and have developed intensive trading activities.

We observe that the variable OFFBAL have a significant and positive effect on the commercial bank ROAA ratio before and after the crisis periods. This means that off balance sheet activities could improve the profitability of banks but also increase the level of liabilities. During the crisis period, the variable has a positive impact on ROAE. It seems that financial strategies have been able to artificially maintain a healthy ROAE, growing debt average and hide deteriorating performance in business fundamentals.

Since a bank's business model typically implies a high level of debt, these sources of risky investments coupled with very low loan provisions before the financial crisis explain the significant losses of commercial banks during the crisis period. The ratio has also a positive impact on cooperative banks during the crisis but in a small proportion (0.038 instead of 0.19 for commercial banks).

Table 4a: Estimation results for the whole period (ROAE dependent variable)

ROAE	2000-2014			
	All	Sp1	Sp2	Sp3
L.ROAE	0.298 (0.015)	0.51 (0.04)	0.194 (0.012)	0.42 (0.023)
TA	1.24e-8 (3.47e-9)		1.85e-7 (4.6e-8)	
L.TA		-1.08e-9 (4.4e-10)	0.37 (0.06)	-3.14e-9 (1.43e-9)
EQTA		-0.74 (0.04)		
L.EQTA		-0.005 (0.0023)		
EQLN	-0.092 (0.031)			
L.EQLN			-0.31 (0.034)	
NLTA			-0.036 (0.01)	-0.2 (0.023)
L.ACUST	0.0044 (0.002)	0.014 (0.003)		
L.OFFBAL		0.07 (0.03)		
C	3.57 (0.21)	2.2 (0.46)	6.92 (0.66)	4.3 (0.63)
AR(2) test*	0.01	0.39	0.094	0.64
nobs (%)		5.21	61.95	32.84

Standard errors are in brackets. *Arellano-Bond test

Table 4b: Estimation results in sample periods (ROAE dependent variable)

ROAE	2000-2004			2005-2009			2010-2014		
	Sp1	Sp2	Sp3	Sp1	Sp2	Sp3	Sp1	Sp2	Sp3
L.ROAE	0.34 (0.031)	0.35 (0.08)	0.17 (0.044)	0.37 (0.11)	0.077 (0.024)	0.49	0.45 (0.11)	0.39 (0.03)	0.37 (0.05)
TA									3.9e-9 (2.2e-9)
L.TA	0.14 (0.05)	0.11 (0.069)	1.65 (0.27)		-9.5e-7 (4.5e-7)			-4.41e-8 (2.8e-8)	
EQTA					1.11 (0.16)			0.14 (0.07)	
L.EQTA									
EQLN									
L.EQLN				-0.01 (0.003)	-0.63 (0.09)				
NLTA									
L.NLTA									
L.ACUST									
L.LACUST				0.02 (0.006)	0.017 (0.009)		0.012 (0.004)		
L.OFFBAL		0.004 (0.002)							
L.TLCDT									
OFFBAL									
L.OFFBAL				0.19 (0.07)	0.038 (0.016)				
C	2.23 (0.37)		20.27 (2.89)		9.64 (1.73)		2.06 (0.56)	11.37 (0.85)	3.59 (0.73)
AR(2) test*	0.01	0.52	0.052	0.9	0.71	0.2	0.67	0.13	0.06
nobs (%)	36.49	5.02	58.49	4.84	63.95	31.21	5.74	61.86	32.40

Standard errors are in brackets. *Arellano-Bond test.

Saving and cooperative banks, meanwhile due to a rather prudent business model, have been able to extend their share of income despite owning the small part of total banking assets.

4. CONCLUSION

The ROAE and the return of average assets of German banks are studied to identify key determinants that correlate with banking performance as the dependent variables. Most investors tend to focus on return on equity as their primary measure of bank performance as ROAE focuses on return to the shareholders of a bank. As financial strategies can artificially maintain a high level of ROAE, this metric to estimate the performance of a bank is interesting but insufficient. Comparing to ROAE, the use of ROAA takes into account the risks derived from the leverage and is considered as the key bank profitability ratio. However ROA doesn't take into account the off-balance-sheet assets, which represent an important source of profit for European banks.

This paper analyses the main factors of solvency and liquidity and their impact on bank performance over the period 2000-2014 in the German banking system. The structure of German banks is almost unique in Europe separating the institutions according their principal funding sources and their activities. In all the sub-periods, the capital ratio EQTA has a positive impact on the profitability measures of cooperative banks while it's the capital ratio EQLN which has a positive impact on the profitability measures of saving banks. This is due to the traditional business activities of these banks concentrating on the core-business of banking and corresponds to their mission and tradition. For commercial banks, before the crisis, capital ratios EQLN or EQTA have a significant and positive impact on profitability measures but during the crisis these ratios have a negative or inexistent impact on profitability measure showing the incapacity of commercial banks to convert their amount of deposits into higher income during this period. In the same time, the percentage of customer deposits and short term funding which provide funding reserve of liquidity have no impact on profitability before and during the crisis except for cooperative banks during the crisis. The funding ratio TLCDT has a positive impact on the return on equity for cooperative and saving banks during the crisis period while a significant and positive relationship between the ROAA ratio and off balance sheet activities is observed for commercial banks before and after the crisis. This behavior of commercial banks may result from speculative action by banks in generating higher earnings. This could indirectly result in higher risk associated with the use of such products. It has become apparent that commercial banks have known larger risks. Nevertheless, a huge amount of total assets conjured with a low level of capital suggest a high level of liabilities for the 3 biggest banks in Germany. This mechanism of more debt to get more competitiveness represents one cause of the fragility of the international financial system. This should be an important preoccupation for the regularly authorities and concern the future of stability of the financial system.

In contrast, German savings and cooperative banks managed to remain relatively stable and profitable during the crisis years. The diversity in the German banking system in which private,

public and cooperative banks co-exist, a feature that was prevalent in the banking systems of most European countries, proved very effective during the financial crisis. One consequence of deregulation has resulted from the mixing of investment and commercial banking and many regulators have then proposed reforms to limit speculation and investment banking activities by commercial banks. But do the limits will be appropriate and sufficient or as during the great depreciation of 1929 the next step will be antitrust legislations?

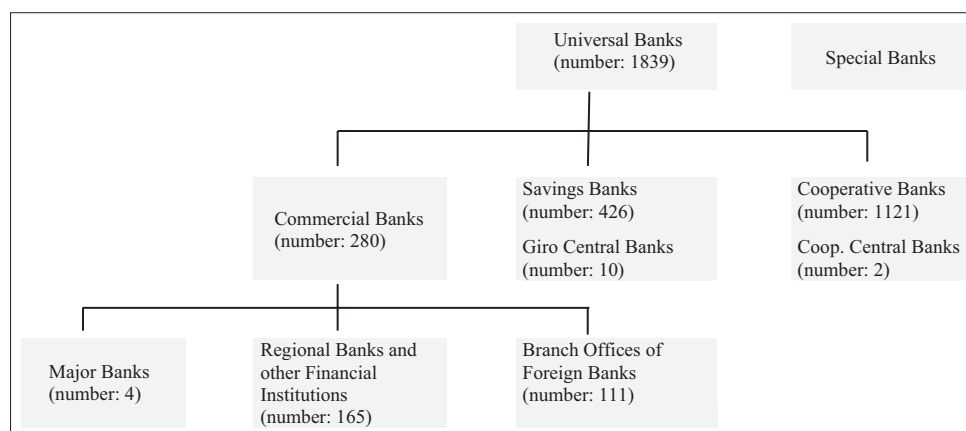
REFERENCES

- Ahn, S.C., Schmidt, P. (1995), Efficient estimation of models for dynamic panel data. *Journal of Econometrics*, 68(1), 5-27.
- Al-Jarrah, I., Ziadat, K.N., El-Rimawi, Y.S. (2010), The determinants of the Jordanian's banks profitability: A cointegration approach. *Jordan Journal of Business Administration*, 6(2), 247-261.
- Alkassim, F.A. (2005), The Profitability of Islamic and Conventional Banking in The GCC Countries: A Comparative Study. Master Degree Project. United Kingdom: University of Wales Bangor.
- Alonso-Borrego, C., Arellano, M. (1999), Symmetrically normalized instrumental-variable estimation using panel data. *Journal of Business and Economic Statistics*, 17, 36-49.
- Arellano, M., Bond, S. (1991), Some tests of specification for panel data: Monte carlo evidence and an application to employment equations. *Review of Economic Studies*, 58, 277-297.
- Arellano, M., Bover, O. (1995), Another look at the instrumental variable estimation of error-component models. *Journal of Econometrics*, 68, 29-51.
- Athanasoglou, P., Brissimis, S., Delis, M. (2008), Bank specific, industry specific and macroeconomic determinants of bank profitability. *Journal of International Financial Markets, Institutions, and Money*, 18, 121-136.
- Bashir, A.H.M., Abdel-Hameed, M. (2001), Assessing the Performance of Islamic Banks: Some Evidence from the Middle East, 21st Annual Meeting of Middle East Economic Association. Louisiana, USA: In Conjunction with Allied Social Sciences Association in New Orleans.
- Beck, T., Levine, R. (2004), Stock markets, banks and growth: Panel evidence. *Journal of Banking and Finance*, 28, 423-442.
- Blundell R, Bond, S., Windmeijer, F. (2001), Estimation in dynamic panel data models: Improving on the performance of the standard GMM estimator. In: Baltagi BH, Thomas B, Fombyand R. *Advances in Econometrics*. United Kingdom, Carter Hill: Emerald Group Publishing Limited. p53-91.
- Blundell, R., Bond, S. (1998), Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87, 115-143.
- Bun, M.J.G., Windmeijer, F. (2010), The weak instrument problem of the system GMM estimator in dynamic panel data models. *Econometrics Journal*, 13, 95-126.
- Calderón, C., Chong, A. (2001), External sector and income inequality in interdependent economies using a dynamic panel data approach. *Economics Letters*, 71, 225-231.
- Carstensen, K., Toubal, F. (2004), Foreign direct investment in Central and Eastern European countries: A dynamic panel analysis. *Journal of Comparative Economics*, 32, 3-22.
- Cheng, L.K., Kwan, Y.K. (2000), What are the determinants of the location of foreign direct investment? The Chinese experience. *Journal of International Economics*, 51, 379-400.
- Dang, U. (2011) The CAMEL rating system in banking supervision: A case study of Arcada. University of Applied Sciences. United Status: International Business.
- Dietrich, A., Wanzenried, G. (2011), Determinants of bank profitability

- before and during the crisis: Evidence from Switzerland. *Journal of International Financial Markets, Institutions and Money*, 21(3), 307-327.
- Dilek, B., Schmidt, H.R., Schüwer, U. (2013), *Saving Banks and Cooperative Banks in Europe*. Working Paper SAFE White Paper Series No. 5. Germany: Universitätsbibliothek Johann Christian Senckenberg.
- Faltermeier, R. (2012), *The German Banking System Types of Banks and Experience in the Crisis, the Euro Financial Crisis, Impacts on Banking, Capital Markets, and Regulation*. Potsdam: Report on the International Workshop in Potsdam. p13-26.
- Goddard, J., Molyneux, P., Wilson, J.O.S. (2004), The profitability of European banks: A cross-sectional and dynamic panel analysis. *The Manchester School*, 72(3), 1463-6786, 363-381.
- Golin, J., Delhaise, P. (2013), *The Bank Credit Analysis Handbook: A Guide for Analysts, Bankers and Investors*. 2nd ed. New York: Wiley.
- Hassan, M.K., Bashir, A.H.M. (2003), *Determinants of Islamic Banking Profitability*. Morocco: Paper Presented at the 10th ERF Annual Conference.
- Hayakawa, K. (2007), Small sample bias properties of the system GMM estimator in dynamic panel data models. *Economics Letters*, 95, 32-38.
- Hyungsik, R.M., Perron, B., Phillips, P.C.B. (2015), *Incidental Parameters and Dynamic Panel Modeling*. Cowles Foundation Paper No. 1487. p1-27.
- Merkl, C., Stolz, S. (2009), Banks regulatory buffers, liquidity networks and monetary policy transmission. *Applied Economics*, 41, 2013-2024.
- Naceur, S.B., Omran, M. (2011), The effects of bank regulations, competition and financial reforms on mena banks' profitability. *Emerging Markets Review*, 12, 1-20.
- Ommeren, S.V. (2011), *An Examination of the Determinants of Banks' Profitability in European Banking Sector*. Master's Paper. Rotterdam: Erasmus University Rotterdam. p1-54.
- Rao, K.R.M., Lakew, T.B. (2012), Determinants of profitability of commercial banks in a developing country: Evidence from ethiopi. *International Journal of Accounting and Financial Management Research*, 2(3), 1-20.
- Salas, V., Saurina, J. (2002), Credit risk in two institutional regimes: Spanish commercial and savings banks. *Journal of Financial Services Research*, 22(3), 203-224.
- Santos-Paulino, A., Thirlwall, A.P. (2004), The impact of trade liberalization on exports, imports and balance of payments of developing countries. *The Economic Journal*, 114, F50-F72.
- Staikouras, C., Wood, G.E. (2004), The determinants of european bank profitability. *International Journal of Economics and Business Research*, 3(6), 57-68.
- Sufian, F. (2011), Profitability of the Korean banking sector: Panel evidence on bank-specific and macroeconomic determinants. *Journal of Economics and Management*, 7(1), 43-72.
- Terraza, V. (2015), The effect of bank size on risk ratios: Implications of banks' performance. *Procedia Economics and Finance*, 30, 903-909.
- Topcu, S.C.M. (2013), The nexus between financial development and energy consumption in the EU: A dynamic panel data analysis. *Energy Economics*, 39, 81-88.
- Windmeijer, F. (2005), A finite sample correction for the variance of linear efficient two-step GMM estimators. *Journal of Econometrics*, 126, 25-51.

APPENDICES

Appendix A: Structure of the German banking system



Source: Faltermeier (2012) (Bundesbank report 2012)

Appendix B: List of banks and list of variables

Banks by specialty		Number
Commercial banks	Sp1	518
Cooperative banks	Sp2	970
Saving banks	Sp3	136

Variables	Description
Profitability measures	
ROAA	Return on average assets
JROAE	Return on average equity
Size measure	
TA	Total Assets
Capital measures	
EQTA	Equity to total assets
EQNL	Equity to net loans
Liquidity measures	
NLTA	Net loans to total assets
LACUST	Liquid assets to customer deposits and short term funding
TLCDT	Total loans to customer deposit total
Off-balance sheets items	
OFFBAL	Off-balance sheet items divided by off-balance sheet items plus total assets

Appendix C: Descriptive Statistics of financial ratios

Table 1: Evolution of the financial ratios on the entire period (2000-2014)

Statistics	ROAA	ROAE	TA	EQTA	EQNL	NLTA	LACUST	TLCDT	OFFBAL
2000									
Mean	0.247	4.89	2074476.16	5.65	12.35	62.02	15.53	130.69	5.78
Quartile 1	0.15	3.19	212450.00	4.27	6.76	56.85	8.16	77.90	3.27
Median	0.23	4.86	446300.00	4.97	7.82	64.36	12.00	92.97	4.59
Quartile 3	0.32	6.39	1104550.00	5.71	9.30	70.80	17.10	107.73	6.53
Std.	0.43	3.02	24300473.08	5.58	45.97	13.78	22.47	854.44	5.05
Min.	-1.77	-9.23	11600.00	2.09	3.97	0.14	0.06	3.64	0.00
Max.	9.68	18.35	694267000	99.96	900.00	99.93	590.76	28033.33	81.39
Banks	1197	1158	1199	1199	1195	1199	1198	1196	1185
2001									
Mean	0.248	4.72	2200817.00	5.47	10.83	60.83	16.75	134.37	5.44
Quartile 1	0.15	3.05	233500.00	4.27	6.89	55.01	9.53	74.10	3.00
Median	0.22	4.55	491300.00	4.99	7.97	63.02	13.27	89.04	4.30
Quartile 3	0.32	6.12	1174000.00	5.74	9.69	69.33	18.85	104.20	6.13
Std.	0.30	2.76	25698402.51	4.32	24.41	13.28	20.83	1006.41	4.91
Min.	-2.43	-9.75	12400.00	2.18	3.91	0.70	0.08	7.44	0.00
Max.	4.00	18.24	716241000	100.00	558.88	99.89	576.16	31126.09	81.11
Banks	1186	1164	1189	1189	1187	1189	1188	1186	1166
2002									
Mean	0.247	4.603	2100852.795	5.684	11.848	60.300	17.341	221.032	5.353
Quartile 1	0.13	2.72	257350.00	4.42	7.17	54.54	9.65	72.53	3.00
Median	0.22	4.28	541350.00	5.12	8.31	62.30	13.94	87.34	4.10
Quartile3	0.32	5.93	1244875.00	5.93	10.03	68.48	19.62	102.33	5.93
Std.	0.32	2.90	20347842.45	4.90	31.99	13.47	22.49	2428.89	5.08
Min.	-5.70	-9.85	12500.00	2.10	3.07	0.79	0.07	0.95	0.01
Max.	3.81	18.21	526452000	100.00	775.74	99.90	494.29	67480.00	80.73
Banks	1168	1149	1172	1172	1170	1172	1171	1169	1142
2003									
Mean	0.23	4.30	2183028.10	5.88	11.33	60.34	16.21	174.10	5.51
Quartile 1	0.13	2.52	288800.00	4.56	7.30	54.38	8.25	71.94	3.13
Median	0.22	4.16	580100.00	5.27	8.61	62.19	12.78	86.86	4.38
Quartile3	0.31	5.57	1305500.00	6.05	10.31	69.12	18.78	101.68	6.21
Std.	0.28	2.74	18753477.87	5.10	26.70	13.80	21.41	1725.07	5.18
Min.	-3.38	-9.77	1407.60	1.22	2.89	0.37	0.00	6.58	0.01
Max.	3.19	18.32	473167000	98.79	735.00	99.85	499.32	51885.71	80.19
Banks	1136	1123	1141	1141	1137	1141	1140	1137	1105
2004									
Mean	0.26	4.47	2318231.79	6.13	13.08	59.24	17.31	189.33	4.96
Quartile 1	0.14	2.84	290200.00	4.68	7.68	53.01	8.77	70.29	2.82
Median	0.23	4.32	587200.00	5.41	9.00	61.41	13.59	85.67	4.00
Quartile3	0.33	5.77	1363200.00	6.33	10.87	68.22	19.97	99.94	5.72
Std.	0.26	2.58	19385458.78	5.52	37.92	14.43	22.96	1986.09	5.07
Min.	-3.16	-8.44	1000.00	0.83	2.11	0.00	0.02	0.00	0.01
Max.	2.51	17.83	467385000	100.00	904.55	99.94	488.89	60685.71	79.96
Banks	1152	1141	1155	1155	1151	1155	1154	1150	1123
2005									
Mean	0.37	4.81	2065022.36	6.49	12.57	58.95	17.12	231.95	5.36
Quartile 1	0.16	2.91	194000.00	5.02	8.29	52.11	9.09	69.22	3.22
Median	0.26	4.30	459500.00	5.88	9.91	60.96	13.82	84.17	4.50
Quartile3	0.40	5.97	1149500.00	6.95	12.25	68.04	20.15	98.85	6.32
Std.	0.45	3.01	18504357.21	4.82	21.83	14.14	20.78	2736.63	4.77
Min.	-1.84	-9.09	2000.00	0.85	3.44	0.00	0.00	0.76	0.00
Max.	6.06	18.29	493659000.00	99.96	540.68	99.88	500.00	81533.33	79.91
Banks	1416	1347	1421	1421	1416	1421	1420	1416	1384
2006									
Mean	0.36	5.25	3715987.30	6.90	14.14	58.58	17.50	285.53	5.35
Quartile 1	0.17	2.98	189225.00	5.19	8.62	51.59	9.59	68.49	2.99
Median	0.27	4.40	472700.00	6.13	10.47	60.74	14.56	83.25	4.55
Quartile3	0.44	6.58	1165350.00	7.31	13.02	67.41	20.74	98.44	6.39
Std.	0.32	3.45	48029105.07	5.72	39.94	14.34	17.85	3339.47	5.01
Min.	-0.34	-8.14	1242.00	0.44	3.43	0.00	0.14	2.23	-0.81

(Contd...)

Table 1: (Continued)

Statistics	ROAA	ROAE	TA	EQTA	EQNL	NLTA	LACUST	TLCDT	OFFBAL
Max.	4.03	18.18	1571768000	100.00	985.42	99.71	463.49	68337.50	81.00
Banks	1444	1431	1448	1448	1443	1448	1444	1440	1419
2007									
Mean	0.26	3.81	4664078.32	7.06	13.03	57.83	20.41	350.59	5.26
Quartile 1	0.14	2.43	190000.00	5.23	8.83	50.56	11.60	67.10	2.97
Median	0.22	3.55	484250.00	6.15	10.71	59.62	17.05	82.55	4.41
Quartile3	0.32	4.76	1224675.00	7.38	13.41	66.80	23.95	97.89	6.23
Std.	0.28	2.27	61833292.63	6.49	16.34	14.42	20.51	4689.04	5.11
Min.	-2.48	-6.74	1245.70	0.02	3.40c	0.00	0.04	1.65	0.00
Max.	3.48	16.87	1925003000	99.96	468.13	99.89	537.26	124160.00	81.24
Banks	1461	1444	1466	1466	1458	1464	1461	1457	1439
2008									
Mean	0.21	3.13	4939108.96	6.86	13.80	56.24	21.93	231.42	5.29
Quartile 1	0.10	1.76	202000.00	5.09	8.84	48.81	13.66	64.79	2.89
Median	0.18	2.87	510800.00	6.02	10.68	57.54	18.55	80.30	4.34
Quartile3	0.27	4.07	1311099.15	7.27	13.49	65.15	25.10	95.02	6.20
Std.	0.35	2.29	68341656.41	5.89	25.50	14.40	24.05	2780.84	5.99
Min.	-5.60	-8.49	322.00	0.02	3.41	0.00	0.00	1.23	0.00
Max.	4.20	17.83	2202423000	100.00	695.24	99.97	585.08	69510.00	91.38
Banks	1462	1441	1467	1467	1460	1465	1462	1456	1442
2009									
Mean	0.28	4.13	6306193.48	7.00	14.62	55.49	17.83	166.59	5.15
Quartile 1	0.14	2.47	200614.70	5.25	9.22	48.01	9.64	63.40	2.97
Median	0.23	3.65	514850.00	6.13	11.16	56.81	14.90	77.96	4.24
Quartile3	0.37	5.23	1364025.00	7.44	14.21	64.82	20.91	92.08	6.12
Std.	0.47	2.66	85716843.14	5.71	28.96	14.48	23.97	1560.54	4.98
Min.	-8.24	-8.38	1425.80	0.02	3.06	0.00	0.00	0.99	0.00
Max.	9.33	18.18	2568259000	100.00	656.46	99.93	793.91	43737.50	82.38
Banks	1508	1482	1512	1512	1502	1509	1507	1503	1491
2010									
Mean	0.32	4.42	6408359.86	7.44	15.51	55.95	17.72	230.05	5.75
Quartile 1	0.16	2.54	200650.00	5.60	9.56	48.28	9.24	62.89	3.26
Median	0.26	3.89	518050.00	6.52	11.72	57.74	13.89	77.11	4.88
Quartile3	0.40	5.61	1341750.00	7.81	14.86	65.37	20.26	92.36	6.89
Std.	0.49	2.89	89551001.50	6.40	33.49	14.78	27.78	3320.16	5.21
Min.	-6.63	-7.30	1674.30	0.00	0.00	0.00	0.00	0.00	0.00
Max.	8.65	18.18	2587312000	100.00	746.92	99.90	872.12	96480.00	83.50
Banks	1551	1525	1554	1554	1543	1551	1546	1544	1537
2011									
Mean	0.31	4.05	6337040.62	8.18	18.65	56.33	18.80	267.55	5.92
Quartile 1	0.15	2.24	204700.00	6.20	10.60	48.80	10.03	63.82	3.45
Median	0.25	3.54	528100.00	7.34	12.95	58.05	14.76	78.09	4.90
Quartile3	0.39	5.23	1366100.00	8.70	16.23	65.73	21.15	93.66	7.05
Std.	0.46	2.81	89232829.96	6.37	50.31	14.93	29.56	3862.43	5.69
Min.	-6.09	-8.29	930.00	0.04	3.46	0.00	0.00	0.00	0.00
Max.	6.96	18.00	2440114000	100.00	802.63	99.84	916.09	101622.54	93.86
Banks	1589	1564	1593	1593	1580	1588	1586	1582	1577
2012									
Mean	0.31	3.91	6267327.29	8.78	20.47	57.04	16.50	263.57	5.77
Quartile 1	0.16	2.08	210700.00	6.76	11.32	49.33	7.62	64.83	3.41
Median	0.26	3.34	543900.00	7.88	13.62	58.84	11.53	79.69	4.92
Quartile3	0.41	5.10	1410800.00	9.25	17.10	66.68	17.76	95.67	6.89
Std.	0.42	2.86	86705981.73	6.66	57.14	15.24	33.14	3886.43	5.19
Min.	-4.98	-9.81	904.20	0.33	0.56	0.00	0.00	0.00	0.00
Max.	6.47	17.80	2414261000	99.96	981.13	98.07	926.58	109876.32	84.65
Banks	1584	1563	1589	1589	1578	1585	1583	1581	1573
2013									
Mean	0.29	3.35	5842188.32	9.25	19.75	58.35	15.20	264.06	5.78
Quartile 1	0.15	1.86	217400.00	7.29	12.00	50.36	6.53	66.06	3.46
Median	0.24	2.96	561600.00	8.45	14.33	59.94	10.55	80.35	4.95
Quartile3	0.36	4.31	1435225.00	9.88	17.95	68.18	15.96	96.31	7.05
Std.	0.35	2.39	77822403.19	6.15	46.79	15.30	33.71	3792.06	4.98

(Contd...)

Table 1: (Continued)

Statistics	ROAA	ROAE	TA	EQTA	EQNL	NLTA	LACUST	TLCDT	OFFBAL
Min.	-3.40	-9.54	1424.10	0.26	0.44	0.00	0.00	0.00	0.00
Max.	4.55	18.27	2252689000	100.00	931.33	99.07	879.49	103037.21	85.31
Banks	1570	1558	1574	1574	1565	1572	1569	1567	1562
2014									
Mean	0.28	3.12	6615616.76	9.62	18.73	58.78	13.28	232.58	5.97
Quartile 1	0.15	1.77	289200.00	7.65	12.45	51.10	5.59	65.97	3.63
Median	0.24	2.74	693200.00	8.78	14.87	60.68	9.24	80.21	5.13
Quartile3	0.36	3.94	1703100.00	10.18	18.21	68.59	14.35	95.90	7.01
Std.	0.36	2.24	85956282.42	6.27	30.92	15.22	17.90	3036.81	5.47
Min.	-5.43	-9.32	1209.60	2.12	4.30	0.05	0.33	1.56	0.01
Max.	3.27	18.25	2240721000	98.77	655.74	97.20	301.45	85123.47	85.42
Banks	1153	1145	1157	1157	1151	1157	1154	1153	1135

Table 2: Financial ratios of banks according to their specialties

Statistics	ROAA	ROAE	TA	EQTA	EQNL	NLTA	LACUST	TLCDT	OFFBAL
Sp1 commercial banks									
Mean	0.48	4.45	28205815.64	14.23	58.06	47.74	49.10	2135.41	9.67
Quartile 1	0.06	0.69	228136.50	4.86	8.98	19.62	11.76	44.59	2.31
Median	0.33	3.57	796550.00	7.71	16.67	48.82	30.13	86.58	5.10
Quartile3	0.76	7.19	2885025.00	13.01	42.02	74.49	62.53	140.38	10.33
Std.	1.16	4.98	164758154.12	19.00	133.04	30.29	80.63	11260.35	14.95
Min.	-8.24	-9.81	322.00	0.02	0.44	0.00	0.00	0.00	0.00
Max.	9.68	18.35	2202423000	100.00	985.42	99.97	926.58	124160	85.42
banks	95.47	84.33	96.27	96.27	90.07	94.87	93.00	89.93	88.80
Sp2 cooperative banks									
Mean	0.31	4.64	1009821.15	6.87	12.33	58.90	15.88	81.21	5.29
Quartile 1	0.18	2.93	156600.00	5.37	8.89	51.65	9.57	66.45	3.28
Median	0.27	4.13	330300.00	6.47	11.11	60.29	14.29	79.91	4.63
Quartile3	0.39	5.77	653500.00	7.94	14.16	67.22	20.07	93.39	6.52
Std.	0.26	2.68	11259179.74	2.67	7.86	12.12	11.66	35.88	3.33
Min.	-2.43	-9.75	2000.00	1.97	2.89	5.69	0.26	6.61	0.00
Max.	4.22	18.29	431337000	86.28	447.62	92.78	575.00	1258.65	93.86
Banks	841.13	830.93	842.93	842.93	842.93	842.93	842.60	842.60	829.40
Sp3 saving bank									
Mean	0.19	3.23	5807414.84	6.22	11.10	59.21	13.57	121.77	5.10
Quartile 1	0.10	1.65	665900.00	4.66	7.77	52.51	7.55	72.34	3.01
Median	0.17	2.85	1368600.00	5.69	9.66	60.80	11.63	88.07	4.33
Quartile3	0.25	4.42	2582200.00	7.32	12.84	67.63	17.49	105.49	6.09
Std.	0.16	2.16	81639599.37	2.48	10.24	12.65	8.54	1349.30	3.70
Min.	-3.16	-9.85	23423.00	0.00	0.00	0.39	0.14	1.59	-0.81
Max.	2.84	16.11	2587312000	75.92	731.54	95.59	99.28	62600.00	91.38
Banks	435.20	433.73	436.60	436.60	436.07	436.60	436.60	436.60	433.80

Table 3: Evolution of financial ratios according to the specialties of the banks

Statistics	Commercial/year								
	ROAA	ROAE	TA	EQTA	EQNL	NLTA	LACUST	TLCDT	OFFBAL
2000									
Mean	0.697	4.872	17376955.098	13.872	71.475	47.354	51.357	666.949	9.421
quartile 1	0.11	0.59	200975.00	4.21	7.94	20.95	15.99	56.27	1.98
Median	0.37	3.54	439800.00	7.11	13.50	46.70	35.57	94.87	5.75
Quartile3	0.73	7.29	1429500.00	12.36	42.32	74.05	63.90	162.58	10.56
Std.	1.30	5.01	91918296.32	19.07	169.97	30.76	73.80	3296.24	14.00
Min.	-1.59	-5.77	20600.00	2.58	4.06	0.14	0.06	3.64	0.00
Max.	9.68	18.35	694267000.	99.96	900.00	99.93	590.76	28033.33	81.39
Banks	81	71	82	82	78	82	81	79	79
2001									
Mean	0.480	4.848	19445602.701	11.266	46.019	48.210	48.689	807.531	9.365
Quartile 1	0.11	0.77	224400.00	4.54	8.17	21.39	14.87	54.64	2.51
Median	0.32	3.87	571700.00	6.90	14.73	47.19	37.97	95.04	5.00
Quartile3	0.74	7.93	1513100.00	11.49	41.34	73.85	55.23	147.05	10.39
Std.	0.82	5.35	99826346.76	15.28	90.06	29.93	70.42	3992.04	14.05
Min.	-2.25	-6.34	45700.00	2.27	3.92	0.70	0.08	7.44	0.00
Max.	4.00	18.24	716241000	100.00	558.88	99.89	576.16	31126.09	81.11
Banks	76	70	77	77	75	77	76	74	75
2002									
Mean	0.394	3.473	15286372.41	12.239	56.279	47.246	52.838	2178.452	9.824
Quartile 1	0.06	0.33	259800.00	4.88	8.47	18.98	14.42	51.41	2.76
Median	0.23	2.73	615700.00	7.12	17.87	41.58	30.00	90.61	5.23
Quartile3	0.60	5.95	1471700.00	11.09	56.99	76.79	69.57	154.59	12.92
Std.	0.97	3.76	77571257.00	17.30	117.96	30.65	75.25	9498.62	13.73
Min.	-5.70	-4.24	61300.00	2.27	3.93	0.79	0.07	0.95	0.01
Max.	3.81	15.01	526452000	100.00	775.74	99.90	494.29	67480.00	80.73
Banks	76	69	77	77	75	77	76	74	74
2003									
Mean	0.37	4.49	14757502.01	13.00	43.67	49.64	49.39	1406.84	9.69
Quartile 1	0.00	0.60	297100.00	4.80	8.81	25.24	13.59	51.57	2.45
Median	0.27	3.22	686950.00	7.58	16.14	44.15	29.76	91.43	5.97
Quartile3	0.62	7.54	1638325.00	11.96	45.88	83.52	61.66	133.82	10.37
Std.	0.89	5.22	69641003.33	17.48	99.14	31.06	69.62	6681.27	14.09
Min.	-3.38	-9.77	1407.60	1.22	3.57	0.37	0.00	6.58	0.01
Max.	3.19	18.32	473167000.00	98.79	735.00	99.85	499.32	51885.71	80.19
Banks	77	68	78	78	74	78	77	74	74
2004									
Mean	0.48	4.43	16006987.81	13.71	61.88	45.87	52.61	1636.51	9.60
Quartile 1	0.06	0.88	287300.00	4.39	8.05	15.45	11.91	40.89	2.84
Median	0.28	3.37	774900.00	6.80	17.27	36.70	35.74	88.17	5.33
Quartile3	0.82	7.23	2151600.00	12.70	50.86	80.35	65.79	141.92	10.79
Std.	0.69	4.26	70981402.74	18.69	137.88	32.40	73.67	7624.69	14.57
Min.	-1.38	-0.26	1000.00	0.83	4.05	0.00	0.02	0.00	0.01
Max.	2.51	16.65	467385000.00	100.00	904.55	99.94	488.89	60685.71	79.96
Banks	80	72	81	81	77	81	80	76	75
2005									
Mean	0.60	4.98	16759570.31	12.07	44.29	47.15	45.25	2651.41	9.50
Quartile 1	0.13	1.00	340675.00	4.61	8.03	18.12	12.42	49.36	2.73
Median	0.37	3.77	862100.00	6.82	16.41	42.86	33.39	103.60	5.11
Quartile3	0.73	7.53	2486200.00	12.27	37.58	75.60	64.59	157.70	11.86
Std.	0.84	4.78	72805356.03	16.09	83.20	31.19	50.72	11231.69	14.42
Min.	-0.35	-4.09	8100.00	0.85	3.67	0.00	0.00	0.76	0.00
Max.	6.06	18.29	493659000.00	99.96	540.68	99.88	337.43	81533.33	79.91
Banks	85	78	86	86	82	86	85	81	78
2006									
Mean	0.69	5.59	36241200.63	13.95	59.01	48.43	44.95	3494.97	10.70
Quartile 1	0.13	1.11	317437.00	4.59	8.45	19.64	12.20	46.49	2.82

(Contd...)

Table 3: (Continued)

Statistics	Commercial/year								
	ROAA	ROAE	TA	EQTA	EQNL	NLTA	LACUST	TLCDT	OFFBAL
Median	0.44	4.43	805600.00	7.32	17.14	46.86	30.88	97.80	6.09
Quartile3	1.01	9.06	2842625.00	11.11	40.69	79.32	67.09	155.25	11.58
Std.	0.77	5.43	182575508.17	19.43	154.60	31.68	55.92	13414.64	15.40
Min.	-0.34	-8.14	1242.00	0.44	3.43	0.00	0.21	3.15	0.00
Max.	4.03	17.42	1571768000.00	100.00	985.42	99.71	463.49	68337.50	81.00
Banks	92	83	92	92	88	92	89	85	84
2007									
Mean	0.56	4.66	36421851.04	14.67	34.01	50.20	47.67	4277.21	11.30
Quartile 1	0.00	0.00	250077.20	4.75	8.90	21.44	11.67	43.61	2.85
Median	0.31	3.05	1020600.00	6.95	15.64	49.08	32.35	96.04	6.12
Quartile3	0.94	8.14	3232200.00	11.20	40.35	79.20	66.00	152.78	12.16
Std.	0.85	5.20	204760617.71	21.08	54.92	31.46	65.29	18201.84	15.80
Min.	-2.48	-2.93	1245.70	0.02	3.40	0.00	0.04	2.22	0.00
Max.	3.48	16.87	1925003000.00	99.96	468.13	99.89	537.26	124160.00	81.24
Banks	101	86	101	101	94	99	97	93	89
2008									
Mean	0.35	3.85	40965153.20	13.54	44.59	49.01	50.79	2519.93	10.12
Quartile 1	0.00	0.00	250694.30	4.15	8.09	22.84	11.03	39.07	1.75
Median	0.23	2.41	1024050.00	6.77	14.14	45.27	31.73	96.74	4.85
Quartile3	0.80	5.89	3247575.00	12.12	36.97	77.91	72.39	161.87	11.37
Std.	1.20	5.42	232865722.40	18.75	92.84	31.35	81.93	10989.15	15.94
Min.	-5.60	-6.37	322.00	0.02	3.85	0.00	0.00	1.23	0.00
Max.	4.20	17.66	2202423000.00	100.00	695.24	99.97	585.08	69510.00	81.17
Banks	98	84	100	100	94	98	96	90	90
2009									
Mean	0.47	4.12	33017204.68	13.43	49.56	46.98	44.91	1421.25	9.29
Quartile 1	0.00	0.26	214051.63	4.42	8.63	18.28	10.66	41.28	2.00
Median	0.28	3.43	1021900.00	7.07	15.21	48.28	27.64	83.87	4.73
Quartile3	0.75	6.76	3158600.00	12.71	38.71	70.95	60.24	137.87	8.94
Std.	1.64	4.77	170753253.50	17.94	105.41	29.62	81.92	5999.42	14.99
Min.	-8.24	-8.38	1425.80	0.02	3.06	0.00	0.00	0.99	0.00
Max.	9.33	17.00	1500664000.00	100.00	656.46	99.93	793.91	43737.50	82.38
Banks	106	89	106	106	97	103	102	98	97
2010									
Mean	0.59	4.34	33682190.46	15.21	53.45	46.54	51.15	2322.28	10.03
Quartile 1	0.06	0.94	198978.00	4.94	9.19	17.65	12.11	41.98	2.24
Median	0.37	4.15	917200.00	7.48	15.83	49.10	28.27	76.98	5.00
Quartile3	0.86	6.99	3402900.00	13.81	40.56	69.23	57.91	132.21	9.84
Std.	1.60	4.72	195639230.86	20.40	120.65	29.76	95.25	12664.01	15.38
Min.	-6.63	-7.30	1674.30	0.03	3.27	0.00	0.00	0.00	0.00
Max.	8.65	16.60	1905630000.00	100.00	746.92	99.90	872.12	96480.00	83.50
Banks	113	95	113	113	102	110	106	104	101
2011									
Mean	0.39	4.68	33016584.62	15.23	73.77	46.29	49.78	2340.46	9.26
Quartile 1	0.06	0.95	146600.00	4.97	9.72	17.23	11.76	36.81	2.11
Median	0.30	3.83	785500.00	8.27	16.15	49.09	29.74	77.72	4.48
Quartile3	0.76	7.43	3647200.00	13.61	44.50	72.40	61.91	123.48	9.16
Std.	1.35	5.23	208166678.43	19.96	168.03	30.00	93.16	13805.68	15.20
Min.	-6.09	-6.54	930.00	0.04	3.46	0.00	0.00	0.00	0.00
Max.	6.96	17.72	2164103000.00	100.00	802.63	99.84	916.09	101622.54	84.14
Banks	120	107	121	121	108	116	114	110	109

(Contd...)

Table 3: (Continued)

Statistics	ROAA	ROAE	Commercial/year						
			TA	EQTA	EQNL	NLTA	LACUST	TLCDT	OFFBAL
2012									
Mean	0.38	3.99	31412999.41	16.45	91.32	46.55	52.58	2079.82	8.93
Quartile 1	0.04	0.88	149300.00	5.59	10.74	19.65	10.22	44.48	2.30
Median	0.36	3.56	865000.00	8.53	16.87	51.25	28.49	78.93	4.01
Quartile3	0.72	6.67	3345600.00	16.36	46.75	70.13	62.46	138.29	8.58
Std.	1.31	4.96	195089502.25	20.90	198.05	29.76	100.43	13214.05	15.20
Min.	-4.98	-9.81	904.20	0.33	0.56	0.00	0.00	0.00	0.00
Max.	6.47	16.48	2022275000.00	99.96	981.13	98.07	926.58	109876.32	84.65
Banks	119	102	121	121	111	117	115	113	111
2013									
Mean	0.52	4.53	27503592.14	16.13	74.53	48.75	53.56	2183.27	8.66
Quartile 1	0.06	0.65	178000.00	6.09	12.48	21.54	11.33	46.27	1.89
Median	0.30	3.21	747200.00	9.14	19.28	53.26	24.57	79.11	4.01
Quartile3	0.72	7.41	3762900.00	16.14	41.54	72.51	56.73	122.03	8.36
Std.	1.05	5.28	159674955.78	20.23	166.83	29.51	116.04	13242.23	14.96
Min.	-3.40	-9.54	1424.10	0.26	0.44	0.00	0.00	0.00	0.00
Max.	4.55	18.27	1611400000	100.00	931.33	99.07	879.49	103037.21	85.31
Banks	116	105	117	117	109	115	112	110	110
2014									
Mean	0.31	4.00	35998122.48	15.82	51.62	48.39	39.73	1462.38	9.79
Quartile 1	0.07	1.37	226611.50	6.39	13.54	23.53	10.09	48.71	2.41
Median	0.34	3.35	1089400.00	8.81	18.79	53.27	22.07	81.40	4.76
Quartile3	0.79	7.27	3119800.00	13.63	41.81	74.02	62.53	137.79	10.02
Std.	1.05	4.78	189466272.03	18.94	105.49	27.82	49.87	9429.78	16.31
Min.	-5.43	-9.32	1209.60	2.12	4.30	0.05	0.33	1.56	0.01
Max.	2.73	18.25	1708703000.00	98.77	655.74	97.20	301.45	85123.47	85.42
Banks	92	86	92	92	87	92	89	88	86
Statistics	ROAA	ROAE	Cooperatives/year						
			TA	EQTA	EQNL	NLTA	LACUST	TLCDT	OFFBAL
2000									
Mean	0.206	4.659	471535.804	5.365	8.540	64.656	14.442	90.359	5.569
Quartile 1	0.15	3.13	142700.00	4.57	6.98	59.68	9.38	77.69	3.52
Median	0.23	4.64	279000.00	5.22	8.03	66.25	12.91	91.21	4.72
Quartile3	0.32	6.12	495100.00	5.91	9.24	71.70	17.83	103.22	6.52
Std.	0.30	3.05	905767.12	1.38	2.80	10.32	7.55	20.30	3.48
Min.	-1.64	-9.23	11600.00	2.09	3.97	9.31	1.51	9.93	1.06
Max.	2.59	16.33	18176200.00	21.94	33.44	82.96	70.34	168.00	35.61
Banks	715	689	715	715	715	715	715	715	706
2001									
Mean	0.245	4.792	514263.713	5.354	8.806	62.700	16.381	86.968	5.144
Quartile 1	0.16	3.35	158500.00	4.58	7.17	57.07	11.20	72.82	3.18
Median	0.24	4.58	306200.00	5.22	8.24	64.02	15.15	86.82	4.43
Quartile3	0.32	6.19	551600.00	5.90	9.71	69.98	19.89	98.55	6.06
Std.	0.25	2.49	1003167.05	1.30	2.80	10.38	7.68	33.91	3.17
Min.	-2.43	-9.75	12400.00	2.18	3.91	10.20	2.00	10.94	0.62
Max.	1.82	14.49	20656800.00	17.32	30.54	90.62	70.40	814.01	33.29
Banks	710	694	711	711	711	711	711	711	692
2002									
Mean	0.275	5.214	568103.613	5.534	9.246	61.876	16.592	85.685	4.964
Quartile 1	0.17	3.30	182600.00	4.71	7.49	56.02	11.07	71.37	3.11
Median	0.25	4.71	336300.00	5.39	8.58	63.11	15.59	84.63	4.25
Quartile3	0.36	6.34	602600.00	6.12	10.13	68.74	20.43	96.34	5.83
Std.	0.22	2.94	1116412.91	1.37	3.13	10.43	7.89	43.15	3.16
Min.	-0.98	-5.11	12500.00	2.10	3.07	10.26	2.23	11.23	0.41
Max.	1.46	18.21	22787100.00	20.07	36.01	84.57	74.07	1096.54	30.41
Banks	692	683	692	692	692	692	692	692	669
2003									
Mean	0.25	4.66	615795.14	5.66	9.56	61.42	15.73	84.47	5.21
Quartile 1	0.16	3.13	212825.00	4.84	7.73	55.57	10.02	70.02	3.39
Median	0.24	4.38	369450.00	5.48	8.88	62.55	14.79	83.80	4.55
Quartile3	0.32	5.82	628300.00	6.24	10.47	69.17	19.88	95.27	6.22
Std.	0.18	2.52	1241490.32	1.43	3.29	10.87	7.72	44.61	3.19
Min.	-1.66	-8.96	13900.00	2.09	2.89	10.80	1.67	11.65	0.08

(Contd...)

Table 3: (Continued)

Statistics	Cooperatives/year								
	ROAA	ROAE	TA	EQTA	EQNL	NLTA	LACUST	TLCDT	OFFBAL
Max.	1.04	16.24	25493700.00	22.81	39.28	88.18	73.33	1114.78	31.98
Banks	656	654	658	658	658	658	658	658	631
2004									
Mean	0.28	4.82	629256.59	5.84	10.07	60.37	16.66	83.09	5.01
Quartile 1	0.18	3.25	220175.00	4.97	8.03	54.23	10.45	69.45	3.04
Median	0.25	4.59	379650.00	5.63	9.27	61.74	15.52	82.36	4.24
Quartile3	0.36	5.97	637925.00	6.45	11.03	68.09	21.35	94.13	6.03
Std.	0.16	2.51	1291943.14	1.56	3.69	11.24	8.26	45.31	3.35
Min.	-0.40	-8.44	14500.00	2.06	3.08	11.16	1.48	11.87	0.08
Max.	1.10	17.83	27266600.00	27.24	46.26	87.35	72.67	1140.18	39.58
Banks	666	665	668	668	668	668	668	668	645
2005									
Mean	0.42	5.33	519567.31	6.46	11.26	59.80	16.93	82.09	5.37
Quartile 1	0.20	3.36	126200.00	5.33	8.81	52.68	10.27	67.38	3.38
Median	0.30	4.65	278300.00	6.23	10.35	61.26	15.14	80.99	4.83
Quartile3	0.44	6.45	541575.00	7.25	12.48	68.19	20.93	94.71	6.53
Std.	0.46	3.10	1220114.64	2.28	4.93	11.83	17.97	44.81	3.19
Min.	-1.84	-9.09	2000.00	2.10	3.44	11.37	1.26	12.49	0.50
Max.	3.56	18.29	29569000.00	55.00	110.00	90.15	500.00	1000.00	37.07
Banks	917	857	920	920	920	920	920	920	895
2006									
Mean	0.40	5.97	1069149.05	6.79	11.96	59.20	16.83	81.18	5.20
Quartile 1	0.22	3.51	128500.00	5.54	9.31	52.03	10.57	66.55	3.10
Median	0.32	5.07	282800.00	6.51	11.04	60.96	15.36	80.50	4.76
Quartile3	0.52	7.45	564900.00	7.69	13.42	67.41	21.29	93.78	6.58
Std.	0.27	3.48	14037047.78	2.26	5.36	12.03	9.54	33.17	3.04
Min.	-0.29	-2.74	2200.00	2.32	3.51	12.78	1.40	14.81	0.64
Max.	2.71	18.18	421684000	50.00	122.22	86.73	139.58	868.93	33.00
Banks	939	934	941	941	941	941	940	940	923
2007									
Mean	0.28	4.17	1113107.59	6.87	12.30	58.50	18.85	80.44	4.99
Quartile 1	0.19	2.91	132175.00	5.53	9.43	51.43	12.01	65.64	3.07
Median	0.26	3.84	292950.00	6.58	11.07	59.83	17.19	80.09	4.54
Quartile3	0.35	5.05	583550.00	7.75	13.77	67.15	23.42	92.90	6.33
Std.	0.15	1.90	14379748.90	2.99	7.90	12.09	9.90	31.44	2.82
Min.	0.00	0.00	5800.00	2.25	3.49	15.29	1.79	16.54	0.56
Max.	1.61	15.39	431337000	79.31	219.05	87.98	134.98	793.81	30.70
Banks	941	940	944	944	944	944	943	943	933
2008									
Mean	0.23	3.53	1157230.00	6.70	12.35	56.55	20.53	78.17	5.05
Quartile 1	0.14	2.34	140500.00	5.34	9.53	49.40	14.63	63.81	2.98
Median	0.21	3.24	311400.00	6.35	11.14	57.54	18.93	77.80	4.46
Quartile3	0.30	4.41	628300.00	7.57	13.76	64.87	25.10	90.33	6.35
Std.	0.17	1.89	14263234.47	3.16	6.96	12.00	9.60	34.96	3.95
Min.	-1.12	-7.19	6200.00	1.97	3.41	16.72	1.23	18.47	0.60
Max.	2.19	17.83	427127000	85.48	182.76	87.32	115.12	943.04	85.98
Banks	945	940	947	947	947	947	946	946	934

(Contd...)

Table 3: (Continued)

Statistics	ROAA	ROAE	TA	EQTA	EQNL	NLTA	LACUST	TLCDT	OFFBAL
2009									
Mean	0.31	4.69	1214817.31	6.78	12.73	55.78	16.24	77.06	4.95
Quartile 1	0.19	3.03	148700.00	5.44	9.70	48.38	10.20	62.69	3.00
Median	0.27	4.15	326700.00	6.37	11.57	56.50	15.07	76.50	4.33
Quartile3	0.40	5.63	678400.00	7.69	14.30	64.17	20.35	88.59	6.12
Std.	0.18	2.52	13216666.47	3.18	7.74	12.16	8.66	34.73	3.00
Min.	-0.69	-0.85	5100.00	2.48	3.35	15.37	0.50	17.01	0.57
Max.	1.18	18.18	388525000	86.28	209.52	87.84	91.01	930.07	34.39
Banks	942	937	945	945	945	945	944	944	936
2010									
Mean	0.35	5.08	1235266.21	7.06	13.33	56.10	15.51	77.07	5.46
Quartile 1	0.20	3.23	153550.00	5.76	10.09	48.54	9.62	62.42	3.36
Median	0.30	4.40	340550.00	6.70	12.08	57.27	14.00	74.90	4.83
Quartile3	0.44	6.25	706650.00	7.95	14.86	64.35	19.67	87.82	6.81
Std.	0.24	2.82	13020023.31	2.92	9.63	12.25	8.60	44.23	3.24
Min.	-0.16	-1.96	8100.00	2.71	3.46	17.53	0.55	18.80	0.40
Max.	3.53	18.18	383464000	77.78	273.91	89.28	66.95	1258.65	32.66
Banks	948	941	950	950	950	950	949	949	947
2011									
Mean	0.35	4.66	1282165.47	7.57	14.23	56.39	16.65	78.09	5.73
Quartile 1	0.20	3.01	160400.00	6.15	10.75	48.74	10.42	63.05	3.57
Median	0.29	4.09	351400.00	7.23	12.93	57.35	14.82	75.56	4.92
Quartile3	0.43	5.81	730500.00	8.58	15.87	64.46	20.01	88.97	7.05
Std.	0.31	2.59	13671930.13	2.96	9.77	12.27	15.78	33.05	4.34
Min.	-1.24	-8.29	6800.00	2.65	3.56	17.82	0.26	19.06	0.30
Max.	4.22	18.00	405926000	76.47	273.68	89.20	420.00	756.82	93.86
Banks	955	947	957	957	957	957	957	957	955
2012									
Mean	0.36	4.64	1312590.65	8.12	15.32	57.06	13.64	79.15	5.49
Quartile 1	0.21	2.81	166425.00	6.71	11.51	49.36	7.52	64.54	3.44
Median	0.31	4.00	368250.00	7.78	13.76	57.98	11.20	76.77	4.82
Quartile3	0.45	5.74	755700.00	9.19	16.91	65.32	16.66	91.16	6.88
Std.	0.24	2.73	13740194.01	2.93	15.02	12.66	20.04	27.53	3.17
Min.	0.00	0.00	12600.00	3.10	4.76	16.67	1.10	20.58	0.22
Max.	2.97	17.80	407236000	74.60	447.62	89.75	575.00	534.74	31.96
Banks	954	950	956	956	956	956	956	956	952
2013									
Mean	0.32	3.85	1308897.07	8.70	15.82	58.43	11.82	80.15	5.54
Quartile 1	0.20	2.49	172550.00	7.24	12.19	50.51	6.26	66.04	3.53
Median	0.28	3.42	376500.00	8.41	14.38	59.35	9.80	77.28	4.90
Quartile3	0.40	4.80	788225.00	9.81	17.73	66.53	14.58	93.01	6.97
Std.	0.20	2.05	13066656.35	2.05	6.99	12.91	8.36	27.03	3.09
Min.	0.00	0.00	16037.30	3.60	5.10	13.02	0.59	22.21	0.00
Max.	2.25	17.97	385398000	22.09	137.68	92.78	71.74	497.01	30.32
Banks	948	947	950	950	950	950	950	950	947
2014									
Mean	0.33	3.59	1694429.88	9.04	16.20	59.11	10.07	80.52	5.57
Quartile 1	0.19	2.30	235500.00	7.67	12.52	51.74	5.31	65.95	3.59
Median	0.28	3.15	485250.00	8.75	14.79	60.22	8.21	77.84	5.08
Quartile3	0.40	4.44	948750.00	10.04	18.27	67.33	12.15	91.62	6.86
Std.	0.25	1.90	15982642.77	2.11	6.07	12.88	7.74	29.82	3.11
Min.	0.00	0.00	27400.00	3.43	6.08	5.69	0.97	6.61	0.20
Max.	3.27	13.36	402543000	27.57	60.20	91.70	84.50	583.22	26.51
Banks	689	686	690	690	690	690	690	690	676

(Contd...)

Table 3: (Continued)

Statistics	ROAA	ROAE	TA	Savings/year					
				EQTA	EQNL	NLTA	LACUST	TLCDT	OFFBAL
2000									
Mean	0.231	5.285	1804075.871	4.488	7.661	60.331	10.256	97.029	5.426
Quartile 1	0.16	3.61	699975.00	3.92	6.26	55.16	6.20	79.80	2.99
Median	0.23	5.26	1220350.00	4.35	7.18	61.79	9.46	96.99	4.38
Quartile3	0.31	6.58	2165675.00	4.98	8.68	68.42	13.44	113.64	6.08
Std.	0.15	2.41	1877702.37	0.86	1.83	11.28	5.46	28.25	3.61
Min.	-1.77	0.22	135400.00	2.50	4.33	21.74	1.77	25.87	0.89
Max.	0.71	15.23	15503200.00	8.25	15.71	86.68	33.77	229.07	19.67
Banks	401	398	402	402	402	402	402	402	400
2001									
Mean	0.209	4.577	1879846.633	4.556	7.836	59.924	11.349	94.194	5.206
Quartile 1	0.12	2.76	742200.00	3.98	6.40	54.38	7.46	78.10	2.85
Median	0.19	4.46	1295100.00	4.39	7.42	61.20	10.47	94.20	3.99
Quartile3	0.28	5.97	2265400.00	5.03	8.85	67.53	14.03	110.14	5.82
Std.	0.12	2.52	1952639.94	0.88	1.91	11.17	5.42	27.29	3.64
Min.	0.00	0.00	144800.00	2.61	4.70	22.07	1.11	24.99	0.88
Max.	0.70	16.11	16214700.00	8.28	16.84	83.75	32.46	221.57	19.55
Banks	400	400	401	401	401	401	401	401	399
2002									
Mean	0.170	3.750	2213451.861	4.690	8.048	60.087	11.934	94.011	5.177
Quartile 1	0.08	2.00	750650.00	4.04	6.60	54.54	7.51	77.74	2.83
Median	0.16	3.70	1319500.00	4.55	7.56	61.67	10.69	94.14	3.84
Quartile3	0.25	5.28	2373050.00	5.18	9.02	67.78	14.84	110.05	5.62
Std.	0.14	2.32	5381164.18	0.92	2.00	11.25	6.36	27.15	4.33
Min.	-0.96	-9.85	143200.00	2.59	3.98	20.16	1.72	22.72	0.86
Max.	0.52	11.22	101538000.00	8.37	15.65	83.53	39.23	200.80	51.37
Banks	400	397	403	403	403	403	403	403	399
2003									
Mean	0.17	3.69	2307547.41	4.87	8.30	60.63	10.69	94.50	5.22
Quartile 1	0.09	1.98	759800.00	4.20	6.81	54.55	6.16	77.97	2.85
Median	0.16	3.56	1330600.00	4.72	7.77	62.19	9.04	94.95	3.93
Quartile3	0.25	5.20	2469400.00	5.41	9.38	68.53	13.65	111.05	5.65
Std.	0.13	2.35	5567262.41	0.97	2.14	11.70	6.52	27.34	4.30
Min.	-0.70	-0.09	140200.00	2.59	4.87	19.44	1.49	21.94	0.59
Max.	0.75	15.89	101744000.00	8.35	17.37	83.18	44.96	190.98	51.16
Banks	403	401	405	405	405	405	405	405	400
2004									
Mean	0.19	3.90	2366128.82	5.09	8.77	60.05	11.43	93.22	4.02
Quartile 1	0.11	2.42	785725.00	4.35	7.06	53.75	6.52	76.80	2.54
Median	0.19	3.80	1364350.00	4.99	8.22	61.55	9.31	92.81	3.52
Quartile3	0.27	5.27	2589300.00	5.66	9.92	68.11	14.61	110.82	4.77
Std.	0.22	2.18	5533756.24	1.06	2.35	11.81	6.92	26.57	3.13
Min.	-3.16	-4.15	153100.00	1.17	2.11	18.82	1.77	21.18	0.52
Max.	1.73	14.10	100646000.00	8.83	19.49	84.15	43.69	186.91	51.03
Banks	406	404	406	406	406	406	406	406	403
2005									
Mean	0.20	3.70	2445956.14	5.42	9.19	59.52	11.79	91.93	4.57
Quartile 1	0.12	2.43	769300.00	4.54	7.48	53.90	6.93	75.99	2.87
Median	0.18	3.62	1377800.00	5.15	8.57	60.99	10.51	92.17	3.93
Quartile3	0.26	4.89	2586550.00	5.95	10.35	67.64	14.55	109.16	5.36
Std.	0.15	1.89	5705246.79	2.67	2.54	12.02	7.04	26.38	3.38
Min.	0.00	0.00	132000.00	2.69	5.01	0.59	0.72	1.59	0.56
Max.	1.82	11.30	101996000.00	54.90	22.88	84.94	48.04	187.96	51.14
Banks	414	412	415	415	414	415	415	415	411

(Contd...)

Table 3: (Continued)

Statistics	Savings/year								
	ROAA	ROAE	TA	EQTA	EQNL	NLTA	LACUST	TLCDT	OFFBAL
Mean	0.19	3.56	2507204.58	5.60	9.55	59.43	13.12	91.05	4.61
Quartile 1	0.11	2.19	772450.00	4.71	7.76	53.42	7.50	75.15	2.85
Median	0.18	3.47	1419300.00	5.37	8.81	60.96	10.98	91.41	4.14
Quartile3	0.25	4.62	2678350.00	6.11	10.77	67.03	17.11	109.42	5.45
Std.	0.11	1.95	5981853.00	2.64	2.75	12.06	7.58	26.01	3.39
Min.	0.00	0.00	127000.00	2.80	5.28	0.82	0.14	2.23	-0.81
Max.	0.73	14.33	107419000.00	53.97	27.05	82.70	41.81	194.82	51.16
Banks	413	414	415	415	414	415	415	415	412
2007									
Mean	0.16	2.80	5007501.89	5.67	9.98	58.13	17.61	88.30	4.57
Quartile 1	0.09	1.70	767400.00	4.74	8.00	51.77	11.10	71.50	2.81
Median	0.15	2.74	1450400.00	5.43	9.19	59.63	15.82	88.24	4.02
Quartile3	0.22	3.81	2763800.00	6.13	11.29	65.21	22.33	105.79	5.48
Std.	0.11	1.64	51170062.60	2.25	2.99	12.24	9.11	26.21	3.36
Min.	-0.84	-6.74	85748.60	2.72	5.52	0.51	2.35	1.65	0.69
Max.	0.81	9.93	1045020000.00	45.09	29.24	84.50	63.09	199.29	51.17
Banks	419	418	421	421	420	421	421	421	417
2008									
Mean	0.11	2.08	4888715.98	5.63	10.18	57.21	18.48	86.20	4.79
Quartile 1	0.05	0.90	798075.00	4.72	8.03	51.07	12.34	69.72	2.85
Median	0.10	1.79	1514600.00	5.44	9.43	58.16	17.43	85.95	3.99
Quartile3	0.17	3.04	2775300.00	6.25	11.53	65.32	23.27	103.03	5.64
Std.	0.12	1.60	52226509.21	1.88	3.34	12.61	8.90	25.75	5.43
Min.	-1.05	-8.49	85951.60	2.71	4.62	0.74	1.14	1.95	0.67
Max.	0.48	10.05	1070753000.00	35.36	34.91	83.42	66.49	183.49	91.38
Banks	419	417	420	420	419	420	420	420	418
2009									
Mean	0.17	2.97	10601168.07	5.98	11.13	56.79	15.11	83.22	4.67
Quartile 1	0.08	1.61	628900.00	4.95	8.41	49.93	8.22	68.71	2.96
Median	0.15	2.75	1420700.00	5.70	9.90	58.24	13.53	83.09	4.00
Quartile3	0.23	3.89	2575600.00	6.63	12.56	65.70	19.71	99.20	5.76
Std.	0.16	1.90	129940697.08	1.55	4.25	13.08	8.90	25.50	3.37
Min.	-1.31	-2.26	27254.40	2.54	3.53	0.83	1.58	1.61	0.42
Max.	0.87	12.44	2568259000.00	13.05	39.07	85.10	51.81	178.32	51.11
Banks	460	456	461	461	460	461	461	461	458
2010									
Mean	0.20	3.16	10140531.18	6.40	11.84	57.75	14.78	82.55	5.43
Quartile 1	0.10	1.77	544200.40	5.37	8.77	51.22	8.09	67.32	3.26
Median	0.17	2.75	1336100.00	6.11	10.48	59.47	12.95	82.57	4.96
Quartile3	0.27	4.09	2511600.00	7.16	13.31	66.90	19.20	97.98	6.79
Std.	0.16	2.02	126894933.32	1.68	5.28	13.44	9.26	25.69	3.55
Min.	0.00	0.00	27304.30	0.00	0.00	0.95	1.74	1.60	0.23
Max.	1.44	14.52	2587312000.00	17.82	68.30	88.33	58.34	178.57	51.11
Banks	490	489	491	491	491	491	491	491	489
2011									
Mean	0.22	2.80	9461876.93	7.65	15.31	58.48	15.94	176.85	5.58
Quartile 1	0.10	1.48	487400.00	6.46	10.44	51.43	9.20	68.52	3.45
Median	0.17	2.40	1315800.00	7.41	12.63	60.08	14.20	83.63	4.88
Quartile3	0.26	3.64	2554300.00	8.59	15.64	67.32	19.83	100.39	6.83
Std.	0.23	1.92	118206328.13	1.87	32.14	13.39	9.67	2114.69	3.64
Min.	-0.06	-0.92	23423.00	3.44	5.75	1.01	1.54	1.61	0.75
Max.	2.75	14.37	2440114000.00	18.48	731.54	92.86	58.97	48070.18	51.07
Banks	514	510	515	515	515	515	515	515	513

(Contd...)

Table 3: (Continued)

Statistics	ROAA	ROAE	TA	EQTA	EQNL	NLTA	LACUST	TLCDT	OFFBAL
2012									
Mean	0.20	2.52	9576120.05	8.21	14.72	59.42	13.73	207.06	5.60
Quartile 1	0.10	1.32	498175.00	6.96	11.04	51.27	7.61	68.81	3.51
Median	0.17	2.12	1343700.00	7.97	13.16	61.07	11.24	85.18	5.13
Quartile3	0.26	3.27	2592700.00	9.09	16.46	68.45	18.25	100.72	6.72
Std.	0.18	1.84	117752917.45	2.02	6.20	13.71	9.16	2762.92	3.49
Min.	-0.09	-1.57	24354.50	3.22	6.30	0.89	1.67	1.60	0.00
Max.	2.57	13.73	2414261000.00	23.89	70.74	94.01	57.72	62600.00	45.44
Banks	511	511	512	512	511	512	512	512	510
2013									
Mean	0.19	2.17	9337735.55	8.69	15.32	60.38	13.06	192.28	5.60
Quartile 1	0.10	1.21	511750.00	7.43	11.50	52.38	6.58	70.56	3.54
Median	0.16	1.90	1384000.00	8.44	13.86	62.68	10.94	85.29	5.18
Quartile3	0.25	2.91	2697900.00	9.68	17.06	69.26	16.94	101.00	7.05
Std.	0.17	1.37	111815846.88	2.04	6.31	13.87	9.25	2420.33	2.92
Min.	0.00	0.00	25411.80	3.20	6.29	1.02	1.38	1.82	0.51
Max.	2.84	7.89	2252689000.00	24.08	71.67	95.59	60.59	54579.69	25.23
Banks	506	506	507	507	506	507	507	507	505
2014									
Mean	0.18	2.06	8462092.54	9.18	15.76	60.71	12.91	223.79	5.81
Quartile 1	0.10	1.13	659350.00	7.75	12.08	52.52	6.12	68.95	3.89
Median	0.17	1.82	1510100.00	8.85	14.51	62.65	10.33	84.67	5.28
Quartile3	0.24	2.68	3056700.00	10.07	17.25	70.39	16.78	99.76	7.06
Std.	0.12	1.37	115635873.86	3.96	6.43	13.85	10.33	2705.79	3.01
Min.	0.00	0.00	26865.50	3.90	7.48	0.39	1.25	10.13	0.86
Max.	0.99	13.13	2240721000	75.92	72.08	90.84	99.28	52479.45	24.68
Banks	372	373	375	375	374	375	375	375	373

Appendix D: Evolution of financial ratios of commerzbank, Deutsche bank and unicredit

Dates	Commerzbank							
	ROAA	ROAE	TA	EQTA	NLTA	LACUST	TLCDT	OFFBAL
2000	0.343	11.031	4.54E+08	3.027	48.398	58.757	209.1227451	0.18289486
2001	0.033	1.169	5.01E+08	2.616	42.886	56.186	189.3426004	0.170063846
2002	-0.058	-2.322	4.22E+08	2.387	33.958	49.31	155.2058516	0.151071101
2003	-0.555	-21.881	3.81E+08	2.702	34.898	45.003	138.561	0.146703927
2004	0.11	4.154	4.25E+08	2.594	34.121	53.155	143.0337699	0.126497206
2005	0.292	10.303	4.45E+08	3.068	33.38	51.816	149.4214651	0.126142018
2006	0.34	12.348	6.08E+08	2.517	47.194	39.991	208.5281913	0.114334257
2007	0.314	12.244	6.16E+08	2.617	45.98	37.85	181.8044187	0.116455123
2008	0.01	0.328	6.25E+08	3.174	45.554	26.979	170.4717308	0.117079866
2009	-0.631	-19.962	8.44E+08	3.148	39.07	38.647	137.2705633	0.115324916
2010	0.186	5.392	7.54E+08	3.799	39.479	44.374	125.4087207	0.115670001
2011	0.106	2.795	6.62E+08	3.748	40.882	40.661	122.5953728	0.121037441
2012	0.009	0.219	6.36E+08	4.127	38.461	45.139	107.85266	0.118601954
2013	0.029	0.647	5.5E+08	4.9	39.562	44.946	98.88542269	0.137432324
2014	0.067	1.379	5.58E+08	4.842	37.681	41.381	94.30941156	0.148201942

Deutsche bank								
Dates	ROAA	ROAE	TA	EQTA	NLTA	LACUST	TLCDT	OFFBAL
2006	0.387	18.439	1571768000	2.098	11.534	98.536	44.41707	0.09710
2007	0.399	19.293	1925003000	2.042	10.332	92.497	43.80364	0.05713
2008	-0.189	-10.939	2202423000	1.449	12.227	92.028	68.56704	0.04011
2009	0.268	14.189	1500664000	2.53	17.199	96.914	75.95375	0.09433
2010	0.137	5.274	1905630000	2.644	21.396	81.557	77.13564	0.09970
2011	0.213	8.236	2164103000	2.526	19.062	81.614	69.24634	0.08524
2012	0.015	0.58	2022275000	2.682	19.65	81.541	69.65732	0.08918
2013	0.037	1.247	1611400000	3.411	23.365	79.246	72.39905	0.10661
2014	0.102	2.638	1708703000	4.285	23.741	69.595	77.09872	0.11247

Unicredit								
Dates	ROAA	ROAE	TA	EQTA	NLTA	LACUST	TLCDT	OFFBAL
2000	0.201	6.678	694267000	3.137	59.241	38.859	209.707	0.14186
2001	0.137	3.873	716241000	3.932	58.54	45.432	251.357	0.13893
2002	-0.137	-4.24	526452000	2.266	57.609	34.814	214.294	0.16264
2003	-0.489	-19.758	473167000	2.703	57.655	35.796	202.385	0.16087
2004	-0.454	-15.969	467385000	2.99	56.033	36.242	190.581	0.15585
2005	0.216	7.058	493659000	3.122	53.134	40.468	173.469	0.16865
2006	1.038	29.379	508033000	3.934	32.287	63.591	178.026	0.14083
2007	1.261	26.672	422129000	5.685	37.961	83.707	152.779	0.16919
2008	-0.147	-2.76	458602000	5.02	36.388	75.186	167.555	0.16633
2009	0.215	3.789	363420000	6.504	39.884	69.518	158.957	0.17358
2010	0.47	7.305	371909000	6.364	37.339	70.099	146.317	0.18458
2011	0.261	4.133	372312000	6.263	35.141	64.074	137.792	0.13630
2012	0.358	5.525	347285000	6.7	35.063	62.53	124.281	0.13863
2013	0.337	4.851	290018000	7.244	37.572	63.721	115.084	0.16469
2014	0.325	4.605	300342000	6.858	36.268	62.04	120.220	0.17407