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The impact of banking behaviour on monetary strategy

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Beiträge zur angewandten Wirtschaftsforschung

Nr. 5 (2004)

Vorläufige Fassung! Nicht im Handel!

**The Impact of Banking Behaviour
on Monetary Strategy**

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Abstract: The Impact of Banking Behaviour on Monetary Strategy

At present, Western European banks are increasingly branching out into asset management as well as the consulting business, which cannot be influenced directly by monetary controls. We have therefore conducted a factor analysis of banks' balance-sheet items, and we have also plotted figures from banks' income statements. Our analyses fulfil a triple purpose. First, they shed much light on the positioning strategies deployed by European banks. Secondly, they reveal various tendencies in respect of the refinancing strategies that are adopted when credits are granted to non-banks. Thirdly, they facilitate an assessment of the effectiveness of monetary policy. There is clear evidence that the European Central Bank's money supply policy will prove progressively less efficient as banks resort increasingly to refinancing by assets and continue to expand their banking services by building up their consulting businesses.

Key words: Banking structure

Banking market

Banks' business strategies

JEL-classification: E 50, E 51, E 58, G 21

The Impact of Banking Behaviour on Monetary Strategy*

Manfred Borchert

Introduction

The way monetary targeting is managed depends on how money is defined, and money may be defined in many different ways. All current definitions, however, have one thing in common, namely they invariably comprise liability items in banks' balance sheets. Consequently, these balance sheets remain unchanged (a) when banks provide assistance to customers who wish to raise funds in the capital markets; and (b) if banks – at least partially – refinance loans via assets (securities), they exert no influence whatever on the quantity of money.

However, even if banks refinance their loans by liability items, reference to the quantity of money M3 can be problematic because the means of payment (M1) and the amount of liquidity within the banking sector (M3-M1) develop in opposite directions, a process which will be neutralized – at least partially – within the aggregate M3. Consequently, broad money is determined endogeneously; “the starting point of this endogeneity thesis is the assertion that it is loans that cause deposits (and not the other way around).”¹

Until the early 1980s, the continental European financial system was largely bank-based, while the U.S. and U. K. systems had become market-based. In 1994, only 16% of the capital borrowed by firms in the U.S. came from banks, while 49% was raised by issuing securities. By contrast, 80% of corporate borrowing in Germany was from banks and only 10% from securities markets.² Over the last twenty years, the European financial system has become more market-based due to two factors: (a) improvements in the processing and transmission of information and (b) the process of European integration.³ This trend will be reinforced by

* This contribution was written in August and September 2004, during a research visit to the *International Monetary Fund* in Washington, D.C. (USA).

¹ Cf. Caporale/Howells 2001: 548.

² Cf. Rajan/Zingales 2003: 5.

³ Cf. Rajan/Zingales 2003: 57.

the transition to a single European currency, which was launched as early as 1999, although the new coins and banknotes were not issued until 2002.

Section 1 outlines the prospects of the Western European banks. Owing to the introduction of the euro, every bank within the EMU zone can now expand its market area beyond its national borders. European banks are now increasingly expanding into asset management as well as the consulting business, – activities which enable them to raise funds for customers in ways which cannot be influenced by monetary controls.

Section 2 examines the positioning of Europe's big banks with the aid of a factor analysis of balance-sheet items and a graphical representation of income statements. Our analyses reveal different trends in the refinancing strategies that are adopted when credits are granted to non-banks (refinancing by assets and refinancing by liabilities). The adjustments of equity capital also play a considerable role, too.

Section 3 attempts to assess the effectiveness of monetary policy by drawing inferences from the development of the European banking market. The *European Central Bank's* money supply policy will prove increasingly inefficient if banks continue refinancing by assets and expanding their banking services by branching out into the consulting business.

1. The Incentives offered by the New Currency

As we have already pointed out, the way monetary targeting is managed depends on how money is defined, and all the current definitions comprise liability items in banks' balance sheets. It follows, therefore, that monetary policy aims essentially at influencing the composition of liability items in banks' balance sheets.

Assuming, for simplicity, that $o_a = o_l$, the bank's balance sheet may be represented by the

assets		liabilities	
cash	} B	bank deposits	d _b
central bank deposits		<i>non-bank deposits (d_{nb}):</i>	
loans to banks	l _b	demand deposits	d _d
loans to customers	l _c	other deposits	d _o
securities	s _a	debt securities in issue	s _l
other assets	o _a	capital	c
		other liabilities	o _l

following equation:

$$(1) \quad B + l_b + l_c + s_a = d_b + (d_d + d_o) + s_l + c.$$

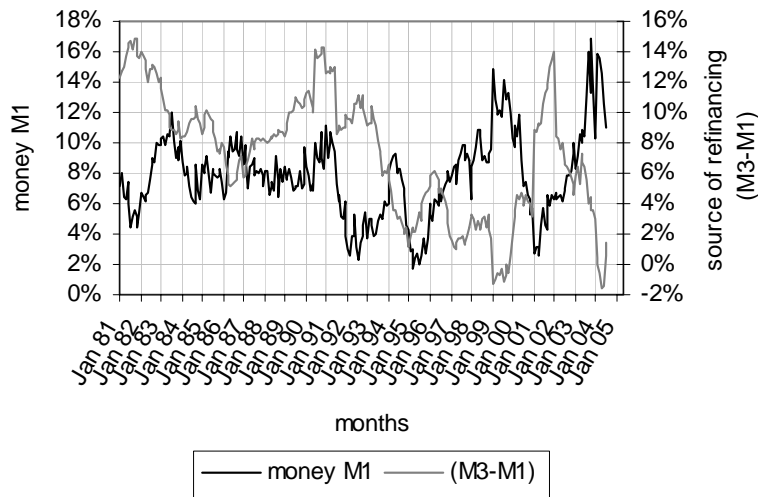
Since monetary targeting usually seeks to influence $(B + d_d + d_o + s_l)$, banks exert little effect on the money supply when they refinance loans via assets or provide assistance to customers who wish to raise funds in the capital markets. Furthermore, if we assume that $l_b = d_b$ ⁴, equation (2) follows logically from equation (1):

$$(2) \quad l_c = f(B, s_a, d_{nd}, s_l, c), \quad \text{with } d_{nb} = d_d + d_o.$$

Equation (2) contains all relevant variables which will be analyzed below.

In the past, the success of the monetary policy pursued by the *Deutsche Bundesbank* was primarily due to the fact that German investors financed their investments mainly by bank loans which in turn were refinanced by deposits (d_o) and debt securities in issue (s_l). As can be seen from Figure 1, the same is probably true for most of the countries which have signed up for EMU

Figure 1: Annual change in the quantity of money within the EMU
between January 1981 and July 2004
calculated by the European Central Bank until the end of 1998



Source: The author's own calculations based on data from the monthly reports of the *European Central Bank*

⁴ Loans to banks (l_b) and bank deposits (d_b) are used mainly for settlements between banks.

When there was an increase in the rate of change of $M1^5$, there was almost invariably a decrease in the rate of change of refinancing sources⁶, and these sources were equal to the difference between $M3$ and $M1^7$. This phenomenon can be explained by the fact that new bank loans can only be financed by demand deposits if customers can be persuaded to convert some of their idle demand deposits into deposits represented by $(M3-M1)$.

There are still considerable differences in the ways in which European banks refinance loans, but the arrival of the euro has brought about dramatic changes in this domain by enabling all the banks within the *European Monetary Union* (EMU) to create uniform means of payment.⁸ It is now possible for money created in one member state to be used as a means of payment in another member state. The geographic radius of banking activity has been enlarged, but at the same time, domestic banks have lost the protection previously afforded by Europe's national currencies⁹. In order to withstand the full blast of Europe-wide competition, they will have no choice but to adapt to the new situation.

Since competition will squeeze margins in the traditional banking sector, banks may seek new sources of profit beyond the ambit of conventional commercial banking¹⁰. In other words, they may be tempted to expand their activities in areas such as investment banking and consulting banking. "Credit institutions within Europe are mainly expanding into asset management and the business of investment services in general".¹¹

Under the terms of the *Basle Accord I* (1988), large credits have to be notified if they exceed 8% of the bank's equity capital. The way this regulation is applied depends on the risk category into which a credit falls¹². A credit granted to a single bank client may not exceed 25% of the bank's equity capital¹³. The *Basle Accord II*, which is to become effective by

⁵ $M1$ comprises the monetary base held by non-banks and demand deposits d_d .

⁶ The refinancing sources comprise deposits d_o and debt securities in issue s_l with an original duration of two years.

⁷ The only exception was 1990, the year when German reunification brought about an extension of Germany's currency area.

⁸ Cf. Borchert 1999: 59.

⁹ Cf. Bagliano/Dalmazzo/Marini 1999: 979.

¹⁰ Cf. Milbourn/Boot/Thakor 1999: 196.

¹¹ Cf. European Central Bank 2000: 14.

¹² Cf. Walsh 1994: 50.

¹³ Cf. Norton 1994: 214.

2005, tightens the minimum capital requirements by including credit risk as well as explicit capital requirements for operational risk¹⁴.

Summary: Traditionally, European banks have refinanced credits by means of liability items in their balance sheets. Owing to the introduction of the euro, every bank within the EMU zone can now expand its market area beyond its national borders. This results in increased competition which is inducing banks to resort to M&A with a view to achieving cost reductions, synergy effects and increases in equity capital. But, more significantly, Western European banks are now expanding increasingly into asset management as well as into consulting business – activities which enable them to raise funds for customers in ways which cannot be influenced by monetary controls.

2. The Positioning of the Big Banks in Western Europe

What is causing a stir in the general public is above all the way the Western European banking sector is being restructured by mergers and acquisitions (M&A), with large banks shifting their business focus from book credit allocation to credit brokerage via the market. At the same time, the banks' share of pure interest income is declining in favour of the share of revenue from consulting banking, investment banking and wholesale banking (credit brokerage).

The following analysis focuses on the major European banks. All the results reported here are based on data provided by the balance sheets of large banks for the years 1999 to 2003.¹⁵ We ignore the activities of small banks, which we assume to consist mainly of cost cutting and shifting their customers' deposits.

In the following analysis, the 50 largest banks in Europe are referred to by the numbers appended to their names in Appendix II-e¹⁶. No distinction has been made between countries which have already signed up for the single currency, those which will probably join EMU in

¹⁴ Cf. Basle Committee on Banking Supervision 2001: 1.

¹⁵ The balance sheets for the large European banks are summarized in Appendix II.

¹⁶ WGZ-Bank (# 54) – listed in Appendix II-e – is not one of the largest European banks.

the not too distant future (Great Britain, Denmark and Sweden), and those which have decided to remain outside (Switzerland).

2.1. Factor Analysis of balance sheets

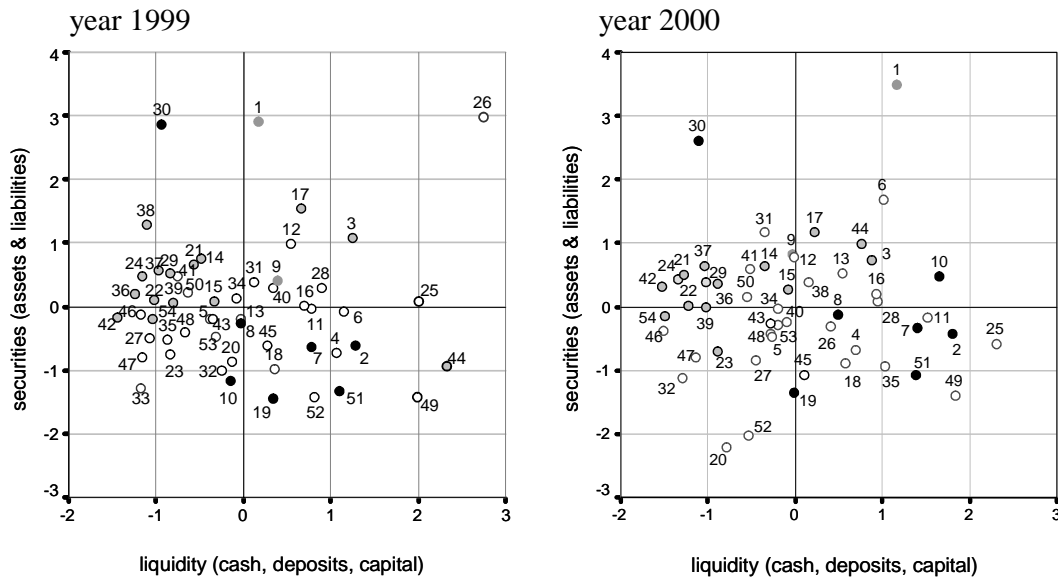
A factor analysis was conducted in which normalised key data from large European banks were reduced to two factors. Where there is a large number of interdependent variables (e.g. balance sheet items) of different objects (e.g. banks), a factor analysis can be used to extract certain underlying independent factors, thereby reducing the number of explanatory variables. The correlation between these factors and the original variables yields the “factor loadings” presented in the Varimax-rotated factor matrix in Table 1 for the years 1999 to 2003 in Appendix I. The coordinate axes represent mean values of the factors obtained for the sample that was selected. For details, see Appendix I.

For the years between 1999 and 2003 our analysis of balance-sheet items always yields two factors, which are different in their components.

For the years **1999** and **2000**, *Factor 1* was interpreted as **liquidity** (B, d_{nb} , c) and *Factor 2* as **securities** (s_a , s_l). As can be seen from Figure 2, securities play a prominent role in cases where bank loans to non-banks have to be refinanced. It should, however, be borne in mind that the German banks (light shading) include many *Landesbanken*, which act as central banks for Germany’s *Sparkassen* (savings banks), and which traditionally rely heavily on securities in issue as a source of refinancing. In order to provide additional information, British banks are denoted by black dots and Swiss banks by dark grey dots.

The variable capital c – which is a component of Factor 1 in the years 1999 and 2000 – serves as a constraint when banks offer loans to customers, reflecting the impact of Basle Accord I. Factor 1, therefore, can be described as “liquidity of first order”. Both, securities (assets) and securities in issue (liabilities) might be seen as the modern version of refinancing, or: “liquidity of second order”.

Figure 2: The refinancing methods used by Western European banks, 1999 and 2000



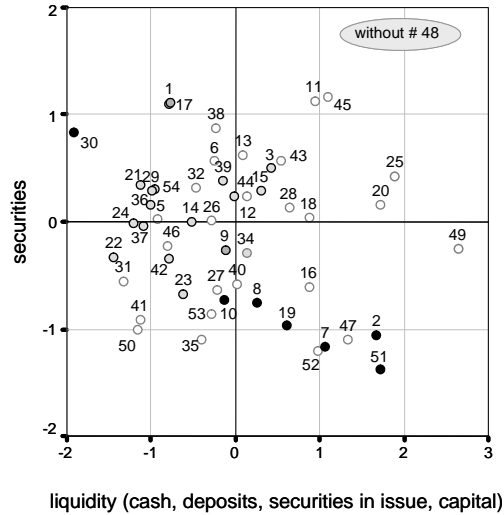
Source: The author's own calculations based on data provided by the 50 largest European banks

Apart from some outliers, most of the banks under observation are grouped around the average of both factors (zero-lines of the co-ordinates).

When, *in 2001*, banks began to prepare for Basle Accord II, they had to take precautionary measures. Securities in issue (liabilities) s_l remained a liquidity item for refinancing credits, whereas securities (assets) now served as a precautionary risk item. Capital c continued to serve as a constraint when offering loans (Basle Accord I), but became increasingly a risk item (Basle Accord II). Therefore, *Factor 1* now includes cash, deposits, securities in issue as well as capital and was interpreted as “liquidity” (B, d_{nb}, s_l, c). *Factor 2* is represented only by securities (s_a).

Surprisingly, nearly all British banks refinance their credit supply via securities (assets) below the average level.

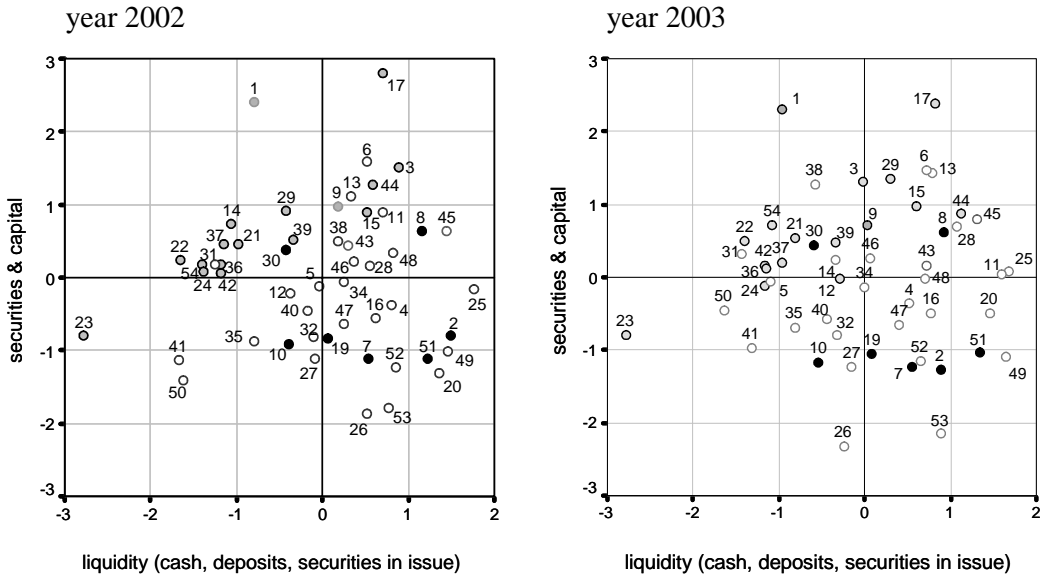
Figure 3: The transition period in 2001



Source: The author’s own calculations based on data provided by the 50 largest European banks

This development was consolidated in the *years 2002 and 2003* when *Factor 1* can be interpreted as “general liquidity” (B, d_{nb}, s_l) and *Factor 2* as a “precautionary risk item” (s_a, c).

Figure 4: The refinancing methods used by Western European banks, 2002 and 2003



Source: The author’s own calculations based on data provided by the 50 largest European banks

Even though Factor 2 could be interpreted as a precautionary risk item, at the same time, it also serves as a source of refinancing of the banks' credit supply.

When we compare the figures for 1999 until 2003, we see that the composition of the two factors differ. In all the years under discussion, it was the balance-sheet item *c* that had a different significance for the banks; the same was true of item *s_a*. One reason for this change is that European banks have to prepare for Basle Accord II. Furthermore, the banks' balance sheet structure will no doubt be modified by disintermediation and developments in the capital markets.¹⁷

Summary: All the banks are now increasingly refinancing their credit supply by items not subject to monetary control. Whichever type of security banks opt for, the quantity of money remains almost uninfluenced. In the case of debt securities in issue, however, the quantity of money only remains uninfluenced if the original duration of the securities exceeds two years.

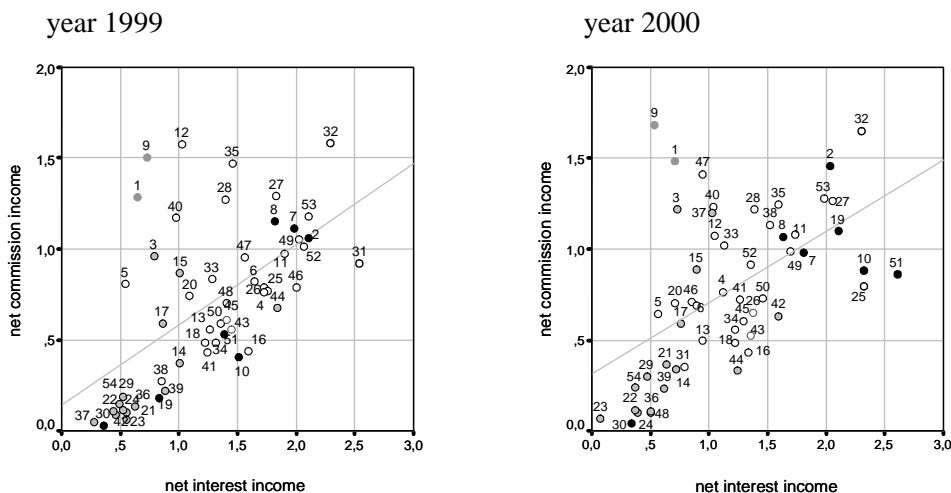
2.2. A Graphical Representation of Income Statements

In order to identify business trends, we analysed income statements submitted by the 50 largest European banks. The focus of our analysis was on their net interest income (interest income minus interest expenses) and their net commission income (commission income minus commission expenses). All data were normalised by the volume of assets indicated in the balance sheets.

The relevant numbers for the *period 1999/2000* are plotted in Figure 5, in which the broken line represents an adjustment for the observed banks. Our analysis shows that at present, as far as banking profits are concerned, net interest income remains of greater significance. On the average, the relationship of net commission income to net interest income is $1:2.6 = 0.385$.

¹⁷ Cf. Belaisch/Kodres/Levy/Ubide 2001: 38.

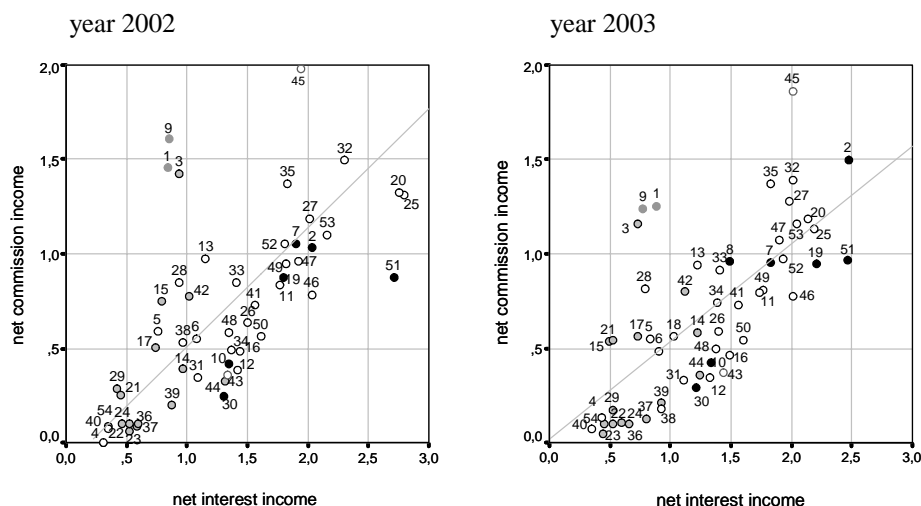
Figure 5: Business trends according to income statements for the years 1999 and 2000
 Note: All figures are percentages of total assets



Source: The author's own calculations based on data provided by the 50 largest European banks

The relevant numbers for the *period 2002/2003* are plotted in Figure 6, where the broken line again represents an adjustment for the observed banks.

Figure 6: Business trends according to income statements for the years 2002 and 2003
 Note: All figures are percentages of total assets



Source: The author's own calculations based on data provided by the 50 largest European banks

Almost all German banks are grouped in the lower left hand corner of Figures 5 and 6. Although Figure 6 does not reveal much change compared with Figure 5, the relationship between net commission income to net interest income is now approximately $1:2.0 = 0.5$. This means a small change in favour of net commission income.

These two types of income are the components of banks' credit terms, i.e. (1) net interest obtained during the refinancing process, and (2) revenues from consulting and from providing assistance to customers wishing to raise funds in the capital markets (i.e. profits derived from the securitisation process). Competition will force the banks to offer a wider range of off-balance sheet services in order to boost commission earnings.

Summary: When Western European banks want to refinance their credit supply, they resort increasingly to disintermediation. Consequently, even if the assets in the banks' balance sheets were in line with minimum reserve requirements, the central bank's ability to exercise monetary control would be severely limited.¹⁸ As time progresses, attempts to control the quantity of money will become increasingly ineffectual.

3. Consequences for monetary policy

There is little doubt that small banks with a local market will survive, and central banks will continue to focus their efforts on them as an object of monetary targeting. Nonetheless, small banks will have no choice but to adapt to the activities of larger banks.

In Europe, these large banks are working towards three objectives: (1) cost-cutting¹⁹, (2) diversifying their services, and (3) increasing equity capital. On the one hand, the activities in question pose a threat to banks by inducing them to accept a higher level of risk²⁰. On the other hand, they offer certain advantages, since increased diversification makes bankruptcy less likely²¹.

When banks diversify, they seek to achieve two goals: (a) increased refinancing (of their credits) by means of assets and (b) shifting the burden of financing onto the capital market.

¹⁸ Cf. Borchert 2002: 57-59.

¹⁹ This is especially true of small credit institutions.

²⁰ They imagine they are too big to fail.

Consequently, a very broadly defined money supply (M3), consisting of the credit institutions' liabilities, becomes less efficient as an instrument of monetary policy.

The mainstays of ECB monetary policy used to be the monetary target²² and the Eurosystem's internal inflation forecast²³. In May 2003, however, the ECB adopted a new two-phase policy. The first phase is an economic analysis designed to identify short-term to medium-term risks to price stability, while the second phase is a monetary analysis which takes account of variations in a wide range of monetary indicators, including M3, its components and counterparts, notably credit, and various measures of excess liquidity²⁴. This is a fundamental change in monetary strategy!

It should, however, be emphasised that “monetary policy works not just through its direct effects on interest rates, but also through its effects on other asset prices.”²⁵ A rise in asset prices tends to be accompanied by monetary and credit growth.²⁶ For example, a monetary policy reduces stock prices by raising the expected equity premium.²⁷ In a country like the U.S.A., movements in the Dow Jones index (DJ) can therefore be assessed with some degree of accuracy by the amount of liquidity within the banking sector (M3-M1) and beyond it (FA-(M3-M1)), with FA = total financial assets outside the banking sector:

$$(3) \text{ DJ} = f((\text{M3-M1}), (\text{FA}-(\text{M3-M1}))) \quad \text{with} \quad r^2 = 0,66.$$

Up to the present, there is no clear evidence to suggest that a similar connection exists between EuroSTOXX and liquid assets inside and outside the banking sector in Western Europe.

²¹ Cf. Mishkin 1999: 680 and 686.

²² The monetary target was considered as an indicator, not an intermediate target.

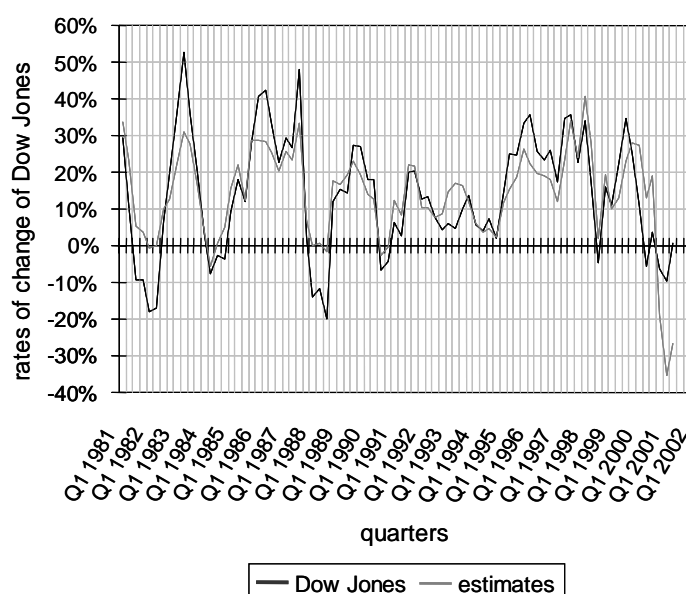
²³ Cf. Rudebusch/Svensson 1999: 17.

²⁴ Cf. ECB 2003: 8.

²⁵ Mishkin 2001: 9. According to an empirical investigation conducted by the Deutsche Bundesbank (2002: 49), the same seems to be true for Germany.

²⁶ Cf. Jaeger 2003: 28.

Figure 7: Variability of Dow Jones-Index



Source: The author's own calculations based on data from Datastream

Monetary policy, therefore, ought to react not only to changes in the quantity of money, but must additionally consider factors influencing price stability.

If commercial banks continue to refinance loans via assets and to provide assistance to customers wishing to raise funds in the capital markets, the appropriate way for the ECB to influence investment financing securitisation via monetary policy will be to resort to some sort of inflation targeting²⁸, which might be best described as »constraint discretion«.²⁹ However, central banks should not rely on only one strategy. It is possible that different measures might be implemented depending on the ultimate source of inflation.³⁰ Be that as it may, “the uncertainty associated with the introduction of the new currency should provide an argument for relying less, rather than more, on monetary aggregates as indicators.”³¹

²⁷ Cf. Bernanke/Kuttner 2004: 33.

²⁸ Cabos et al. conducted a regression analysis for Germany which shows that inflation targeting yielded more reliable results than monetary targeting for the period 1970-1997. Cf. Cabos/Funke/Siegfried (2001): 231.

²⁹ Cf. Mishkin 2004: 121.

³⁰ Cf. Issing 2001: 284.

³¹ Svensson/Woodford 2003: 2.

Appendix I: The Principles of Factor Analysis

Factor analysis is a statistical technique designed to reduce a set of observable variables to a small(er) number of latent factors. The underlying assumption is that there are a number of unobserved variables (so-called *factors*) that account for correlations among observed variables. If this assumption is correct, each observed variable (y) can be expressed as a weighted composite of a set of latent factors (f).

This concept is formalised in the following system of equations:

$$y_1 = a_{11} f_{11} + a_{12} f_{12} + \dots + a_{1n} f_{1n} + e_1$$

$$y_2 = a_{21} f_{21} + a_{22} f_{22} + \dots + a_{2n} f_{2n} + e_2$$

...

$$y_m = a_{m1} f_{m1} + a_{m2} f_{m2} + \dots + a_{mn} f_{mn} + e_m.$$

Assuming that the residuals (e) are uncorrelated with any of the observed variables, the correlations among the observed variables are accounted for by the factors (f). Since the main purpose of factor analysis is data reduction, a precondition is $n < m$.

In order to obtain significant results, it is advisable to implement the factor analysis as follows:

(1) Selecting a factor model: In the present case, the most useful technique is *principal component analysis*. The purpose of this procedure is not to ascertain causes, but to reduce variables to a common denominator. The communality estimate³² for a variable is therefore assumed to be 1.

(2) Determining the number of factors: The decision is ultimately subjective. From the economic perspective, there is one important requirement. It is necessary to be able to interpret the factors. If one wishes to verify a theory which suggests a certain number of factors, a factor analysis should be carried out with the prespecified number of factors. These factors should have an eigenvalue greater than 1 (*Kaiser-Guttman rule*).

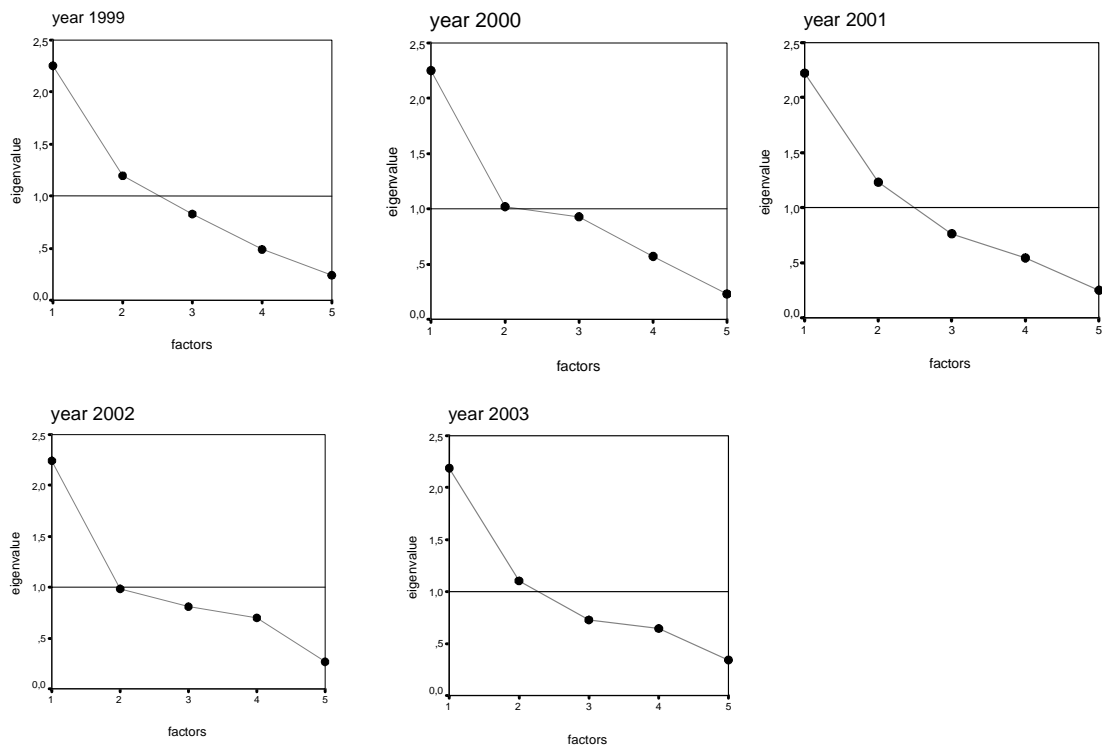
³² By *communality estimate* we mean the approximate calculation of the proportion of the variable's variance which is free of error and which is shared with other variables in the matrix.

(3) Factor rotation: The concept of data reduction provides the most common basis for rotation. The aim is to rotate the factors simultaneously in order to obtain the greatest possible number of zero loadings on each factor. The rotation method used in the present study is the simplest one, namely an orthogonal rotation in which the angle between the reference axes of factors is maintained at 90 degrees (*Varimax rotation*). The *factor loadings* of the rotated area emerge at the end of this process.

(4) At the final stage of the operation, the factor matrix shows how the variables are related to the factors.

A factor analysis was carried out as a *principal component analysis* in which the key figures of the major Western European banks were reduced to certain factors. The scree plots in Figure 8 suggest that two factors should always be extracted.

Figure 8: Scree plots



According to the *Kaiser-Guttman-rule*, the factors should have an eigenvalue greater than 1. This applies to two factors in all graphs of Figure 8. The correlation between these factors and

the original variables gives us the *factor loadings* represented in the Varimax rotated factor matrix in Table 1.

Table 1	1999		2000		2001		2002		2003	
Rotated factor matrix ^{a)}	factor		factor		factor		factor		factor	
balance sheet items	1	2	1	2	1	2	1	2	1	2
equity capital <i>c</i>	.698	-.088	.838	.053	.617	-.560	.470	-.565	.400	-.646
non-bank deposits <i>d_{nb}</i>	.699	-.577	.638	-.576	.881	-.249	.796	-.398	.743	-.425
cash and central bank deposits <i>B</i>	.839	.080	.576	-.143	.570	.419	.648	.108	.723	.206
debt securities in issue <i>s_I</i>	-.391	.724	-.266	.825	.831	-.108	.812	.114	-.808	.183
securities <i>s_a</i>	.209	.837	.044	.814	.022	.846	.073	.886	.115	.844

Extractions method: analysis of main components

Rotations method: Varimax with Kaiser-normalisation

^{a)} the rotation converges after 3 iterations

The absolute values (bold figures) of the factor loadings assign the various variables to factors 1 and 2. These factors, of course, still have to be interpreted in economic terms. The correlation between these factors and the objects (banks) yield the *factor values* in Figures 2, 3 and 4. The zero lines in these figures represent the mean values of the two factors in question.

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Appendix II-a: Banks 1999		cash & deposits with central bank	loans and advances to banks	loans and advances to customers	bonds & loan securities	other assets	total assets in bill. of specified currency	currency unit (bn) 1 bn = 10 ⁹ 1 trill.=10 ¹²	deposits by banks	customer accounts	other deposits/debt securities in issue	share capital	other liabilities	total liabilities in bn of specified currency	total assets in bn of EURO
1.	Deutsche Bank	21.88	115.45	352.37	303.21	46.96	839.87	EUR	174.66	291.04	164.06	23.15	186.96	839.87	839.87
2.	BNP Paribas (<i>Banque Nationale de Paris/Paribas</i>)	6.03	159.77	213.40	153.58	165.85	698.63	EUR	231.07	149.00	77.10	21.16	220.30	698.63	698.63
3.	UBS (<i>Union Bank of Switzerland</i>)	5.07	29.91	234.86	538.52	173.21	981.57	CHF	76.37	279.96	571.80	34.84	18.18	981.57	613.10
4.	HSBC Holdings plc (<i>Hong Kong-Shanghai BC</i>)	6.18	100.08	253.57	115.75	93.56	569.14	US-\$	38.10	359.97	93.36	33.41	44.29	569.14	562.95
5.	HVBgroup (<i>Bayerische Hypo/Vereinsbank</i>)	5.03	56.21	325.77	113.77	2.48	503.26	EUR	85.08	143.05	214.30	12.44	48.39	503.26	503.26
6.	ABN AMRO Holding N.V.	6.81	47.20	259.72	111.46	32.70	457.88	EUR	80.99	229.99	96.34	16.93	33.63	457.88	457.88
7.	Crédit Suisse	3.14	164.90	104.93	264.62	185.15	722.75	CHF	198.32	226.26	80.18	34.37	183.62	722.75	451.43
8.	Crédit Agricole	41.96	406.62	1513.65	370.38	550.28	2882.89	FF	456.87	1621.72	570.92	156.29	77.08	2882.89	439.39
9.	Société Générale	6.68	55.20	143.64	130.17	70.85	406.54	EUR	87.28	157.84	136.08	11.90	13.44	406.54	406.54
10.	Dresdner Bank	2.80	56.67	218.05	86.09	33.24	396.85	EUR	71.88	142.16	115.35	11.57	55.66	396.85	396.85
11.	West LB	1.35	112.77	147.83	111.90	19.89	393.75	EUR	154.90	97.72	116.98	8.31	15.84	393.75	393.75
12.	Commerzbank	8.95	50.04	203.50	107.10	2.45	372.04	EUR	72.66	91.04	156.97	11.14	40.23	372.04	372.04
13.	ING Bank (<i>Internationale Nederlanden Group</i>)	4.00	41.93	205.83	73.16	24.70	349.62	EUR	75.27	161.83	77.66	22.69	12.16	349.62	349.62
14.	Barclays plc	1.17	42.66	113.54	59.52	37.91	254.79	£	44.49	123.97	59.85	8.84	17.66	254.79	338.15
15.	Fortis	3.21	80.39	132.35	86.55	26.62	329.12	EUR	117.35	135.48	46.07	7.40	22.82	329.12	329.12
16.	Gruppo Intesa	2.59	84.42	312.80	113.37	75.36	588.53	trill. Lira	159.88	204.39	116.79	5.41	102.06	588.53	294.10
17.	Bayerische LB	0.41	85.66	113.06	65.84	16.27	281.23	EUR	114.11	51.66	97.95	6.93	10.59	281.23	281.23
18.	Rabobank	2.33	24.60	170.49	69.61	14.19	281.22	EUR	59.11	127.53	62.24	14.97	17.37	281.22	281.22
19.	Lloyds TSB	1.28	16.96	102.63	14.40	40.83	176.09	£	17.69	92.85	17.79	8.69	39.07	176.09	280.85
20.	LB Baden-Württemberg	0.54	95.24	76.24	50.91	8.48	231.41	EUR	71.96	71.46	74.97	4.40	8.62	231.41	231.41
21.	Caisse d'Épargne	1.77	85.86	101.28	37.14	22.70	248.75	EUR	18.68	157.86	51.36	9.75	11.11	248.75	248.75
22.	DEXIA	0.93	34.97	128.53	63.05	17.16	244.64	EUR	40.41	49.92	136.35	5.50	12.46	244.64	244.64
23.	DZ Bank (<i>Dt. Zentral-Genossenschaftsbank</i>)	2.96	71.83	94.73	63.51	10.19	243.22	EUR	87.02	60.37	77.31	3.16	15.37	243.22	243.22
24.	Banco Bilbao Vizcaya Argentaria	8.04	38.02	113.61	46.24	32.26	238.17	EUR	68.61	108.38	31.55	10.25	19.38	238.17	238.17
25.	KfW (<i>Kreditanstalt für Wiederaufbau</i>)	0.05	85.75	70.15	25.81	14.88	196.64	EUR	46.00	84.87	53.61	5.70	6.46	196.64	196.64
26.	Bankgesellschaft Berlin	0.87	36.59	101.48	39.79	15.06	193.79	EUR	58.16	62.51	61.28	4.37	7.47	193.79	193.79
27.	Banques Populaires	n.a.	40.57	83.77	35.25	26.73	186.32	EUR	48.24	67.52	n.a.	1.84	68.71	186.32	186.32
28.	Crédit Lyonnais	3.19	11.09	86.84	34.88	36.94	172.94	EUR	25.66	68.48	48.85	7.92	22.04	172.94	172.94
29.	Nord LB	0.25	58.45	64.24	33.44	14.88	171.25	EUR	68.74	35.35	58.88	3.94	4.34	171.25	171.25
30.	gruppo UniCredito	1.14	20.01	101.58	14.44	30.77	168.93	EUR	35.74	72.96	34.11	6.36	19.77	168.93	168.93
31.	Halifax plc/Bank of Scotland	0.36	10.77	96.57	22.94	31.44	162.08	EUR	11.87	87.85	24.77	6.25	31.33	162.08	162.08
32.	KBC Group (<i>Kredietbank/Cera Bank/ABB</i>)	0.58	17.19	64.63	52.09	21.73	156.22	EUR	28.87	71.88	31.03	4.22	20.22	156.22	156.22
33.	Grupo Santander Central Hispano	0.37	5.20	10.97	4.78	4.32	25.64	trill. pes	8.42	10.50	0.87	0.31	5.54	25.64	154.12
34.	Royal Bank of Scotland	1.39	10.38	49.34	16.30	11.44	88.85	£	6.42	55.18	16.82	2.85	11.78	88.85	141.71
35.	San Paolo di Torino	0.53	22.14	73.17	18.38	26.00	140.22	EUR	28.01	43.19	35.72	3.93	29.37	140.22	140.22
36.	Bank Austria (<i>member of HVB-Group</i>)	0.85	29.40	74.65	29.91	5.19	140.00	EUR	53.43	41.89	25.93	4.44	14.31	140.00	140.00
37.	Capitalia (<i>Banca di Roma/Banca di Sicilia</i>)	0.89	35.83	133.50	58.26	31.60	260.08	trill. Lira	84.27	74.27	60.71	2.68	38.15	260.08	132.47
38.	LB Schleswig-Holstein (<i>HSH Nordbank</i>)	0.29	28.87	52.69	30.27	3.03	115.15	EUR	48.83	22.11	36.90	2.91	4.40	115.15	115.15
39.	LB Hessen-Thüringen Girozentrale	0.10	41.82	47.85	12.58	24.95	114.72	EUR	34.78	22.09	42.05	3.00	42.81	114.72	114.72
40.	ING Belgium SA/NV (<i>until April 22, 03: BB Lambert</i>)	0.41	19.92	41.07	31.68	15.01	108.09	EUR	35.91	47.75	12.16	0.84	11.43	108.09	108.09
41.	Svenska Handelsbanken	6.29	98.86	626.21	90.12	101.33	922.80	SEK	186.50	185.29	476.23	38.57	36.20	922.80	107.43
42.	Nordea Group	2.7	n.a.	9.01	68.21	23.46	103.38	EUR	13.35	42.07	28.09	5.53	14.34	103.38	103.38
43.	Abbev National plc	0.02	27.26	6.71	56.19	11.30	101.46	EUR	33.08	8.51	52.61	1.88	5.38	101.46	101.46
44.	Swedbank Group (<i>FöreningsSparbanken</i>)	6.99	104.52	569.41	80.81	71.85	833.58	SEK	127.95	210.54	381.89	31.01	82.20	833.58	97.04
45.	Den Danske Bank Group	5.50	88.50	380.96	159.83	66.64	701.42	DKK	157.62	266.10	247.16	30.54	0.00	701.42	94.28
46.	Standard Chartered	0.61	11.40	28.80	5.11	8.21	54.13	£	5.56	35.15	7.28	3.17	2.99	54.13	86.33
47.	Banca Nazionale del Lavoro	0.47	8.72	55.68	8.22	11.86	84.95	EUR	19.88	29.99	26.20	3.86	5.02	84.95	84.95
48.	SEB (<i>Skandinaviska Erskilda Banken</i>)	9.07	103.67	342.91	132.35	122.25	710.26	SEK	117.77	229.53	225.52	33.01	104.42	710.26	82.68
49.	Ia Caixa Group	0.23	1.95	7.06	1.48	1.64	12.35	trill. pes	1.57	8.90	0.35	0.80	0.73	12.35	74.22
50.	Banca Monte dei Paschi di Siena	0.18	14.15	31.65	8.07	13.19	67.24	EUR	15.31	24.12	15.76	1.11	10.94	67.24	67.24
51.	Deutsche Postbank	2.98	52.8	6.98	31.3	23.23	117.29	DM	5.39	103.72	0.19	4.08	3.91	117.29	59.97
52.	Bank of Ireland	1.08	3.46	36.3	5.15	8.32	54.31	EUR	7.04	34.3	3.48	1.47	8.02	54.31	54.31
53.	ERSTE Bank	0.94	10.29	26.41	7.4	7.4	52.44	EUR	20.57	19.53	6.36	1.44	4.54	52.44	52.44
54.	WGZ Bank (<i>Westd. Genossenschaftszentralbank</i>)	0.5	38.64	31.74	14.13	3.42	88.43	DM	48.16	15.27	19.85	2.07	3.08	88.43	45.21

Source: The author's own calculations based on data provided by the 50 largest European banks.

Appendix II-b: Banks 2000		cash & deposits with central bank	loans and advances to banks	loans and advances to customers	bonds & loan securities	other assets	total assets in bill. of specified currency	currency unit (bn)	deposits by banks	customer accounts	other deposits/debt securities in issue	share capital	other liabilities	total liabilities in bn of specified currency	total assets in bn of EURO
								1 bn = 10 ⁹ 1 trill.=10 ¹²							
1.	Deutsche Bank	17.97	117.41	373.61	372.49	58.35	939.83	EUR	177.77	334.59	200.74	27.51	199.23	939.83	939.83
2.	UBS (<i>Union Bank of Switzerland</i>)	5.07	29.18	245.21	679.2	165.88	1124.55	CHF	82.24	310.69	630.12	62.96	38.55	1124.55	738.28
3.	HSBC Holdings plc (<i>Hong Kong-Shanghai BC</i>)	5.01	126.03	289.84	140.92	112.01	673.81	US-\$	60.05	427.07	91.07	45.57	50.21	673.81	724.14
4.	HVBgroup (<i>Bayerische Hypo/Vereinsbank</i>)	6.51	91.38	424.37	188.81	5.44	716.51	EUR	153.22	202.09	261.2	19.6	80.35	716.51	716.51
5.	BNP Paribas (<i>Banque Nationale de Paris/Paribas</i>)	8.14	130.61	230.91	145.23	179.15	694.04	EUR	196.26	172.88	75.73	21.61	227.57	694.04	694.04
6.	ING Bank (<i>Internationale Nederlanden Group</i>)	6.34	44.13	246.81	277.18	75.72	650.17	EUR	94.68	252.82	254.65	29.47	18.56	650.17	650.17
7.	Crédit Suisse	2.93	243.69	237.69	357.12	106	987.43	CHF	359.44	252.78	224.1	43.52	107.59	987.43	648.26
8.	ABN AMRO Holding N.V.	6.46	48.58	260.42	108.05	119.66	543.17	EUR	101.51	279.55	101.36	32.53	28.22	543.17	543.17
9.	Crédit Agricole	35.26	431.85	1663.64	410.66	972.31	3513.71	FF	481.53	1640.55	661.95	175.05	554.64	3513.71	535.66
10.	Royal Bank of Scotland	3.05	32.06	168.08	59.34	57.47	320	£	35.13	177.3	59.42	19.08	29.07	320	512.74
11.	Barclays plc	1.24	44.43	162.11	74.83	33.58	316.19	£	49.76	158.97	69.93	14.79	25.24	316.19	506.63
12.	Dresdner Bank	5.28	89.65	234.58	140.23	13.76	483.5	EUR	116.16	158.47	120.54	13.02	75.31	483.5	483.5
13.	Commerzbank	7.9	74.65	224.84	145.99	6.63	459.66	EUR	103.36	107.65	179.95	12.52	56	459.66	459.66
14.	Société Générale	3.28	54.17	163.12	160.3	75.01	455.88	EUR	83.37	164.72	143.92	13.69	50.19	455.88	455.88
15.	Fortis	6.11	62.38	162.09	147.57	59.93	438.08	EUR	94.17	145.75	96.45	15.2	86.51	438.08	438.08
16.	West LB	0.79	112.56	151.36	96.42	6.09	367.22	EUR	152.86	97.87	117.6	8.96	14.85	367.22	367.22
17.	Lloyds TSB	1.03	15.29	114.86	13.88	72.93	217.98	£	16.74	100.74	24.88	9.74	65.89	217.98	349.27
18.	Rabobank	3.09	38.36	191.67	88.6	21.2	342.92	EUR	83.89	146.71	72.85	17.98	21.36	342.92	342.92
19.	Gruppo Intesa	12.039	92.077	363.098	100.783	75.361	643.358	trill. Lira	176.312	227.013	123.652	5.836	110.545	643.538	327.7
20.	Banco Bilbao Vizcaya Argentaria	7.2	35.33	137.47	77.22	43.21	300.42	EUR	75.4	183.2	17.95	14.64	9.24	300.42	300.42
21.	Bayerische LB	0.03	92.05	101.17	68.26	24.01	285.52	EUR	111.88	51.48	93.43	7.7	23.45	285.52	285.52
22.	DZ Bank (<i>Dt. Zentral-Genossenschaftsbank</i>)	1.33	75.46	104.73	79.69	5.24	266.45	EUR	93.3	66.18	91.57	3.03	14.32	266.45	266.45
23.	LB Baden-Württemberg	0.86	109.55	84.84	57.12	10.44	262.81	EUR	81.58	80.97	86.09	4.4	9.77	262.81	262.81
24.	Caisse d'Épargne	1.77	85.86	101.28	37.14	22.7	248.75	EUR	18.68	157.86	51.36	9.75	11.11	248.75	248.75
25.	Nordea Group	2.34	21.34	128.62	23.77	48.39	224.46	EUR	28.81	78.88	56.41	11.1	49.26	224.46	224.46
26.	KfW (<i>Kreditanstalt für Wiederaufbau</i>)	0.02	94.46	82.68	30.56	15.36	223.07	EUR	48.05	100.86	60.23	5.94	9.2	223.07	223.07
27.	Bankgesellschaft Berlin	0.8	38.26	103.27	48.82	13.66	204.81	EUR	68.79	62.73	57.98	4.08	11.23	204.81	204.81
28.	gruppo UniCredito	2.35	48.22	222.97	67.29	51.57	392.4	trill. Lira	79.71	160.91	67.58	2.51	81.69	392.4	199.87
29.	Banques Populaires	n.a.	41.34	89.78	28.87	35.52	195.5	EUR	42.26	71.4	30.07	5.37	46.4	195.5	195.5
30.	Abbey National plc	0.01	27.42	14.51	68.98	9.82	120.73	£	40.9	13.92	57.85	2.15	5.92	120.73	193.45
31.	Crédit Lyonnais	3.15	16.62	85.68	35.81	46.74	188.01	EUR	35.16	66.58	44.82	8.76	32.68	188.01	188.01
32.	KBC Group (<i>Kredietbank/Cera Bank/ABB</i>)	0.58	21.86	78.94	58.17	28.11	187.66	EUR	41.96	82.21	36.2	5.78	21.51	187.66	187.66
33.	Nord LB	1.35	56	72.02	40.44	16.52	186.33	EUR	65.51	45.57	67.01	4.07	3.91	186.33	186.33
34.	Den Danske Bank Group	7.75	132.51	864.27	275.52	82.64	1362.69	DKR	212.95	366.83	731.91	50.91	0.09	1362.69	183.16
35.	Grupo Santander Central Hispano	2.19	29.66	74.31	6.69	59.45	172.3	EUR	40.96	75.81	3.81	2.28	49.44	172.3	172.3
36.	Bank Austria (<i>member of HVB-Group</i>)	1.62	39.42	82.32	36.69	5.14	165.19	EUR	59.11	53.05	31.28	4.69	16.9	165.19	165.19
37.	DEXIA	0.78	28.82	53.08	34.17	17.16	134.02	EUR	20.3	50.65	40.3	5.5	17.26	134.02	134.02
38.	Deutsche Postbank	1.4	38.01	39.32	51.14	4.12	133.99	EUR	14.85	63.96	46.59	4.58	4.01	133.99	133.99
39.	Capitalia (<i>Banca di Roma/Banca di Sicilia</i>)	0.89	35.83	133.5	58.26	31.6	260.08	trill. Lira	84.27	74.27	60.71	2.68	38.15	260.08	132.47
40.	LB Hessen-Thüringen Girozentrale	0.2	44.71	53.32	18.83	13.83	130.9	EUR	44.98	24.37	55.658	3.1	2.79	130.9	130.9
41.	SEB (<i>Skandinaviska Enskilda Banken</i>)	8.82	164.67	605.8	164.54	178.98	1122.81	SEK	217.36	419.89	316.2	41.61	127.75	1122.81	129.65
42.	LB Schleswig-Holstein (<i>HSH Nordbank</i>)	0.24	32.37	58.12	34.45	2.91	128.08	EUR	51.92	24.41	42.54	3.69	5.53	128.08	128.08
43.	ING Belgium SA/NV (<i>until April 22.03: BB Lambert</i>)	0.37	18.29	54.61	41.57	9.46	124.12	EUR	47.03	53.71	8.67	3.49	11.2	124.12	124.12
44.	Svenska Handelsbanken	5.26	94.68	689.11	89.1	142.21	1020.35	SEK	155.41	255.35	518.51	42.63	48.44	1020.35	117.82
45.	Bank of Scotland	0.59	3.95	55.5	8.09	3.68	71.81	£	7.92	30.04	25.13	5.81	2.75	71.81	115.06
46.	Standard Chartered	0.53	15.94	34.8	6.6	10.73	68.6	£	7.45	43.62	9.1	4.26	4.18	68.6	109.92
47.	San Paolo di Torino	0.42	14.81	67.26	13	12.81	108.3	EUR	24.2	61.36	12.97	6.86	2.9	108.3	108.3
48.	Swedbank Group (<i>FöreningsSparbanken</i>)	5.85	130.29	629.74	86.68	76.88	929.44	SEK	126.48	247.44	381.89	34.95	140.23	929.44	107.33
49.	Banca Monte dei Paschi di Siena	0.74	27.56	101.29	31.47	27.37	188.44	trill. Lira	36.3	76.71	43.5	2.71	29.22	188.44	95.98
50.	Banca Nazionale del Lavoro	0.47	7.49	63.83	7.69	11.98	91.46	EUR	22.32	31.56	28.43	4.12	5.03	91.46	91.46
51.	la Caixa Group	0.19	1.97	8.2	1.74	2.09	14.19	trill. pes	1.9	9.67	0.43	0.84	1.35	14.19	85.87
52.	ERSTE Bank	1.15	19.47	31.24	9.54	9.79	71.19	EUR	25.64	28.84	8.3	1.86	6.55	71.19	71.19
53.	WGZ Bank (<i>Westd. Genossenschaftszentralbank</i>)	0.01	34.28	16.51	14.38	2.85	68.03	EUR	45.16	6.96	11.42	2.06	2.02	68.03	68.03
54.	Bank of Ireland	0.21	6.97	44.84	6.67	9.33	68.02	EUR	10.31	40.99	2.82	1.6	12.3	68.02	68.02

Source: The author's own calculations based on data provided by the 50 largest European banks.

Appendix II-d: Banks 2002		cash & deposits with central bank	loans and advances to banks	loans and advances to customers	bonds & loan securities	other assets	total assets in bill. of specified currency	currency unit (bn) 1 bn = 10⁹	deposits by banks	customer accounts	other deposits/debt securities in issue	share capital	other liabilities	total liabilities in bn of specified currency	total assets in bn of EURO
1.	Deutsche Bank	8.98	25.69	204.87	318.68	200.14	758.36	EUR	241.10	286.50	125.98	29.99	74.76	758.36	758.36
2.	HSBC Holdings plc (Hong Kong-Shanghai BC)	7.66	95.50	352.34	193.87	109.87	759.24	US-\$	52.93	495.44	107.05	52.41	51.42	759.25	745.61
3.	UBS (Union Bank of Switzerland)	4.27	32.47	211.65	665.52	267.21	1181.12	CHF	83.18	306.88	615.00	38.99	94.55	1138.60	731.19
4.	ING Bank (Internationale Nederlanden Group)	11.42	45.68	284.45	297.58	77.24	716.37	EUR	96.27	319.82	261.22	22.36	16.70	716.37	716.37
5.	BNP Paribas (Banque Nationale de Paris/Paribas)	9.88	146.51	225.34	121.72	206.87	710.32	EUR	177.91	195.57	145.84	26.45	164.55	710.32	710.32
6.	HVBgroup (Bayerische Hypo/Vereinsbank)	5.37	73.87	409.94	187.24	14.74	691.16	EUR	143.36	154.92	271.66	14.23	106.99	691.16	691.16
7.	Royal Bank of Scotland	3.48	44.30	223.34	68.93	71.95	412.00	£	54.72	219.16	84.89	23.54	29.69	412.00	655.19
8.	Barclays	12.01	58.17	202.40	94.23	36.26	403.07	£	87.43	171.49	109.95	15.20	19.00	403.07	640.98
9.	Crédit Suisse	2.55	195.78	182.14	336.70	238.49	955.66	CHF	287.88	297.98	106.60	31.39	231.81	955.66	613.72
10.	HBOS (Halifax/Bank of Scotland)	1.37	11.84	240.88	50.28	50.71	355.08	£	45.64	150.22	89.68	13.77	55.77	355.08	564.67
11.	ABN AMRO Holding N.V.	9.46	41.92	254.59	157.23	92.82	556.02	EUR	95.88	239.88	117.19	14.59	89.08	556.02	556.02
12.	Crédit Agricole	9.71	67.14	62.54	48.01	318.32	505.72	EUR	70.48	205.09	39.23	15.43	175.49	505.72	505.72
13.	Société Générale	5.09	54.35	184.64	93.30	163.89	501.27	EUR	69.24	196.09	165.63	15.73	54.58	501.27	501.27
14.	Fortis	4.49	83.86	172.14	154.61	70.67	485.77	EUR	96.55	177.64	77.12	10.87	123.59	485.77	485.77
15.	Commerzbank	8.47	54.34	148.51	201.74	9.07	422.13	EUR	114.98	95.70	92.73	8.81	109.91	422.13	422.13
16.	Dresdner Bank	4.88	88.37	157.02	121.54	41.64	413.45	EUR	127.54	143.84	54.59	11.97	75.51	413.45	413.45
17.	Lloyds TSB	1.14	17.53	134.50	29.52	70.07	252.76	£	25.44	116.33	31.09	7.97	71.93	252.76	401.96
18.	Rabobank	3.81	47.23	225.25	82.38	16.05	374.72	EUR	85.89	171.63	69.43	21.21	26.56	374.72	374.72
19.	Caisse d'Épargne	n.a.	155.92	116.57	54.89	29.75	357.13	EUR	76.76	170.09	67.57	9.30	33.41	357.13	357.13
20.	DZ Bank (Dt. Zentral-Genossenschaftsbank)	0.88	93.64	106.94	78.09	58.71	338.26	EUR	122.92	72.65	83.04	5.99	53.66	338.26	338.26
21.	Abbe National plc	0.40	6.60	90.91	60.77	47.04	205.72	£	24.17	76.77	57.69	6.39	40.70	205.72	327.15
22.	Banco Santander Central Hispano	6.24	40.26	162.97	45.85	68.89	324.21	EUR	50.82	167.82	49.14	23.94	32.49	324.21	324.21
23.	LB Baden-Württemberg	0.78	127.13	110.03	67.82	14.69	320.45	EUR	93.82	70.36	136.09	4.79	15.39	320.45	320.45
24.	Bayerische LB	0.70	112.22	102.46	66.16	18.17	299.71	EUR	112.37	52.04	104.30	8.47	22.53	299.71	299.71
25.	Banco Bilbao Vizcaya Argentaria	8.05	21.48	141.32	52.14	56.55	279.54	EUR	56.12	146.56	46.74	14.97	15.15	279.54	279.54
26.	Gruppo Intesa	1.60	30.70	164.38	37.52	39.47	273.67	EUR	43.65	109.92	55.22	13.72	51.16	273.67	273.67
27.	West LB	2.09	77.04	88.76	72.38	25.33	265.60	EUR	118.83	63.76	58.15	5.00	19.86	265.60	265.60
28.	KfW (Kreditanstalt für Wiederaufbau)	0.03	129.28	85.78	32.15	13.69	260.93	EUR	31.76	39.76	162.60	6.49	20.32	260.93	260.93
29.	Nordea Group	4.62	23.50	145.74	20.03	55.73	249.62	EUR	25.96	94.18	61.86	20.21	47.41	249.62	249.62
30.	Credit Lyonnais	4.29	34.18	96.16	45.60	64.66	244.89	EUR	61.85	78.79	32.54	8.66	63.05	244.89	244.89
31.	Den Danske Bank Group	17.57	199.62	948.35	432.25	153.77	1751.55	DKK	319.57	427.94	910.35	60.32	33.37	1751.55	235.85
32.	KBC Group (Kredietbank/Cera Bank/ABB)	0.05	29.30	98.78	61.90	31.70	221.73	EUR	39.68	113.72	38.17	8.43	21.73	221.73	221.73
33.	Banques Populaires	n.a.	49.44	98.88	32.21	40.21	220.74	EUR	48.94	84.21	31.40	7.21	48.98	220.74	220.74
34.	gruppo UniCredito	1.61	28.10	113.82	38.64	31.18	213.35	EUR	31.99	93.57	62.51	10.46	14.82	213.35	213.35
35.	DEXIA	1.55	43.51	71.91	69.85	22.33	209.15	EUR	47.13	77.50	52.49	9.64	22.39	209.15	209.15
36.	San Paolo di Torino	1.41	22.00	126.70	19.69	33.97	203.77	EUR	24.46	85.28	70.37	5.14	18.52	203.77	203.77
37.	Nord LB	0.44	58.74	77.12	45.33	15.52	197.15	EUR	69.06	43.30	63.87	5.03	15.89	197.15	197.15
38.	HSH Nordbank (1.1.2003)	0.36	45.77	78.88	50.46	5.70	181.17	EUR	55.49	45.39	66.84	4.65	8.80	181.17	181.17
39.	Bankgesellschaft Berlin	1.39	30.80	89.58	42.96	10.07	174.80	EUR	59.35	57.09	44.17	3.89	10.30	174.80	174.80
40.	LB Hessen-Thüringen Girozentrale	0.31	46.52	60.03	30.76	15.34	152.95	EUR	53.53	33.61	45.15	3.53	17.13	152.95	152.95
41.	Bank Austria (member of HVB-Group)	1.82	29.56	76.35	36.93	3.31	147.97	EUR	41.03	56.56	30.50	4.61	15.27	147.97	147.97
42.	Deutsche Postbank	1.31	37.77	43.93	55.67	2.41	141.09	EUR	28.30	66.67	34.80	4.40	6.92	141.09	141.09
43.	Capitalia (Banca di Roma/Banca di Sicilia)	4.12	20.42	80.09	13.64	22.67	140.94	EUR	31.58	52.11	41.48	2.21	13.56	140.94	140.94
44.	Svenska Handelsbanken	8.17	79.52	839.34	129.73	220.76	1277.51	SEK	235.11	292.84	624.98	52.19	72.39	1277.51	139.26
45.	SEB (Skandinaviska Enskilda Banken)	13.47	150.38	680.21	206.61	190.44	1241.11	SEK	234.29	499.54	364.24	45.70	97.34	1241.11	135.29
46.	Banca Monte dei Paschi	0.83	16.03	68.47	12.45	31.10	128.88	EUR	20.52	77.25	18.93	1.68	10.50	128.88	128.88
47.	ERSTE Bank	3.18	15.49	64.43	22.57	15.55	121.22	EUR	26.42	61.31	14.19	2.48	16.82	121.22	121.22
48.	ING Belgium SA/NV (until April 22.03: BB Lambert)	0.66	18.41	57.59	31.21	6.98	114.86	EUR	41.53	56.49	6.95	3.73	6.16	114.86	114.86
49.	Standard Chartered	1.10	16.00	57.01	22.30	16.60	113.01	US-\$	10.85	71.63	16.49	7.33	6.71	113.01	110.98
50.	Swedbank Group (FöreningsSparbanken)	6.72	98.66	703.40	64.88	83.84	957.50	SEK	102.81	263.42	472.84	38.59	79.84	957.50	104.38
51.	la Caixa Group	1.55	10.09	61.44	14.39	15.56	103.02	EUR	12.82	65.52	9.38	5.40	9.90	103.02	87.71
52.	Bank of Ireland	0.57	8.38	56.58	10.90	10.89	87.32	EUR	12.58	51.11	6.37	4.20	13.06	87.32	87.32
53.	Banca Nazionale del Lavoro	0.52	6.82	60.25	4.32	11.80	83.71	EUR	14.97	53.35	6.38	3.85	5.16	83.71	83.71
54.	WGZ Bank (Westd. Genossensch.-Zentralbank)	0.17	24.05	21.03	11.85	2.81	59.91	EUR	29.04	9.36	18.51	1.24	1.76	59.91	59.91

Source: The author's own calculations based on data provided by the 50 largest European banks.

Appendix II-c: Banks 2001		cash & deposits with central bank	loans and advances to banks	loans and advances to customers	bonds & loan securities	other assets	total assets in bill. of specified currency	currency unit (bn) 1 bn = 10⁹	deposits by banks	customer accounts	other deposits/debt securities in issue	share capital	other liabilities	total liabilities in bn of specified currency	total assets in bn of EURO
1.	Deutsche Bank	10.39	37.99	300.25	364.82	204.78	918.22	EUR	306.00	292.60	147.50	40.19	131.91	918.20	918.22
2.	UBS (<i>Union Bank of Switzerland</i>)	20.99	27.53	226.55	667.70	299.53	1242.30	CHF	106.53	333.78	630.50	43.53	138.96	1253.30	849.75
3.	BNP Paribas (<i>Banque Nationale de Paris/Paribas</i>)	3.49	186.62	234.91	239.83	160.45	825.30	EUR	220.10	216.10	287.08	24.61	77.41	825.30	825.30
4.	HSBC Holdings plc (<i>Hong Kong-Shanghai BC</i>)	6.19	104.64	308.65	178.65	97.75	695.88	US-\$	53.64	449.99	99.70	45.98	46.57	695.88	779.78
5.	HVBgroup (<i>Bayerische Hypo/Vereinsbank</i>)	8.04	89.50	431.06	179.22	20.35	728.17	EUR	145.17	215.40	256.42	25.11	86.20	728.30	728.17
6.	ING Bank (<i>Internationale Nederlanden Group</i>)	9.26	54.08	254.21	307.45	80.12	705.12	EUR	107.81	276.38	287.02	25.52	8.48	705.21	705.12
7.	Crédit Suisse	3.09	203.79	186.15	240.39	389.09	1022.51	CHF	335.93	300.30	160.26	38.92	187.10	1022.51	693.27
8.	ABN AMRO Holding N.V.	17.93	49.62	274.27	140.15	115.39	597.36	EUR	107.84	257.78	118.12	16.34	97.28	597.36	597.36
9.	Royal Bank of Scotland	3.09	38.51	190.49	65.60	71.09	368.78	£	40.04	199.01	71.02	22.40	35.25	367.72	594.69
10.	Société Générale	6.98	63.55	182.27	128.25	131.45	512.50	EUR	85.12	200.32	148.25	15.75	63.06	512.50	512.50
11.	Dresdner Bank	6.95	77.47	239.74	165.34	17.18	506.68	EUR	127.46	171.48	114.31	21.63	71.80	506.68	506.68
12.	Barclays plc	1.28	47.89	180.49	82.04	34.95	346.65	£	67.38	163.82	84.78	16.51	24.16	356.65	506.63
13.	HBOS (<i>Halifax/Bank of Scotland</i>)	1.15	12.93	201.03	80.04	17.13	312.28	£	30.45	140.52	107.13	13.87	20.25	312.22	503.60
14.	Commerzbank	7.63	63.39	220.31	200.28	9.70	501.31	EUR	109.09	116.90	190.67	11.76	73.40	501.31	501.31
15.	Crédit Agricole	n.a.	92.87	69.77	58.63	273.80	495.07	EUR	70.31	200.68	92.10	30.42	101.56	495.07	495.07
16.	Fortis	5.09	63.76	176.83	167.11	70.18	482.97	EUR	96.34	179.69	100.23	13.84	92.25	482.35	482.97
17.	West LB	2.08	120.26	159.80	114.12	35.66	431.91	EUR	158.45	105.96	132.46	8.92	26.13	431.91	431.91
18.	Lloyds TSB	1.24	15.22	123.06	24.23	72.79	236.54	£	24.31	109.12	31.09	10.76	61.25	236.53	381.44
19.	DZ Bank (<i>Dt. Zentral-Genossenschaftsbank</i>)	0.95	107.03	119.14	89.24	48.29	364.65	EUR	129.85	79.68	98.07	5.78	51.27	364.65	364.65
20.	Rabobank	3.74	40.08	208.61	91.23	19.96	363.62	EUR	80.01	172.17	70.77	20.30	20.36	363.62	363.62
21.	Grupo Santander Central Hispano	9.78	42.99	173.82	82.70	48.85	358.14	EUR	53.93	181.53	52.86	19.67	50.15	358.14	358.14
22.	DEXIA	9.20	39.02	156.38	116.78	29.98	351.36	EUR	77.08	84.00	145.71	13.45	31.12	351.36	351.36
23.	Bayerische LB	1.24	91.01	134.70	73.80	25.08	325.82	EUR	127.43	60.65	108.79	8.38	20.58	325.83	325.83
24.	Gruppo Intesa	1.95	40.17	183.36	58.65	30.77	314.90	EUR	77.30	112.60	92.72	13.23	19.05	314.90	314.90
25.	Banco Bilbao Vizcaya Argentaria	9.24	23.20	150.22	65.32	61.27	309.25	EUR	64.59	166.50	34.51	14.90	28.75	309.25	309.25
26.	LB Baden-Württemberg	0.56	114.51	101.67	71.23	12.05	300.02	EUR	95.20	58.77	125.41	9.20	11.44	300.02	300.02
27.	Caisse d'Épargne	5.40	97.33	118.21	40.02	24.95	285.90	EUR	30.86	162.28	61.81	8.63	22.33	285.90	285.90
28.	KfW (<i>Kreditanstalt für Wiederaufbau</i>)	0.03	106.86	90.08	33.33	14.58	244.88	EUR	44.35	103.56	74.68	6.16	16.13	244.88	244.88
29.	Nordea Group	3.04	21.37	137.57	25.39	54.18	241.55	EUR	30.24	83.16	61.17	5.45	61.53	241.55	241.55
30.	KBC Group (<i>Kredietbank/Cera Bank/ABB</i>)	0.25	28.29	87.05	66.22	46.26	228.07	EUR	41.20	110.10	47.81	7.85	21.08	228.04	228.08
31.	gruppo UniCredito	1.83	24.98	117.62	29.37	34.59	208.39	EUR	34.03	91.17	55.57	1.45	26.17	208.39	208.39
32.	Den Danske Bank Group	9.57	140.25	924.02	343.08	121.67	1538.58	DKK	241.04	400.49	805.12	57.09	34.84	1538.58	206.80
33.	Crédit Lyonnais	4.34	18.72	92.14	37.90	49.27	202.37	EUR	42.05	74.40	44.28	8.67	32.97	202.37	202.37
34.	Nord LB	1.46	59.53	77.10	47.71	14.05	199.85	EUR	69.18	45.70	68.65	5.01	11.31	199.85	199.85
35.	Banques Populaires	n.a.	31.23	94.6	24.92	42.86	193.61	EUR	36.43	72.94	32.08	6.34	45.82	193.61	193.61
36.	Abbey National plc	0.02	18.81	15.44	63.70	14.89	112.86	£	30.72	15.96	57.57	2.87	5.74	112.86	182.00
37.	San Paolo di Torino	0.82	21.57	97.06	12.75	38.29	170.49	EUR	27.92	65.85	56.42	6.77	13.53	170.49	170.49
38.	Bank Austria (<i>member of HVB-Group</i>)	3.43	42.60	78.58	31.55	3.44	159.60	EUR	48.35	59.96	30.30	4.88	16.11	159.60	159.60
39.	Landesbank SWH (<i>HSH Nordbank</i>)	0.14	32.39	64.04	41.02	3.42	141.01	EUR	56.74	28.27	44.13	4.28	7.60	141.02	141.02
40.	Deutsche Postbank	1.37	37.4	44.28	48.06	8.71	139.82	EUR	26.82	62.32	39.47	4.85	6.36	139.82	139.82
41.	Capitalia (<i>Banca di Roma/Banca di Sicilia</i>)	0.65	19.70	74.45	16.18	22.13	133.11	EUR	39.36	41.42	37.93	2.68	11.72	133.11	133.11
42.	ING Belgium SA/NV (<i>until April 22.03: BB Lambert</i>)	0.41	28.98	55.80	35.26	10.19	130.65	EUR	8.42	10.50	0.87	0.31	5.54	25.64	130.65
43.	Svenska Handelsbanken	10.61	70.86	800.07	118.31	174.67	1174.52	SEK	220.13	283.69	568.25	48.11	54.44	1174.62	124.47
44.	LB Hessen-Thüringen Girozentrale	0.44	43.56	51.74	21.10	6.93	123.77	EUR	42.11	34.74	36.43	3.53	6.96	123.77	123.77
45.	SEB (<i>Skandinaviska Erskilda Banken</i>)	11.63	175.38	635.00	141.25	200.06	1163.32	SEK	221.69	465.24	313.43	44.29	118.67	1163.32	123.29
46.	Standard Chartered	1.00	19.58	53.00	18.35	15.45	107.38	US-\$	11.69	67.86	13.62	7.38	6.83	107.38	120.33
47.	Swedbank Group (<i>FöreningsSparbanken</i>)	7.54	131.58	662.24	72.43	85.84	959.63	SEK	122.60	247.19	458.87	37.41	93.56	959.63	101.70
48.	Banca Nazionale del Lavoro	0.74	8.73	65.05	6.47	10.55	91.54	EUR	21.52	32.51	27.17	3.53	6.81	91.54	91.54
49.	Ia Caixa Group	2.10	7.51	52.12	18.56	7.42	87.71	EUR	6.40	62.68	3.26	5.24	10.12	87.70	87.71
50.	ERSTE Bank	2.57	18.91	39.21	14.73	10.61	86.03	EUR	28.64	37.17	9.75	1.9	8.57	86.03	86.03
51.	Bankgesellschaft Berlin	0.50	21.02	19.26	29.74	11.17	81.70	EUR	48.09	13.47	10.13	3.42	6.59	81.70	81.70
52.	Bank of Ireland	0.26	8.11	51.15	8.67	10.68	78.87	EUR	11.66	45.63	8.95	3.8	8.83	78.87	78.87
53.	Banca Monte dei Paschi di Siena	0.39	14.79	36.41	14.21	9.11	74.91	EUR	11.49	45.19	8.08	4.25	5.90	74.91	74.91
54.	WGZ Bank (<i>Westd. Genossenschaftszentralbank</i>)	0.49	24.48	19.54	10.90	1.94	57.35	EUR	28.79	10.22	15.44	1.20	1.70	57.35	57.35

Source: The author's own calculations based on data provided by the 50 largest European banks.

Appendix II-e: Banks 2003		cash & deposits with central bank	loans and advances to banks	loans and advances to customers	bonds & loan securities	other assets	total assets in bill. of specified currency	currency unit (bn) 1 bn = 10⁹	deposits by banks	customer accounts	other deposits/debt securities in issue	share capital	other liabilities	total liabilities in bn of specified currency	total assets in bn of EURO
1.	UBS (<i>Union Bank of Switzerland</i>)	3.58	31.67	212.30	787.50	350.95	1386.00	CHF	127.15	347.36	680.06	35.45	195.98	1386.00	891.66
2.	HSBC Holdings plc (<i>Hong Kong-Shanghai BC</i>)	7.66	117.17	528.98	238.99	141.42	1034.22	US-\$	70.43	573.13	153.56	74.47	162.63	1034.22	841.79
3.	Deutsche Bank	6.64	127.07	144.95	345.37	179.58	803.61	EUR	232.11	270.27	255.67	28.20	17.36	803.61	803.61
4.	Crédit Agricole	12.37	94.35	148.42	77.99	452.85	785.98	EUR	125.13	297.76	90.51	23.57	249.01	785.98	785.98
5.	BNP Paribas (<i>Banque Nationale de Paris/Paribas</i>)	5.29	162.95	221.97	169.79	223.08	783.08	EUR	191.25	210.62	329.73	28.32	23.16	783.08	783.37
6.	ING Bank (<i>Internationale Nederlanden Group</i>)	11.74	61.06	292.56	335.00	78.41	778.77	EUR	102.11	377.82	259.15	24.84	14.85	778.77	778.77
7.	Royal Bank of Scotland	3.82	51.89	252.53	82.24	64.79	455.27	£	67.32	236.96	84.89	28.09	38.01	455.27	648.57
8.	Barclays plc	10.91	61.92	226.82	105.25	38.46	443.36	£	94.09	184.87	127.23	16.47	20.70	443.36	631.60
9.	Crédit Suisse	3.03	192.83	170.49	340.41	255.40	962.16	CHF	296.49	252.56	106.60	34.69	271.82	962.16	618.99
10.	HBOS (<i>Halifax/Bank of Scotland</i>)	1.38	15.95	283.53	51.80	55.75	408.41	£	40.76	173.50	111.62	17.98	64.55	408.41	581.81
11.	ABN AMRO Holding N.V.	12.73	58.80	234.78	148.29	105.83	560.44	EUR	110.89	289.87	104.89	31.80	22.99	560.44	560.44
12.	Société Générale	6.75	60.28	193.55	98.38	180.43	539.39	EUR	83.61	196.09	180.64	16.88	62.17	539.39	539.39
13.	Fortis	8.29	79.45	182.04	181.45	72.02	523.25	EUR	109.37	187.42	86.85	11.89	127.72	523.25	523.25
14.	HVBgroup¹ (<i>Bayerische Hypo/Vereinsbank</i>)	5.71	52.84	283.52	80.46	56.92	479.45	EUR	112.96	140.31	122.73	10.31	93.14	479.45	479.45
15.	Dresdner Bank	5.49	122.62	169.82	143.03	36.07	477.03	EUR	165.51	152.63	39.81	11.52	107.56	477.03	477.03
16.	Rabobank	7.12	41.92	250.80	81.22	22.25	403.31	EUR	82.86	172.57	92.60	23.55	31.73	403.31	403.31
17.	Commerzbank	7.43	51.66	138.44	175.47	8.58	381.58	EUR	95.25	100.00	83.99	9.09	93.25	381.58	381.58
18.	Caisse d'Épargne	n.a.	161.66	129.92	56.58	32.51	380.67	EUR	76.88	181.20	75.06	10.29	37.24	380.67	380.67
19.	Lloyds TSB	1.19	15.55	135.25	29.67	70.35	252.01	£	23.96	116.50	32.93	9.62	69.00	252.01	359.01
20.	Grupo Santander Central Hispano	8.91	37.62	172.50	59.67	73.09	351.79	EUR	75.58	159.34	62.42	21.83	32.62	351.79	351.79
21.	DZ Bank (<i>Dt. Zentral-Genossenschaftsbank</i>)	0.88	89.26	102.46	82.73	56.39	331.72	EUR	115.42	78.52	75.61	6.11	56.06	331.72	331.72
22.	LB Baden-Württemberg	1.56	132.72	106.12	68.82	13.57	322.79	EUR	99.51	74.06	129.66	4.60	14.96	322.79	322.79
23.	KfW (<i>Kreditanstalt für Wiederaufbau</i>)	0.03	165.58	90.88	26.04	31.36	313.89	EUR	27.47	57.27	194.55	7.96	26.64	313.89	313.89
24.	Bayerische LB	1.08	105.70	128.84	57.56	20.25	313.43	EUR	119.91	65.33	95.60	9.17	23.42	313.43	313.43
25.	Banco Bilbao Vizcaya Argentaria	8.11	20.91	148.83	56.03	53.27	287.15	EUR	61.57	141.05	53.72	14.08	16.73	287.15	287.15
26.	Nordea Group	1.75	29.04	145.64	20.00	65.76	262.19	EUR	28.75	95.56	64.38	21.82	51.68	262.19	262.19
27.	Gruppo Intesa	1.59	28.54	154.99	34.44	40.65	260.21	EUR	31.72	105.12	56.66	13.85	52.86	260.21	260.21
28.	Crédit Lyonnais²	5.73	39.24	96.52	59.35	55.46	256.30	EUR	62.03	84.18	33.26	8.88	67.95	256.30	256.30
29.	West LB	4.63	70.30	84.92	68.12	28.27	256.24	EUR	106.09	70.13	55.06	3.59	21.37	256.24	256.24
30.	Abbey National plc	0.44	7.16	93.84	58.07	17.27	176.78	£	22.13	74.40	64.87	5.33	10.05	176.78	251.84
31.	Den Danske Bank Group	9.95	166.12	1020.62	493.46	135.98	1826.13	DKK	299.88	483.88	946.66	60.45	35.26	1826.13	245.38
32.	gruppo UniCredito	1.95	32.78	126.71	37.44	39.38	238.26	EUR	44.25	93.57	70.88	11.05	18.51	238.26	238.26
33.	Banques Populaires	n.a.	53.44	111.80	30.46	41.46	237.16	EUR	39.68	98.95	37.53	8.50	52.50	237.16	237.16
34.	KBC Group (<i>Kredietbank/Cera Bank/ABB</i>)	0.05	27.07	90.29	69.56	38.62	225.59	EUR	38.22	108.62	46.94	9.15	22.66	225.59	225.59
35.	San Paolo di Torino	1.47	22.79	124.60	18.59	35.13	202.58	EUR	28.53	79.99	70.00	5.14	18.92	202.58	202.58
36.	Nord LB	0.43	56.87	77.30	43.29	15.21	193.10	EUR	62.24	47.72	62.29	5.07	15.78	193.10	193.10
37.	HSH Nordbank³	0.34	37.32	79.21	50.89	3.90	171.66	EUR	47.57	47.97	61.55	6.49	8.08	171.66	171.66
38.	DEXIA⁴	0.60	28.91	57.16	52.57	19.99	159.23	EUR	37.51	50.98	43.18	1.10	26.46	159.23	159.23
39.	Bankgesellschaft Berlin	1.30	28.12	77.71	36.89	9.27	153.29	EUR	51.46	48.17	40.01	3.56	10.09	153.29	153.29
40.	SEB (<i>Skandinaviska Erskilda Banken</i>)	9.71	179.31	707.46	201.82	181.09	1279.39	SEK	246.85	494.04	385.16	48.46	104.88	1279.39	141.80
41.	Svenska Handelsbanken	7.64	115.27	823.14	122.26	192.14	1260.45	SEK	202.69	252.04	458.70	56.83	290.19	1260.45	139.70
42.	LB Hessen-Thüringen Girozentrale	0.07	39.98	58.08	33.64	7.66	139.43	EUR	48.36	35.37	43.6	3.55	8.55	139.43	139.43
43.	Bank Austria (<i>member of HVB-Group</i>)	2.29	25.13	76.00	32.05	1.58	137.05	EUR	39.13	53.82	25.96	5.82	12.32	137.05	137.05
44.	Deutsche Postbank	1.62	34.07	43.31	51.43	2.19	132.62	EUR	20.27	73.94	26.27	4.87	7.27	132.62	132.62
45.	ERSTE Bank	2.55	13.14	67.77	31.81	13.31	128.58	EUR	25.70	64.84	16.94	2.79	18.31	128.58	128.58
46.	Capitalia (<i>Banca di Roma/Banca di Sicilia</i>)	2.71	17.12	75.23	13.71	19.61	128.38	EUR	27.02	46.08	39.71	2.21	13.36	128.38	128.38
47.	Banca Monte dei Paschi di Siena	0.67	8.55	70.41	14.34	29.02	122.99	EUR	15.06	77.86	16.81	1.93	11.33	122.99	122.99
48.	ING Belgium SA/NV (<i>until April 22.03: BB Lambert</i>)	0.69	26.52	57.24	30.95	5.65	121.05	EUR	44.93	58.71	7.60	4.00	5.81	121.05	121.05
49.	Ia Caixa Group	1.40	15.00	74.01	17.00	8.70	116.11	EUR	9.55	91.21	8.93	4.80	1.62	116.11	116.11
50.	Swedbank Group (<i>FöreningsSparbanken</i>)	8.02	76.64	749.75	79.99	87.93	1002.33	SEK	95.44	283.62	496.55	20.13	106.59	1002.33	111.09
51.	Standard Chartered	1.83	13.35	59.74	23.50	21.86	120.28	US-\$	10.92	73.77	20.07	7.71	7.81	120.28	97.90
52.	Bank of Ireland	0.68	7.48	57.01	12.37	11.96	89.50	EUR	12.62	48.50	9.65	4.19	14.54	89.50	89.50
53.	Banca Nazionale del Lavoro	0.51	10.91	56.01	2.79	10.84	81.06	EUR	13.20	51.83	2.92	4.30	8.81	81.06	81.06
54.	WGZ Bank (<i>Westd. Genossenschaftszentralbank</i>)	0.36	22.37	21.11	15.47	1.95	61.26	EUR	29.78	9.50	18.88	1.29	1.81	61.26	61.26

Source: The author's own calculations based on data provided by the 50 largest European banks.

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