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Manfred Borchert\*

## The Impact of Banking Behaviour on Monetary Strategy in Europe

*Over the last twenty years, the process of European integration, and improvements in the processing and transmission of information, have meant that the European financial system has become less bank-based and more market-based. This trend has been reinforced by the transition to a single European currency. European banks are now increasingly expanding into asset management as well as the consulting business. What are the consequences of this for the effectiveness of European monetary policy? How should the ECB react?*

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. 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 neutralised – at least partially – within the aggregate M3. Consequently, broad money is determined endogenously; “the starting point of this endogeneity thesis is the assertion that it is loans that cause deposits (and not the other way around)”.<sup>1</sup>

Until the early 1980s, the continental European financial system was largely bank-based, while the US and UK systems had become market-based. In 1994, only 16% of the capital borrowed by firms in the USA 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.<sup>2</sup> Over the last twenty years, the European financial system has become more market-based due to two factors:

- improvements in the processing and transmission of information

- the process of European integration.<sup>3</sup>

Because firms around the world use equity markets to raise capital for investment,<sup>4</sup> this trend has been reinforced by 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.

The first part of this paper outlines the prospects of the Western European banks; building societies are omitted here. Owing to the introduction of the euro, every bank within the European Monetary Union (EMU) can now expand its capacity to create means of payment 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 without influencing the quantity of money.

We then examine 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). Since 2006 some observations point at the financial crisis of 2008.

Finally, we attempt to assess the effectiveness of monetary policy by drawing inferences from the development of the European banking market. Money supply policy will prove increasingly inefficient if

<sup>1</sup> Cf. Guglielmo M. Caporale, Peter M. Howells: Money, Credit, and Spending: Drawing causal inferences, in: *Scottish Journal of Political Economy*, Vol. 48, No. 5, November 2001, pp. 548.

<sup>2</sup> Cf. Raghuram Rajan, Luigi Zingales: Banks and Markets: The Changing Character of European Finance, in: NBER Working Paper 9595, March 2003, p. 5.

<sup>3</sup> *Ibid.*, p. 57.

<sup>4</sup> Cf. Woojin Kim, Michael S. Weisbach: Do firms go public to raise capital?, in: NBER Working Paper 11197, March 2005, p. 22.

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Table 1

assets		liabilities	
cash	} B	bank deposits	db
central bank deposits		non-bank deposits ( $d_{nb}$ ):	
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	$s_i$
other assets	$o_a$	capital	c
		other liabilities	$o_l$

banks continue refinancing by assets and expanding their banking services by branching out into the consulting business.

**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  $o_a = o_l$  (which does not hold true in reality), the bank's balance sheet may be represented by the following equation:

$$(1) B + l_b + l_c + s_a = d_b + (d_d + d_o) + s_i + c$$

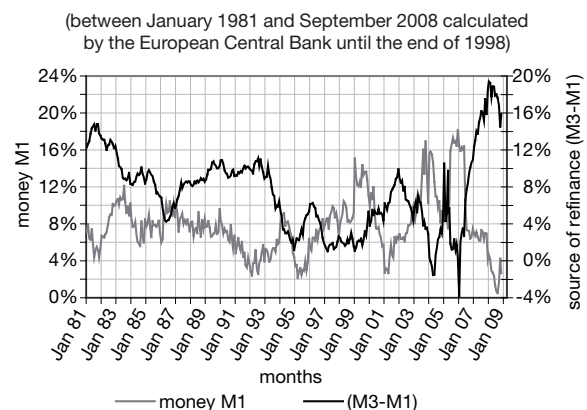
Since monetary targeting usually seeks to influence  $(B + d_d + d_o + s_i)$ , banks exert little effect on the money supply when they refinance loans via assets or provide assistance to customers who wish to raise funds in the capital markets. Furthermore, loans to banks ( $l_b$ ) and bank deposits ( $d_b$ ) are used mainly for settlements between banks, but they also serve as a medium for the optimal allocation of resources for credit supply. The volume of credits offered by banks to non-banks in equation (2) follows logically from equation (1):

$$(2) l_c = f(B, l_b, s_a, d_b, d_{nb}, s_i, c), \text{ with } d_{nb} = d_d + d_o$$

Equation (2) contains all the relevant variables of credit supply created by banks; not included are credit supplies created in the capital market.

The former 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 ( $d_b$ ) and debt securities in issue ( $s_i$ ). 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



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

When there was an increase in the rate of change of M1,<sup>5</sup> there was almost invariably a decrease in the rate of change of refinancing sources,<sup>6</sup> and these sources were equal to the difference between M3 and M1.<sup>7</sup> 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 EMU to create uniform means of payment.<sup>8</sup> 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 currencies.<sup>9</sup> In order to withstand the

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

<sup>6</sup> The refinancing sources comprise deposits  $d_o$  and debt securities in issue  $s_i$  with an original duration of two years.

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

<sup>8</sup> Cf. Manfred Borchert: The EURO and the large Banks' behaviour within the EMU – entrepreneurial strategies and monetary policy – , in: Banca Nazionale del Lavoro Quarterly Review, Vol. LII, No. 208, 1999, pp. 39-68.

<sup>9</sup> Cf. Fabio C. Bagliano, Alberto Dalmazzo, Giancarlo Marini: Bank competition and ECB's monetary policy, in: Journal of Banking & Finance, Vol. 24, 2000, pp. 967-983.

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 banking.<sup>10</sup> 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."<sup>11</sup>

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 falls.<sup>12</sup> A credit granted to a single bank client may not exceed 25% of the bank's equity capital.<sup>13</sup> The Basle Accord II, which became effective by 2005, tightens the minimum capital requirements by including credit risk as well as explicit capital requirements for operational risk.<sup>14</sup>

To summarise, 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 is now able to create means of payment beyond its national borders. This results in increased competition which is inducing banks to resort to mergers and acquisitions (M&A) with a view to achieving cost reductions, synergy effects and, most important, increases in equity capital. Furthermore, Western European banks are now expanding increasingly into asset management as well as into the consulting business.

#### 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 M&A, with large banks shift-

<sup>10</sup> Cf. Todd T. Milbourn, Arnoud W. Boot, Anjan V. Thakor: Megamergers and expanded scope: Theories of bank size and activity diversity, in: *Journal of Banking & Finance*, Vol. 23, 1999, pp. 195-214.

<sup>11</sup> Cf. European Central Bank: Mergers and acquisitions involving the EU banking industry – facts and implications, December 2000, pp. 1-46.

<sup>12</sup> Cf. Padraic Walsh: Capital adequacy – a look at the recent regulatory papers, in: *Irish Banking Review*, spring 1994, pp. 44-56.

<sup>13</sup> Cf. Joseph J. Norton: The European Community banking law paradigm: A paradox in banking regulation and supervision – Reflections on the E.C. Second Banking Directive, in: Joseph J. Norton, Chia-Jui Cheng, Ian Fletcher (eds.): *International banking regulation and supervision. Change and transformation in the 1990s*, Dordrecht/Boston 1994, M. Nijhoff, pp. 49-80.

<sup>14</sup> Cf. Basle Committee on Banking Supervision: Overview of the New Basel Accord (Consultative Document), January 2001.

Table 2

1. RBS ( Royal Bank of Scotland)
2. Deutsche Bank
3. Barclays plc
4. BNP Paribas ( Banque Nationale de Paris/Paribas)
5. HSBC Holdings plc ( Hong Kong -Shanghai BC)
6. Crédit Agricole
7. UBS ( Union Bank of Switzerland)
8. ING Bank ( Internationale Nederlanden Group)
9. Société Générale
10. ABN AMRO Holding N.V. ( member of RBS)
11. gruppo UniCredit
12. HBOS ( Halifax/Bank of Scotland)
13. Grupo Santander Central Hispano
14. Fortis
15. Crédit Suisse
16. Commerzbank
17. DEXIA
18. Caisse d'Épargne ( merger with Banque Populaire : Natixis )
19. Gruppo Intesa ( merger with San Paolo di Torino )
20. San Paolo di Torino ( merger with Intesa )
21. Rabobank
22. Banco Bilbao Vizcaya Argentaria
23. Dresdner Bank
24. Lloyds TSB
25. Danske Bank Group
26. LB Baden -Württemberg
27. DZ Bank ( Dt. Zentral-Genossenschaftsbank)
28. HVB Group ( Bayer. Hypo/Vereinsbank; member of UniCredit )
29. Bayern LB
30. Nordea Group
31. KfW ( Kreditanstalt für Wiederaufbau)
32. KBC Group ( Kredietbank/Cera Bank/ABB)
33. Banques Populaire ( merger/w Caisse d'Épargne : Natixis )
34. West LB
35. Abbey National plc ( member of Santander )
36. SEB ( Skandinaviska Enskilda Banken)
37. la Caixa Group
38. Standard Chartered
39. Bank Austria ( member of HVB Group )
40. HSH Nordbank ( Hamburgische/Schlesw.-H. LB)
41. Deutsche Postbank
42. Nord LB
43. Erste Bank
44. Svenska Handelsbanken
45. Bank of Ireland
46. ING Belgium SA/NV ( until April 2003: B.B.Lambert)
47. LB Hessen -Thüringen Girozentrale
48. Swedbank Group ( FöreningsSparbanken)
49. Banca Monte dei Paschi di Siena
50. Capitalia ( B.di Roma/B.di Sicilia; member of UniCredit ) SEP 07
51. Landesbank Berlin ( until 2006: Bankgesellschaft Berlin)
52. DekaBank ( Dt. Girozentrale DGZ)
53. Crédit Lyonnais ( member of Crédit Agricole )
54. Banca Nazionale del Lavoro ( member of BNP Paribas)
55. WGZ Bank ( Westd. Genossenschaftszentralbank)

ing their business focus from book credit allocation to credit brokerage via the market. At the same time, the banks' profits no longer rely on the pure interest income alone, but increase by the 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 2007. We ignore the activities of small banks, which we assume to consist mainly of cost cutting and shifting their customers' deposits.

## MONETARY POLICY

**Table 3**

balance sheet items	1999		2000		2001		2002		2003		2004		2005		2006		2007	
	factor		factor		factor		factor		factor		factor		factor		factor		factor	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
bank deposits $d_b$	-0,84	-0,02	-0,90	0,00	0,80	-0,11	-0,89	0,02	0,86	0,07	-0,61	-0,54	0,92	0,07	0,91	0,08	0,82	0,20
debt securities in issue $s_i$	-0,29	0,81	-0,03	0,92	0,14	-0,84	0,00	-0,93	0,10	-0,87	0,24	0,83	-0,04	-0,88	0,02	-0,80	-0,02	-0,85
securities $s_a$	0,15	0,78	-0,05	0,69	0,61	0,40	-0,49	-0,08	0,59	0,04	-0,58	0,23	0,43	-0,33	0,67	-0,36	0,74	-0,25
non-bank deposits $d_{nb}$	0,70	-0,55	0,66	-0,64	0,71	0,63	0,58	0,70	-0,61	0,65	0,21	-0,90	-0,44	0,75	-0,52	0,71	-0,55	-0,71
cash & central bank $B$	0,69	-0,06	0,40	-0,34	-0,03	-0,84	0,12	0,61	0,09	0,73	0,84	0,20	-0,06	0,54	-0,14	0,72	-0,07	0,73
equity capital $c$	0,76	-0,05	0,81	-0,03	-0,77	0,24	0,75	0,29	0,69	0,32	0,24	-0,61	-0,44	0,61	-0,08	0,68	-0,56	0,46

In the following analysis, the 50 largest banks in Europe are referred to by the numbers appended to their names in Table 2. No distinction has been made between countries which have already signed up for the single currency, those which will probably join EMU in the not too distant future (UK, Denmark and Sweden), and those which have decided to remain outside (Switzerland).

### 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 3 for the years 1999 to 2007. The coordinate axes (zero-lines) in Figure 2 represent mean values of the factors obtained for the sample that was selected. For details, see Box.

For the years between 1999 and 2007 our analysis of balance-sheet items always yields two factors, which differ slightly in their components. The variables assigned to the factors<sup>15</sup> are represented by shadowed surfaces in Table 4.

In the future, the banks' balance sheet structure will no doubt be modified by disintermediation and developments in the capital markets.<sup>16</sup>

At first sight, factor 1 during all the years under observation includes the variable  $d_b$  (bank deposits).

<sup>15</sup> For an explanation see Box and Table 3.

<sup>16</sup> Cf. Agnes Belaisch, Laura Kodres, Joaquim Levy, Angel Ubide: Euro-area banking at the cross-roads, in: IMF Working Paper, WP/01/28, 2001, p. 38.

Here, this factor is defined as bank-based resource for the credit supply.

The variable  $s_i$  (debt securities in issue) is a resource for credit supply within an individual bank. In our factor analysis this variable belongs to factor 2 which might be defined as debt securities in issue-based resource for credit supply.

However, the character of some variables is two-fold: securities in issue  $s_a$ , for example, might be currently used when supplying credits, but when building up a stock of securities they form a potential for offering credits in the future.

Another point of interest is the variable  $d_{nb}$  (deposits of non-banks). With stagnant credit demand this variable plays a passive role and does not influence the current credit supply.

Similar is the relevance of  $c$  (equity capital) and  $B$  (cash & central bank deposits) for the banks' credit supply. Whereas banks have to obey banking supervisory measures upon  $c$  (Basle Accord I and Basle Accord II), at the same time they have to obey measures of monetary control upon  $B$ . Both variables play a passive role if banks are sufficiently endowed with these media. Monetary controls rely heavily on influencing  $B$ , but  $c$  has a similar significance for the banks' activities, especially when they are preparing for Basle Accord II.

In Figure 2 the largest banks in Europe are represented by their strategic mix of factor 1 and factor 2. Factor 1 includes interbank media as well as inactive resources for the credit supply and might be assigned a more passive role for offering credits. Factor 2, on the other hand, includes all intrabank media for credit supplies, which currently play a more active role.

In order to provide additional information, British banks are marked by black dots, Italian banks by dark grey dots and German banks by light shadings.

**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 (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 estimate 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).
- (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 3 suggest that two factors should always be extracted.

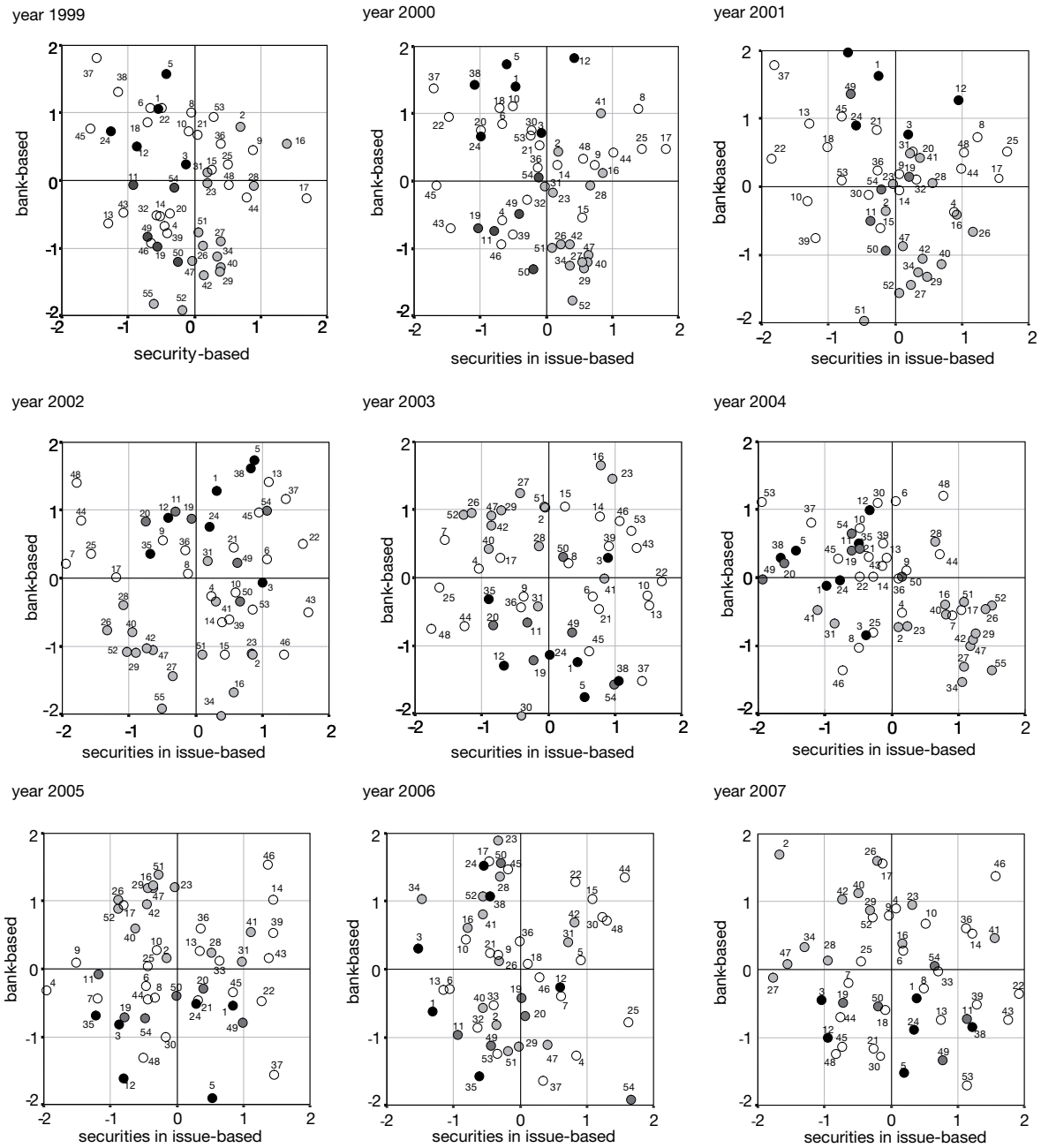
According to the Kaiser-Guttman rule, the factors should have an eigenvalue greater than 1. This applies to two factors in all graphs of Figure 3. The correlation between these factors and the original variables gives us the factor loadings represented in the Varimax rotated factor matrix in Table 3.

The absolute values of the factor loadings assign the various variables to factors 1 and 2 (bold figures). 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 Figure 2. The zero lines in these graphs represent the mean values of the two factors in question.

It should, however, be borne in mind that the German banks 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.

Apart from some outliers, most of the banks under observation are grouped around the average of both factors (zero-lines of the coordinates). In order to improve the comparability, some banks are cut off due to the restricted scale of the coordinates.

**Figure 2**  
**The European Banks' Resources for Credit Supply**

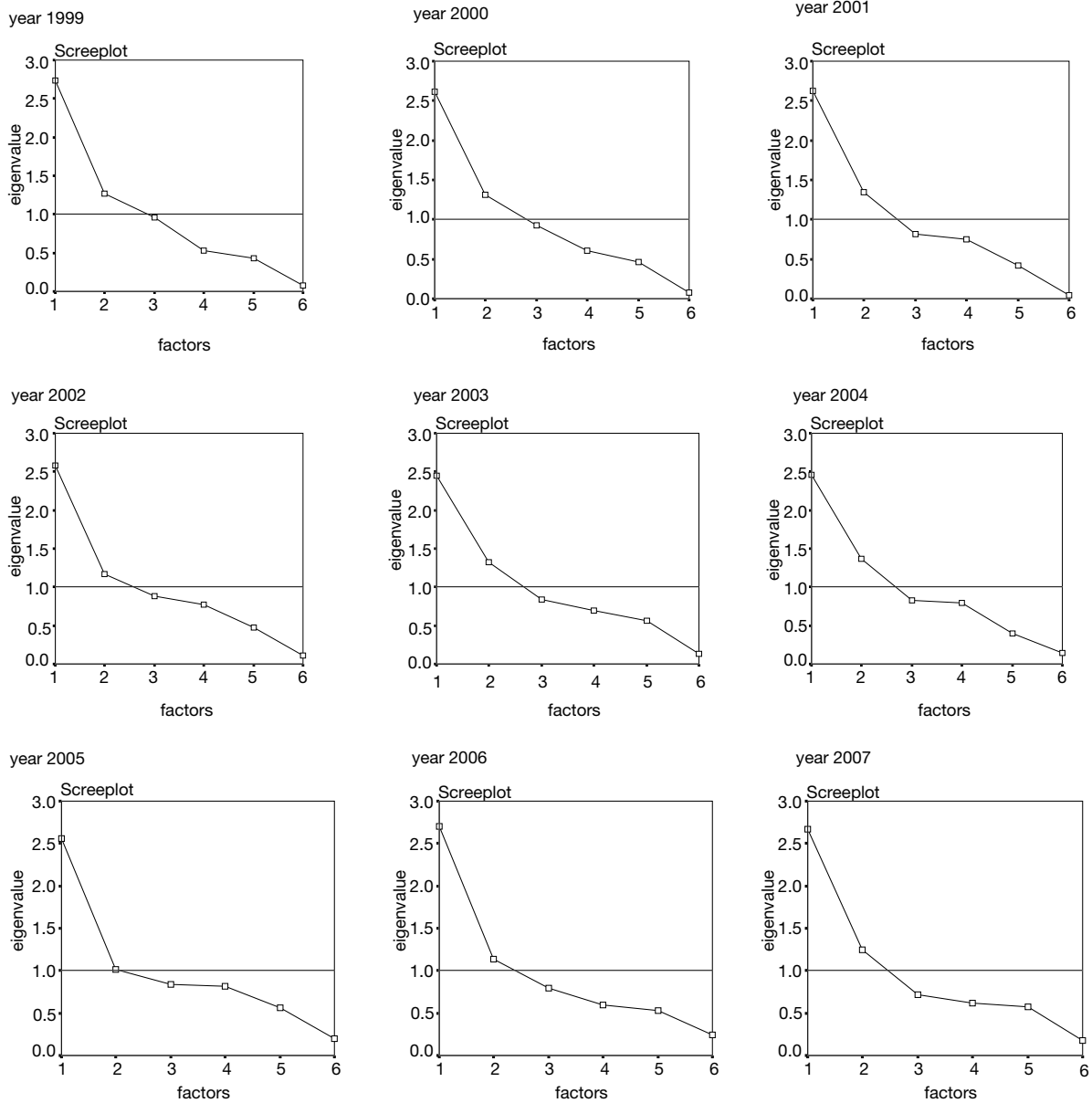


To summarise: all the banks are now increasingly refinancing their credit supply by items not directly subject to monetary control. Whichever type of security banks opt for, their impact on the quantity of money has been increasingly weakened. In the case of debt securities in issue, eventually, the quantity of money remains uninfluenced if the original duration of the securities exceeds two years.

**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

Figure 3  
Scree Plots



expenses).<sup>17</sup> All data were normalised by the volume of total assets.

The relevant numbers for the period 1999 until 2007 are plotted in Figure 4, in which the grey lines represent an adjustment-line for the observed banks. Our analysis shows that at present banks seek to in-

crease both net interest income and net commission income. But beginning in 2007 the European banks are assembling in the left-hand corner of the graphs: earnings began to decrease.

Although average cost and profit efficiency varies considerably between individual banks across Europe,<sup>18</sup> almost all German banks are grouped in the

<sup>17</sup> Roma explores determinants of returns through the use of a linear multifactor model of stock returns where the composition of income (interest and commission returns) play a considerable role. Cf. Antonio Roma: Common Factors and Balance Sheet Structure of Major European Banks, in: Quaderni, No. 396, 2003, p. 15.

<sup>18</sup> Cf. Jaap W. B. Bos, Heiko Schmiedel: Is there a single frontier in a single European banking market?, in: Journal of Banking and Finance, Vol. 31, No. 7, 2007, p. 2228.



Table 4

balance sheet items	1999		2000		2001		2002		2003		2004		2005		2006		2007	
	factor		factor		factor		factor		factor		factor		factor		factor		factor	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
bank deposits $d_b$	■		■		■		■		■		■		■		■		■	
debt securities in issue $s_i$		■		■		■		■		■		■		■		■		■
securities $s_a$		■		■		■		■		■		■		■		■		■
non-bank deposits $d_{nb}$	■		■		■		■		■		■		■		■		■	
cash & central bank $B$																		
equity capital $c$	■		■		■		■		■		■		■		■		■	

Factor 1: bank deposits-based.

Factor 2: debt securities-based.

This table is determined by Table 3.

lower left-hand corners of all the graphs in Figure 4, whereas most British banks and all Italian banks are grouped at the top. Swiss banks always seem to be Europe's favourite consultant banks.

The two types of income are the components of banks' credit terms, i.e. net interest obtained during the refinancing process, and 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.

When Western European banks wish to refinance their credit supply, they resort increasingly to disintermediation. Consequently, even if – as a theoretical example – the items in the banks' balance sheets were in line with minimum reserve requirements, the central bank's ability to exercise monetary control will be more and more limited.<sup>19</sup> As time progresses, attempts to control the quantity of money will become increasingly ineffectual.

#### Harbingers of the Financial Crisis in 2008

On average, the volume of securities held by European banks amounted to 30% of total assets in 1999, and loans to customers amounted to 50% of total assets. This relationship changed considerably over time, as can be seen in Figure 5. Especially German banks took the lead. And although the banks' investments in securities increased, the returns decreased (Figure 4).

<sup>19</sup> Cf. Manfred Borchert: Will West European banks affect monetary policy?, in: Kredit und Kapital, Vol. 35, No. 2, 2002, pp. 57-59.

When in 2008 stock-prices crashed in the United States, the volume of assets diminished worldwide, reducing the asset side of the banks' balance sheets, and causing losses to a considerable amount. One of the favourite financial investments had been real estate (for instance: Lehman Brothers). The question arises: Was that development unpredictable?

Figure 6 exhibits the development of real estate prices in the USA. After a long period of increases, they began to stagnate and finally to decrease. This critical phase lasted approximately 2 years, beginning in early 2006. The banks' balance sheets revealed that there was something approaching!

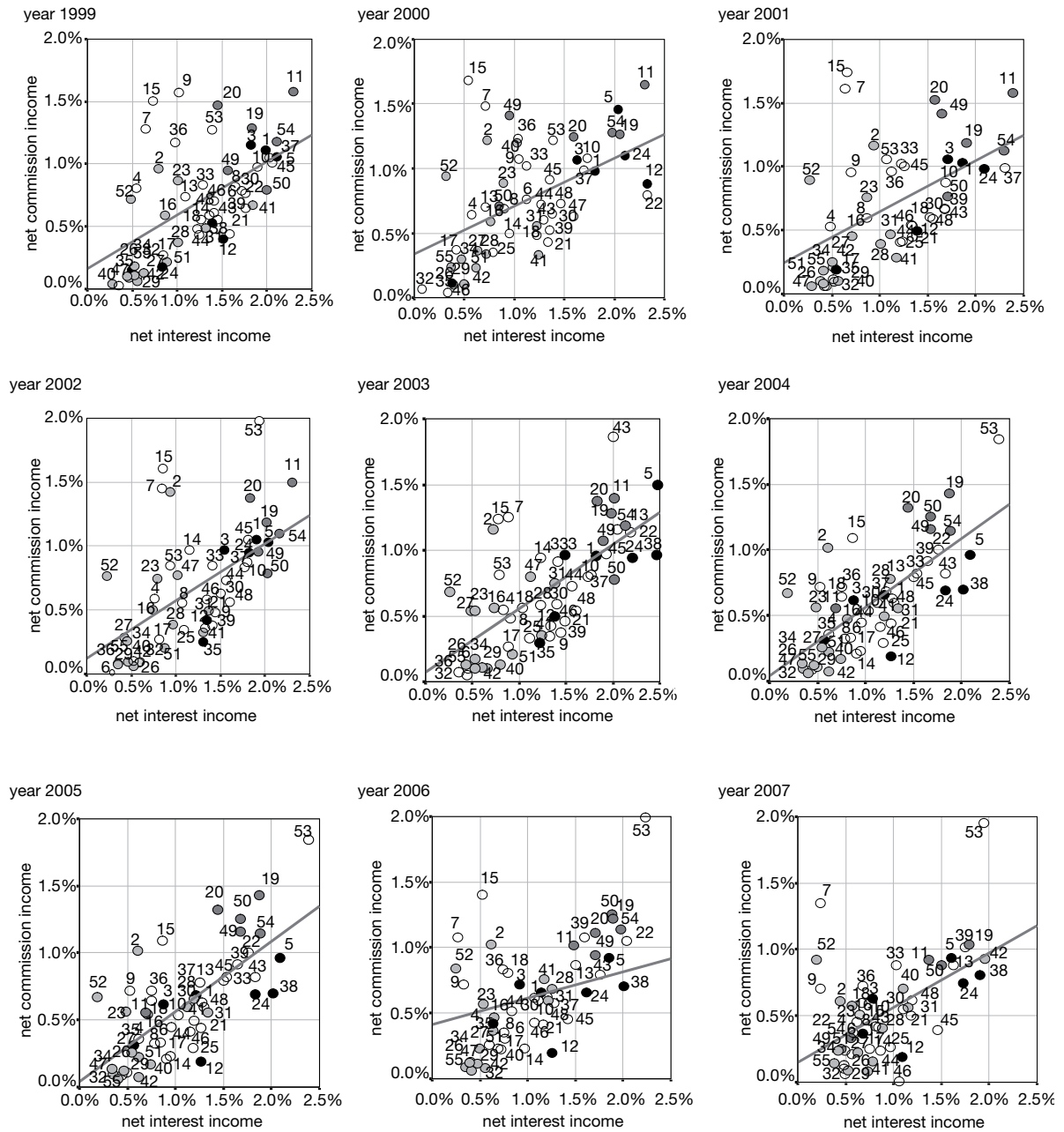
Who failed? The major cases of incentive misalignment refer to structural finance, rating agencies, and management compensation; "they all contributed to an understatement of true default risk, generating mispricing of crediting instruments".<sup>20</sup> It seems that until now banks aimed at short-run successes and did not "include long-run aspects in their banks' risk management which reduces the possibility to increase profits through (opaque) technological product innovation".<sup>21</sup>

This is certainly not true for all the banks under observation, but their balance sheets do not exhibit what kind of stocks (and ratings) they contain. This promotes some uncertainty to customers and competitors. The financial system becomes insecure.

<sup>20</sup> Issing Committee: New Financial Order, Recommendations by the Issing Committee, Preparing G-20, November 2008, cvd.bundesregierung.de, p. 2.

<sup>21</sup> Horst Siebert: An International Rule System to Avoid Financial Instability, in: ifw-Working Papers (Kiel Institute for the World Economy), No. 1461, November 2008, p. 12.

Figure 4  
Business Trends According to Income Statements for the Years 1999 until 2007



Note: All Figures are Percentages of Total Assets

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

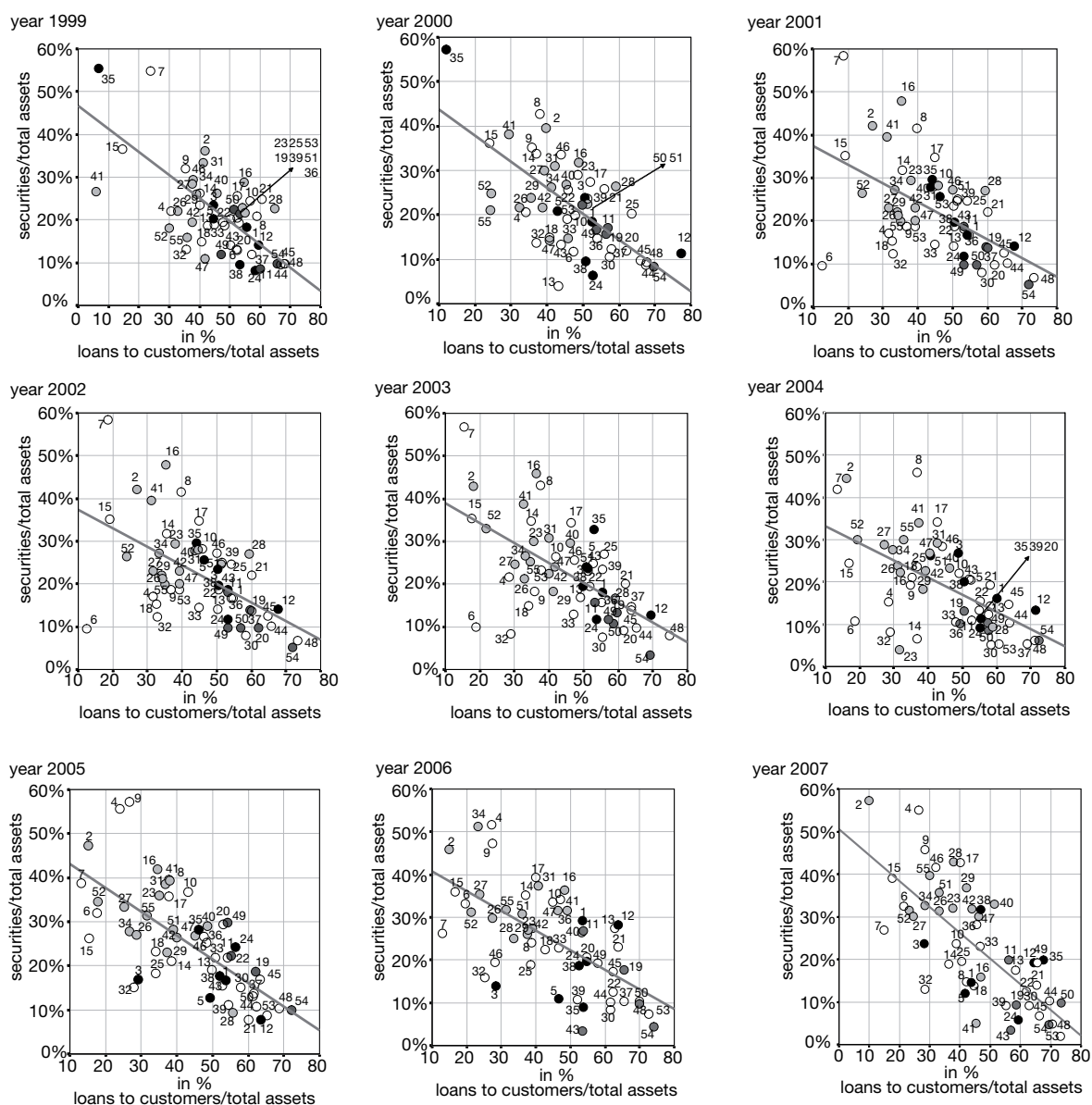
**Consequences for Monetary Policy**

The financial crisis in 2008 revealed that “to prevent a meltdown of assets, a liquidity squeeze and a bank run in a country requires rules of soundness for banks and other financial institutions and makes na-

tional supervision necessary”.<sup>22</sup> A new financial architecture is required, including improved incentives for bank managers, improved transparency of the market (e.g. rating agencies), and new regulations and

<sup>22</sup> Ibid, p. 3.

Figure 5  
Main Activities of the European Banks



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

supervisions.<sup>23</sup> Like Basle II, which ties different risky loans to the bank's equity capital, a new developed "Basle Accord III" for stocks might be introduced. This refers to banking regulations.

With regard to monetary policy, there is little doubt that small banks with a local market will survive within the European banking market, 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.

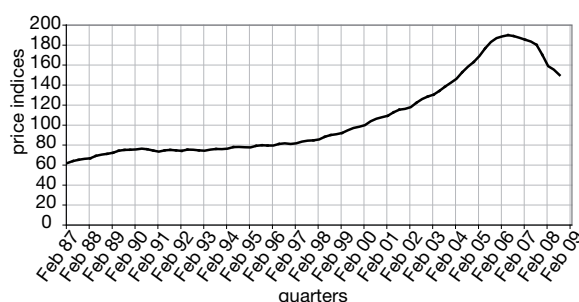
In Europe, these large banks are working towards three objectives:

- cost-cutting<sup>24</sup>
- diversifying their services

<sup>23</sup> Issing Committee, op. cit.

<sup>24</sup> This is especially true of small credit institutions.

**Figure 6**  
**Housing Prices in the United States**



Source: The author's own calculations based on data from max-data.

- 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 risk.<sup>25</sup> On the other hand, they offer certain advantages, since increased diversification makes bankruptcy less likely.<sup>26</sup>

When banks diversify, they seek to achieve two goals: increased refinancing (of their credits) by means of assets, and shifting the burden of financing onto the capital market. 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 target<sup>27</sup> and the Eurosystem's internal inflation forecast.<sup>28</sup> In May 2003, however, the ECB adopted a new two-phase policy. The first phase is an economic analysis designed to identify short to medium-term risks for 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 liquidity.<sup>29</sup> This was a fundamental change in monetary strategy!

<sup>25</sup> They imagine they are too big to fail.

<sup>26</sup> Cf. Frederic S. Mishkin: Financial consolidation: Dangers and opportunities, in: *Journal of Banking & Finance*, Vol. 23, No. 2-4, 1999, pp. 680 and 686.

<sup>27</sup> The monetary target was considered as an indicator, not an intermediate target.

<sup>28</sup> Cf. Glenn D. Rudebusch, Lars E. O. Svensson: Eurosystem and monetary targeting: Lessons from U.S. data, in: NBER Working Paper 7179, June 1999, p. 17.

<sup>29</sup> Cf. European Central Bank: *Monthly Bulletin*, May 2003, p. 8.

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".<sup>30</sup> A rise in asset prices tends to be accompanied by monetary and credit growth.<sup>31</sup> For example, an expansionary monetary policy raises stock prices by decreasing the expected equity premium.<sup>32</sup>

Monetary policy, therefore, ought to react not so much to changes in the quantity of money, but must consider additional factors influencing price stability, especially stock-prices as well as private-sector expectations of the future paths of inflation, output, and the interest rate.<sup>33</sup>

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 targeting,<sup>34</sup> which might be best described as "constraint discretion".<sup>35</sup> 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,<sup>36</sup> which might be exhibited by an inflation forecast. 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".<sup>37</sup>

<sup>30</sup> Cf. Frederic S. Mishkin: The transmission mechanism and the role of asset prices in monetary policy, in: NBER Working Paper 8617, December 2001, p. 9. According to an empirical investigation conducted by the Deutsche Bundesbank, the same seems to be true for Germany. Cf. Deutsche Bundesbank: *Monetary policy and investment behaviour – an empirical study*, in: *Monthly Report*, May 2002, p. 49.

<sup>31</sup> Cf. Albert Jaeger: The ECB's Money Pillar: An Assessment, in: IMF Working Paper WP/03/82, 2003, p. 28.

<sup>32</sup> Cf. Ben S. Bernanke, Kenneth N. Kuttner: What explains the stock market's reaction to Federal Reserve policy?, in: NBER Working Paper 10402, March 2004, p. 33.

<sup>33</sup> Cf. Leo E. O. Svensson: Monetary Policy with Judgement: Forecast Targeting, in: NBER Working Paper 11167, March 2005, p. 2.

<sup>34</sup> 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. Karen Cabos, Michael Funke, Nikolaus A. Siegfried: Some thoughts on monetary targeting vs. inflation targeting, in: *German Economic Review*, Vol. 2, 3rd Issue, August 2001, p. 231.

<sup>35</sup> Cf. Frederic S. Mishkin: Why the Federal Reserve Should Adopt Inflation Targeting, in: *International Finance*, Vol. 7, No. 1, 2004, p. 121.

<sup>36</sup> Cf. Otmar Issing: The euro area and the single monetary policy, in: *International Journal of Finance and Economics*, No. 6, 2001, p. 284.

<sup>37</sup> Cf. Lars E. O. Svensson, Michael Woodford: Indicator variables for optimal policy, in: *Journal of Monetary Economics*, Vol. 50, Issue 3, May 2003, p. 2.