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How Unique are US Banks? - The Role of Banks in Five Major Financial Systems

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Andreas Hackethal

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How Unique Are US Banks?

The Role of Banks in Five Major Financial Systems

Abstract

Initiated by the seminal work of Diamond/Dybvig (1983) and Diamond (1984), advances in the theory of financial intermediation have sharpened our understanding of the theoretical foundations of banks as special financial institutions. What makes them "unique" is the combination of accepting deposits and issuing loans. However, in recent years the notion of "disintermediation" has gained tremendous popularity, especially among American observers. These observers argue that deregulation, globalisation and advances in information technology have been eroding the role of banks as intermediaries and thus their alleged uniqueness. It is even assumed that ever more efficiently organised capital markets and specialised financial institutions that take advantage of these markets, such as mutual funds or finance companies, will lead to the demise of banks.

Using a novel measurement concept based on intermediation and securitisation ratios, the present article provides evidence which shows that banking disintermediation is indeed a reality for the US financial system. This seems to indicate that American banks are not all that "unique"; they can be replaced to a considerable extent.

Moreover, many observers seem to believe that what has happened in the US reflects a universal trend. However, empirical results reported in this paper indicate that such a trend has not manifested itself in other financial systems, and in particular, not in Germany or Japan. Evidence on the enormous structural differences between financial systems and the lack of unequivocal signs of convergence render any inferences from the American experience to other financial systems very problematic.

JEL-Classification: G 1, G 2

Keywords: bank-based financial system, capital market-based financial system, (dis-)intermediation, securitisation

1 Introduction – Is Banking a Globally Declining Industry?

"The view that banks are declining in importance is held by banking executives, academics, and high officials in many branches of government." [Boyd/Gertler (1995), p. 1]

"Old-fashioned intermediaries risk becoming like telephone operators in a direct-dial world unless they invent new ways to add value for consumers." [Litan/Rauch (1998), p. 65]

A collection of quotations expressing similar assessments could easily be extended over several pages.¹ The sheer number of advocates of this view, as well as the firm conviction with which it is typically expressed, indicate that the banking industry is now commonly believed to be in decline. Among many others, Edwards (1996, p. 41) suggests that this decline is not limited to the USA: *"Fundamental forces not limited to the United States have caused a decline in the profitability of traditional banking throughout the world and have created an incentive for banks to expand into new activities and to take greater risks ... The decline of traditional banking is a global phenomenon."*²

There also seems to be a consensus on the reasons for the alleged decline: Firstly, progress in communication and information technologies combined with innovative financial instruments are regarded as fostering the efficiency of organised capital markets. Relevant information can be made available to all participants almost instantaneously and the participants' capacity to process this information has increased dramatically. In addition, new instruments allow for better customisation to accommodate the specific needs of the participants. Because many services offered by banks on the one hand and capital markets on the other hand can be regarded as substitutes, any efficiency gains realised by the markets could clearly be detrimental to the role of banks and would thus erode their "uniqueness"³ and, as a consequence, their share in the markets for financial services.

Secondly, abandoning regulations that had historically shielded the banking industry from competition from nonbank financial intermediaries (NBFIs) and organised capital markets is regarded as fuelling this substitution process. This factor is assumed to be particularly strong in those cases in which the historically strong position of banks in a particular financial

1 See, for example Boyd/Gertler (1993), Beckett/Morris (1992), Edwards/Mishkin (1995), Gorton/Rosen (1995), Greenbaum/Thakor (1995) and Miller (1998).

2 See also Calomiris (1997), p. 1.

3 James (1987) showed in his article "Some Evidence on the Uniqueness of Bank Loans" that on average the announcement by an American corporation to take out a bank loan leads to an increase in the firm's market value. Based on the observation that entering a relationship with a bank creates value James concludes that banks are unique with respect to the fulfilment of specific financial functions.

system may not have been based on their uniqueness but rather on the regulatory protection which they have enjoyed. Thirdly, the trend towards globalisation is believed to intensify both forces – advances in technology and deregulation – as specialised nonbank financial intermediaries, e.g. large credit card companies or reputable investment banks, which are highly successful in their domestic financial system, seek to expand rapidly around the globe.

This article attempts first to answer the seemingly simple question of whether these commonly held views are empirically correct. For that purpose we investigate whether traditional banking, i.e. the collection of capital from a large number of individuals and the transformation of its quality with respect to maturities, risks and lot sizes, has lost importance in the world's five largest financial systems (the United States, Japan, Germany, the United Kingdom and France). More specifically, we investigate whether there is evidence that – starting from the early eighties when waves of deregulation and technological innovation hit most of these countries – investors have entrusted a smaller fraction of their wealth to banks, and that debtors have relied less on banks to meet their financing needs. Analysis of the development in different countries will enable us to assess whether the role of US banks has developed differently from the roles of banks in the other four countries and to identify possible reasons for these differences in financial system developments.

The article is structured as follows. Section 2 provides the conceptual framework which is later applied to an evaluation of the roles of banks. It also presents the dataset. Section 3 presents the empirical results for all five countries covered by the study. The general result is that there are indeed considerable differences between the various country cases. Section 4 discusses the country-specific results in more detail in order to answer the question implied by these empirical results: Why do banks in the US play a less important role than banks in the other four countries? In addition, the empirical findings are used to evaluate the validity of the central hypothesis of this article, namely that cross-border generalisations with respect to the (declining) roles of banks are not legitimate. Section 6 summarises the findings.

2 Intermediation and Securitisation Ratios

The definition and the measurement of intermediation ratios (IR) and securitisation ratios (SR) are based on the concept of the economy as a set of sectors that interchange goods, services and most importantly financial funds. Accumulated over time these financial flows between economic sectors translate into financial claims of one sector and an offsetting liability item of another sector. Because this concept focuses on sectors and not on single

economic units, only intersectoral, but no intrasectoral, claims and liabilities, such as a loan from one bank to another bank, are considered in the analysis.

Table 1 presents the intersectoral financial claims and liabilities for the sectors of the US economy as of June 1997. The nonfinancial part of the economy is subdivided into four sectors: households, (nonfinancial) enterprises, government, and a sector comprising the claims and liabilities of the rest of the world. The financial sector is composed of seven subsectors, among them banks and nonbank financial intermediaries (NBFIs), e.g. insurance companies, mutual funds and pension funds. Each entry in the table specifies a financial claim held by the sector indicated in the left column and a financial liability of the sector indicated in the top row. Because intrasectoral claims are omitted, the diagonal must remain empty. For the sake of simplicity, all entries have been normalised so that the total sum of all claims (and liabilities) equals 10,000. Finally, securities ("s", e.g. stocks and bonds) and nonsecuritised instruments ("ns. ", e.g. deposits and loans) are reported separately. Hence, entry (9,2a) must be read as follows: At the end of June 1997, the securitised claims of US investment funds on US enterprises amounted to 247 units.

Utilising the sum totals in rows 12 and 13, respectively, and in column 12 one can also assess the relative significance of specific sectors with respect to the financing and investment activities of other sectors: Slightly more than 10% of the securitised liabilities of enterprises consisted of claims held by investment funds. Whereas 27% of all bank assets were claims on the enterprise sector, more than 35% were claims on households and thus predominantly included mortgages and consumer loans. Furthermore, from the sum totals one can deduce that some sectors, i.e. the household sector, primarily comprise surplus units, while others, i.e. the enterprise sector and the public sector, primarily comprise deficit units.

Intermediation ratios and securitisation ratios can be computed directly from data like those in the table. Both represent a class of ratios that aggregate the data in a specific manner and thereby allow for international comparisons of the structures of different financial systems. Intermediation ratios imply a sectoral/institutional perspective, whereas securitisation ratios reflect a focus on financial instruments.

Table 1: Intersectoral Claims and Liabilities of US Sectors (II 1997)

assets \ liabilities	nonfinancial sector								financial sector											12 sum			
	H		E		PS		ROW		B		CB		MC		IC		IF		PF		ON		
	s.	ns.	s.	ns.	s.	ns.	s.	ns.	s.	ns.	s.	ns.	s.	ns.	s.	ns.	s.	ns.	s.		ns.	s.	ns.
1 households(H)			1.322	10	162	0	94	7	205	693	0	25	1	40	32	355	438	0	0	1.017	84	24	4.510
2 enterprises (E)	1	46			20	26	0	167	0	73	0	25	2	0	0	50	30	0	0	0	6	9	456
3 public sector (PS)	0	23	6	32			7	15	1	37	0	5	25	0	0	0	7	0	0	0	20	5	185
4 rest of world (ROW)	0	1	126	165	217	1			34	79	0	18	27	0	5	11	2	0	0	0	58	4	748
5 banks (B)	4	394	48	258	92	0	9	19			1	12	88	9	2	0	79	0	0	0	71	37	1.122
6 central bank (CB)	0	0	0	0	75	3	0	3	0	3			0	0	0	0	0	0	0	0	0	1	85
7 mortgage cos. (MC)	0	239	0	83	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	321
8 insurance cos. (IC)	4	50	163	16	66	1	33	10	35	7	0	1	34	0			18	0	0	0	104	2	543
9 investment funds (IF)	8	0	247	0	120	0	41	4	76	41	0	0	25	0	11	0			0	0	86	8	667
10 pension funds (PF)	0	5	352	8	85	0	56	0	111	17	0	0	28	0	17	43	78	0			73	4	877
11 other NBFIs (ON)	2	181	32	103	3	1	6	22	5	56	0	2	44	1	0	0	27	0	0	0			486
12 sum	18	939	2.296	674	839	32	246	246	469	1.005	1	88	276	52	67	460	677	0	0	1.017	503	95	10.000
13		957		2.970		871		493		1.474		89		328		527		677		1.017		597	

Source: Own calculations based on Board of Governors (1997)

Definition of Ratios

AIR of Sector i* (vis-à-vis Banks) =
financial claims of sector i on financial institutions (banks)/ total intersectoral financial assets of sector i

LIR of Sector i* (vis-à-vis Banks) =
financial liabilities of sector i to financial institutions (banks)/ total intersectoral fin. liabilities of sector i

ASR of Sector i* =
market value of securities owned by sector i / total intersectoral financial assets of sector i

LSR of Sector i* =
market value of securities issued by sector i / total intersectoral financial liabilities of sector i

AIR of Banks =
financial claims of banks on nonbank financial intermediaries / total intersectoral financial assets of banks

LIR of Banks =
financial liabilities of banks to NBFIs / total intersectoral financial liabilities of banks

* In cases in which no sector is specified, the ratios refer to the totality of nonfinancial sectors

2.1 Intermediation Ratios (IR)

The general **Asset-Intermediation Ratio (AIR)** and the general **Liability-Intermediation Ratio (LIR)** exhibit the highest degree of aggregation. With their help one can assess the fraction of the assets and liabilities, respectively, of the four nonfinancial sectors vis-à-vis the entire financial sector, that is vis-à-vis banks and nonbank financial intermediaries. The two ratios do not differentiate between securities and nonsecuritised instruments. In order to calculate the AIR for the US financial system one has to divide the sum of all entries that simultaneously appear in rows 1 to 4 and columns 5a to 11b by the total sum of these four rows, which can also be found in column 12. This ratio, which is the AIR, equals 58%.

Dividing the sum of all cells that simultaneously appear in rows 5 to 11 *and* columns 1a to 4b by the total sum of these eight columns yields the general LIR. It amounts to 53% for the data reported in Table 1. In the hypothetical case in which the total financial claims of the entire financial sector equal its total financial liabilities, the AIR would necessarily match the LIR, because the financial assets of the nonfinancial sectors, which are captured by the AIR, are liabilities of the financial sector, and their liabilities are the financial assets of the financial sector. As the US financial sector has, however, accumulated a considerable amount of physical assets, the AIR must exceed the LIR.

Each of the two general intermediation ratios can be broken down into partial intermediation ratios in three ways. Firstly, one can examine the financing and the investment behaviour of the four nonfinancial sectors separately. For example, the **AIR of Households** (65%) captures the fraction of the total financial wealth of the households (held as claims on other sectors) that is invested with financial intermediaries. The **LIR of Enterprises** (44%), on the other hand, indicates what fraction of the total (intersectoral) liabilities of the enterprise sector has been obtained from financial intermediaries. Secondly, one can answer the question of how claims and liabilities of the nonfinancial sectors vis-à-vis the financial sector are divided between banks and NBFIs. For this purpose, the general AIR can be disaggregated into the **AIR vis-à-vis Banks** (20%) and the **AIR vis-à-vis NBFIs** (38%). Correspondingly, the LIR can be disaggregated into the **LIR vis-à-vis Banks** (16%) and the **LIR vis-à-vis NBFIs** (37%).⁴ Finally, the first two forms of disaggregation can be combined to yield a third, even more detailed view on the financial structure of a given financial system: In order to assess the relative role of banks in administering the financial wealth of households one can refer to the **AIR of Households vis-à-vis Banks** (20%), which measures the share of the financial wealth of households held in the form of financial claims on banks. By the same token, the **LIR of Enterprises vis-à-vis Banks** (10%) lends itself ideally to measuring the role of banks in financing enterprises. It can be derived by dividing the enterprises' liabilities to banks by their total liabilities.

In addition to calculating intermediation ratios for the nonfinancial sectors, the conceptual framework allows for the calculation of intermediation ratios for the individual financial subsectors. Both the AIR and the LIR of the *entire* financial sector must equal zero because

⁴ It has to be noted that Banking Intermediation Ratios only capture the role of the entire banking sector. All observations and conclusions thus apply to the hypothetical average banking institution of a given country.

the nominators would only contain intrasectoral claims which are by definition not considered. However, the AIR and the LIR of the banking sector typically deviate from zero because of the existence of financial interrelations between banks and NBFIs. Examples of these interrelations are bank bonds held by insurance companies, investments of mutual funds in certificates of deposit or stocks issued by banks, and bank assets invested investment funds.

Hence, the **LIR of Banks** (23%) shows what fraction of the funds of the banking sector stems from other financial institutions, and thus by definition from NBFIs, while the **AIR of Banks** (24%) reveals the degree to which banks do *not* provide funds directly to the nonfinancial sectors but to NBFIs. The higher the two ratios, the longer are the intermediation chains within a financial system. In a hypothetical extreme scenario in which both ratios equal one, every dollar invested by a surplus unit would have, on average, passed through at least three financial institutions, including at least one bank, before it reached a deficit unit. If this were the case one could conjecture that some NBFIs focus primarily on the mobilisation of capital from surplus units, while others specialise in the allocation of funds to deficit units. In this scenario the role of banks would be that of an intermediary for intermediaries – and as such would be far from clear in economic terms.

2.2 Securitisation Ratios (SR)

For the purpose of calculating securitisation ratios the sectoral perspective underlying the concept of the intermediation ratios is replaced by an instrumental perspective. Securitisation ratios indicate which fraction of the financial assets and liabilities of one specific sector or a group of sectors consists of securities. Following standard notions we treat stocks, bonds, notes, certificates of deposit, money market instruments and investment certificates as securities. Again, one can distinguish between at least two levels of aggregation. The general **Asset Securitisation Ratio** (ASR; 50%) and the general **Liability Securitisation Ratio** (LSR; 64%) measure the preferences of all nonfinancial sectors with respect to investing in, and financing themselves through securities, respectively. They are calculated by dividing the sum of the intersectoral securitised assets (liabilities) of the four nonfinancial sectors by the total intersectoral assets (liabilities) accumulated by these sectors.

Correspondingly, the partial **ASR of Households** (52%) and partial **LSR of Enterprises** (77%) indicate the preferences of these two specific sectors.

2.3 The Data

In a special issue of its statistical reports, the Deutsche Bundesbank describes Flow of Funds Accounts as a unified dataset which indicates from whom and to what extent funds of a specific type are channelled through a financial system, and what types of financial institution are involved in this financial circuit [Deutsche Bundesbank (1995), p. 7]. This description suggests that flow-of-funds data are very well suited to generating tables like the one on page 4. The national flow-of-funds data are provided by the respective central bank or statistical office. However, in the context of international comparisons one should, before drawing conclusions from the empirical results, be aware of the fact that different compiling and reporting methods lead to the following shortcomings:⁵

(i) Definition of Subsectors: Appendix 1 presents the sector definitions for the five countries (and the years) covered by the study. Although it was possible to make some adjustments, a number of discrepancies had to remain. Probably the most important are the different definitions of the five enterprise sectors: The German and the US authorities have adopted the broadest concept of "enterprises". In these countries, the enterprise sectors include private and public corporations as well as all noncorporate businesses. In the other three countries the latter group is included in the household sector, so that the respective LIR and LSR of enterprises are slightly biased towards the financing behaviour of large firms.

(ii) Degree of Consolidation of Items: The datasets for the US, France and Japan contain trade credits on an unconsolidated basis. A trade credit granted by one firm to another thus appears both on the asset side and on the liability side of the enterprise sector. In contrast, the Deutsche Bundesbank reports trade credits only after intrasectoral consolidation. Because international data consistency was the primary objective of our data adjustments and because consolidated data could not be translated into unconsolidated data, all unconsolidated items have been consolidated prior to the computation of intermediation and securitisation ratios. Hence, all ratios are based solely on intersectoral financial claims and liabilities.

⁵ The ongoing process of standardising compilation methods across countries will eliminate these shortcomings. At the same time, however, historical comparisons will become more complicated as the changes imply structural breaks in the time series concerned. For precisely this reason, it has not been possible to specify French and Japanese intermediation and securitisation ratios for the years 1997/1998 and 1998, respectively. For data availability reasons, updating the UK ratios beyond 1995 was not possible either. Please refer to Hackethal (2000) for a more detailed description of the data, the adjustment measures taken and the discrepancies that inevitably remained. Our experience in dealing with the data revealed that the international data differences affect the levels of the ratios to some extent but hardly their changes over time.

(iii) Attributing Instruments to Sectors: Not all items published in the National Accounts allow for a direct identification of the sector to which the counterparty belongs. Whereas the item "bank deposits" on the asset side of the balance sheet of the household sector obviously corresponds to a liability on the banking sector side, the sector corresponding to "corporate equity" held by households is not visible from the statistics. It could be the banking sector, the insurance sector or the enterprise sector. Yet an unambiguous allocation of claims is necessary to calculate intermediation ratios. The following brief example demonstrates how that problem was dealt with in this study.

At the end of 1996 American households held *corporate and foreign bonds* worth \$372 billion. This item represented 12% of the total amount outstanding. The liability side of the other sectors reveals that this total amount is divided among debtors as follows: 46% had been issued by nonfinancial enterprises, 37% by NBFIs, 11% by foreign entities, and 6% by banks. The question arises, what fraction of the corporate and foreign bonds held by households had been issued by each group of debtors? The following simple, and hence inevitably crude, assumption was applied. The portfolio of each group of investors maps the total market of outstanding instruments. Accordingly, the bond portfolio of the households consists of corporate bonds issued by nonfinancial corporations worth \$171 billion (or 46%), bonds issued by NBFIs worth \$138 billion (37%), bonds issued by foreign entities worth \$41 billion (11%), and bonds issued domestic banks worth \$22 billion (6%).

Applying this approach to the assets held by the various sectors in order to attribute claims to debtor groups automatically implies that the corresponding items on the liability sides are attributed to investor groups according to the same rule, i.e. according to the weights of the respective investor group's portfolio in the total portfolio covered by the dataset.

(iv) Data Reliability: In the publication referred to above, the Deutsche Bundesbank remarks that authorities around the world can only rarely base the compilation of National Accounts on surveys conducted for that specific purpose. Instead, they predominantly have to use data that were collected in other contexts and for other purposes. As a consequence, the relevant authorities have to fill a number of gaps in their primary data with estimations.⁶

⁶ The sector-specific item *Unidentified Miscellaneous Financial Claims* in the US dataset may serve as an indication of the size of these gaps. For all main sectors except the enterprise sector, this item makes up less than 10% of total assets and liabilities, respectively. Approximately 20% of the liabilities could not be attributed to a group of instruments.

3 Empirical Results

For each of the five countries covered and for each individual year included in the respective time period, a table analogous to Table 1 was constructed. Based on these tables, intermediation and securitisation ratios were computed. They are reported graphically in Exhibits 1 to 7. Based on these data, the present section discusses four general observations. Section 4 will discuss some of these observations in more detail in a country-specific context.

Increasing, Instead of Decreasing Financial Intermediation

According to Exhibit 1, disintermediation is not an issue for four out of the five countries.⁷ In Germany, Japan, the UK and the USA the fraction of all assets and liabilities of nonfinancial sectors that also appear on the balance sheets of financial institutions has been rising continuously over the last 20 years. This finding is in stark contrast to the assessment which is often suggested by those who talk of a general tendency towards disintermediation. Only the French data indicate a strong decline in direct financing during the late eighties and the early nineties. In Exhibit 2 we observe the same pattern, only more pronounced: with the notable exception of France, households and entrepreneurs are indeed, to an increasing extent, turning to financial intermediaries to invest their funds and to obtain funds for investment purposes. The remarkable difference between the levels of country-specific ratios illustrates another interesting fact: financial intermediaries seem to play fundamentally different roles in different countries.

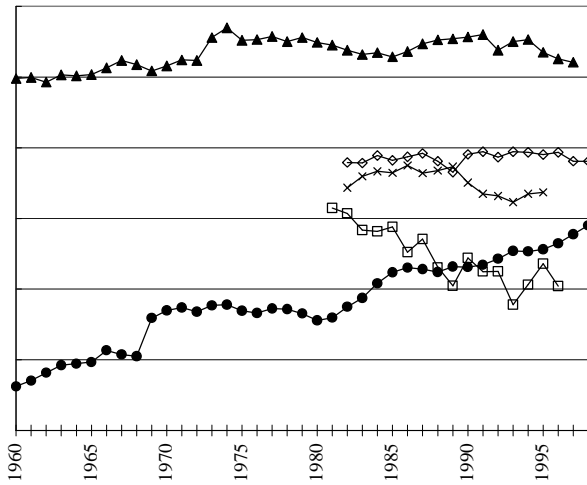
Increasing Popularity of Securities in Europe

Exhibit 3 shows the general ASR and LSR, while Exhibit 4 shows the partial securitisation ratios for households and enterprises. During the last 25 years, securities have gained in popularity, on both the asset and the liability sides of the aggregated balance sheets of the nonfinancial sectors, in all three European countries. Although all ratios are based on market values of securities, US securitisation ratios have remained almost constant during this period. One can even observe a modest downward trend since 1960. If one adjusted the Japanese figures for the price effects of the bubble economy of the late eighties, one would recognise a steady increase in securitisation beginning in the mid-seventies.

⁷ Inconsistencies in the datasets provided by the statistical offices are the main reason for the observable discrepancies between the AIR and the LIR of a given country.

Exhibit 1: General Intermediation Ratios

a) Asset Intermediation Ratio (AIR)



b) Liability Intermediation Ratio (LIR)

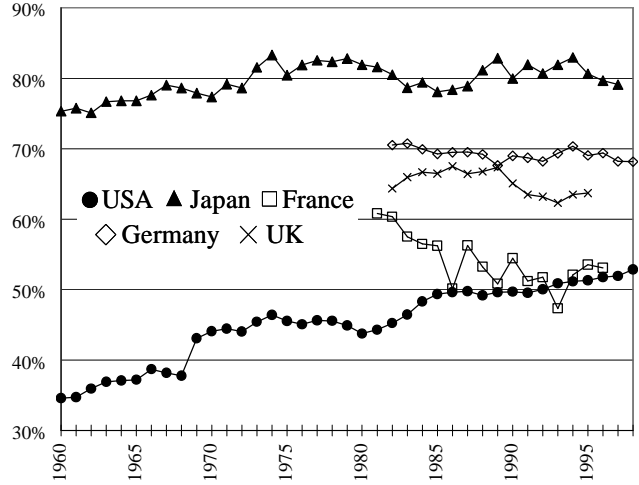
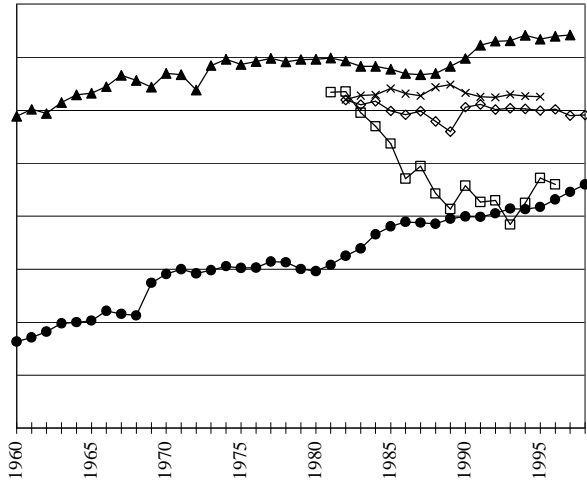


Exhibit 2: Intermediation Ratios of Households and Nonfinancial Enterprises

a) AIR of Households



b) LIR of Enterprises

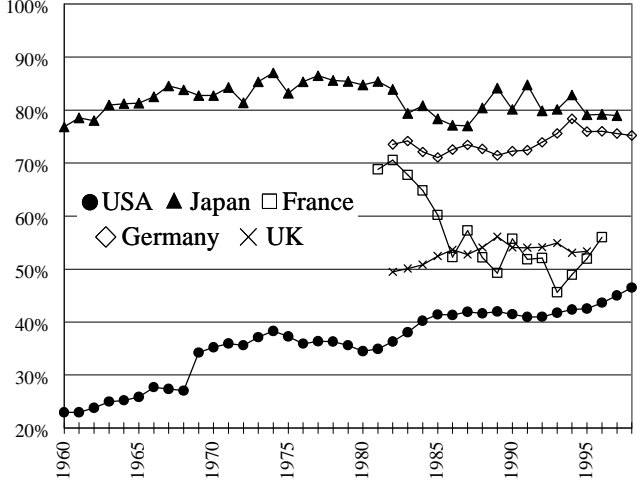
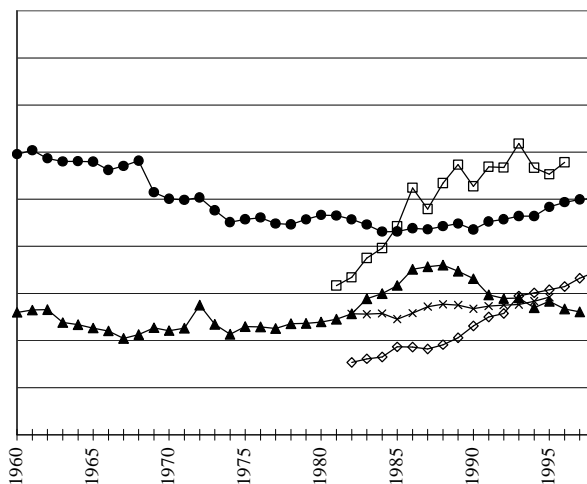


Exhibit 3: General Securitisation Ratios

a) Asset Securitisation Ratio (ASR)



b) Liability Securitisation Ratio (LSR)

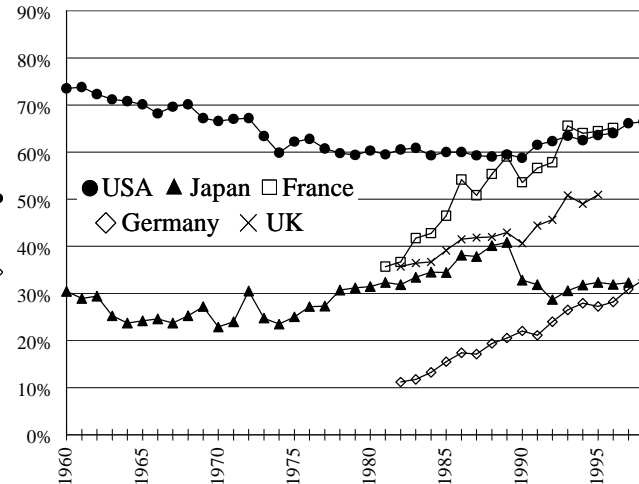
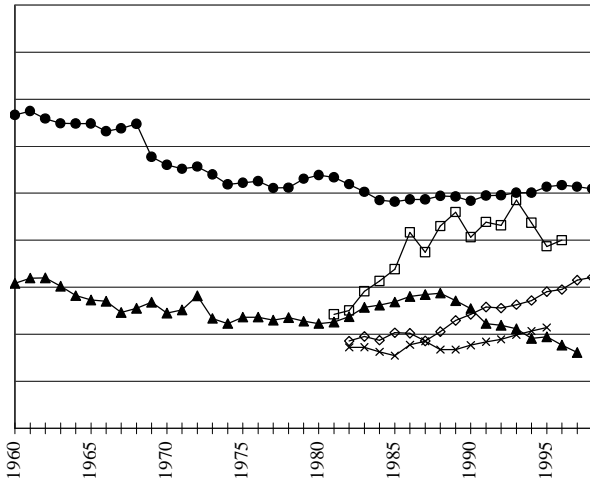


Exhibit 4: Securitisation Ratios of Households and Nonfinancial Enterprises

a) ASR of Households



b) LSR of Enterprises

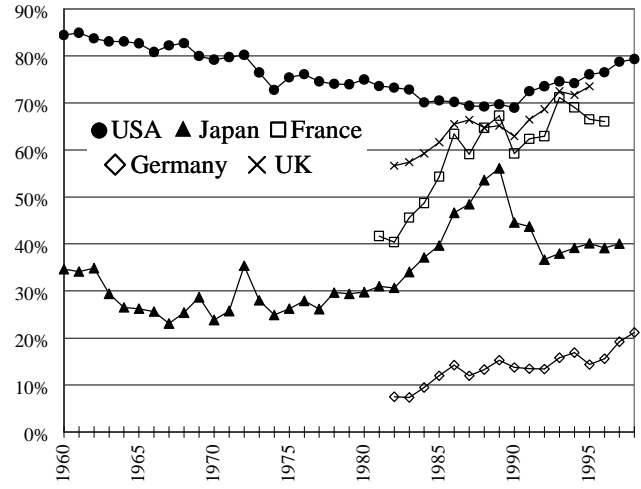
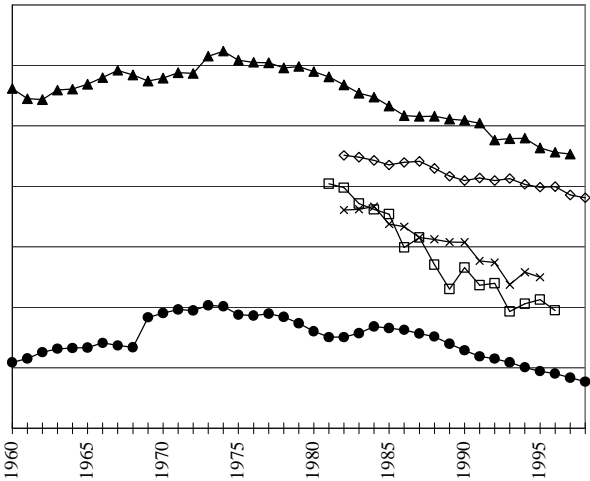


Exhibit 5: Intermediation Ratios vis-à-vis Banks

a) AIR vis-à-vis Banks



b) LIR vis-à-vis Banks

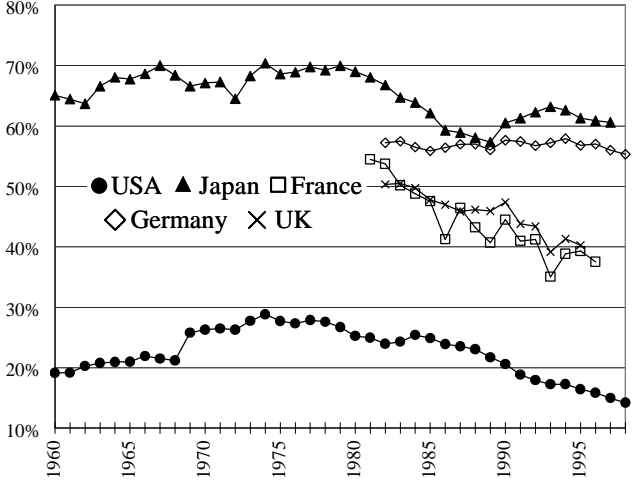
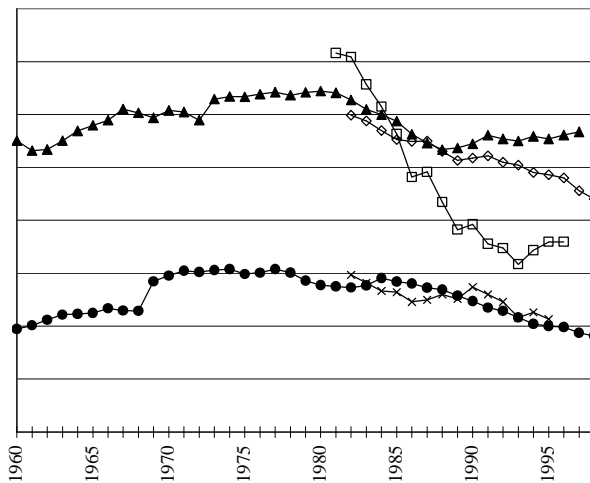
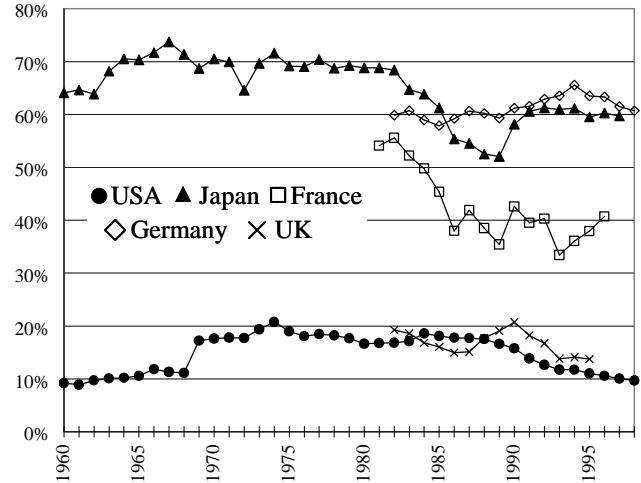


Exhibit 6: Intermediation Ratios of Households and Enterprises vis-à-vis Banks

a) AIR of Households vis-à-vis Banks



b) LIR of Enterprises vis-à-vis Banks



Again, there are remarkable differences between the *levels* of country-specific ratios. Securities are far more important as instruments for financing investment in the Anglo-Saxon countries than in Japan or Germany. The only reason why the same does not apply to their role as investment vehicles in the UK is that claims on British pension funds enter the calculations as nonsecuritised assets. Again, France is an exception. The French securitisation ratios increased from a level almost as low as that of Japan and Germany to a level which is even higher than that of the US.

Partial Bank-Disintermediation

Exhibit 5 reveals that bank intermediation has declined in importance from an investor's perspective in all five countries since the early eighties. Both in the US and in Japan, the Asset-Intermediation Ratios vis-à-vis Banks reached their peak in the mid-seventies and have since declined continuously (see Exhibit 5a). From a debtor's standpoint, banking intermediation has only lost ground in the US and the UK - two countries that are traditionally classified as having a capital market-based financial system⁸ - and in France, where even total intermediation has declined over the course of the last twenty years. In contrast, the German LIR vis-à-vis Banks has remained almost stable at 60%. Nor do the Japanese rates exhibit a clear downward trend.

The different starting points as well as the disparate development paths suggest that German and Japanese banks have been playing a fundamentally different role than their peers in the other countries. Exhibit 6 illustrates this sharp contrast nicely. It focuses on the investment behaviour of households and the financing behaviour of enterprises with respect to banks.⁹

According to the new theory of financial intermediation, banks are specialists in (i) pooling financial claims with different, ex ante uncertain maturities and thereby providing liquidity insurance to depositors [Diamond/Dybvig (1983)] and in (ii) monitoring debtors and thereby eliminating information asymmetries [Diamond (1984)]. As households are the most important group of depositors, and enterprises are the largest group of debtors in most

⁸ A standard source for the classification of financial systems into bank- and capital market-based systems is Rybczynski (1984).

⁹ Particularly in the case of the UK, where many domestic banks are heavily involved in interbanking transactions with foreign banks, the sector "Rest of the World", which itself encompasses all of these foreign counterparts, drives the general intermediation ratios. Partial ratios of households and enterprises are thus much more representative of UK banks' role within their domestic financial system.

economies it can be argued that the role of banks is better captured by the two partial ratios reported in Exhibit 6.

During the observation period from 1982 to 1995 for which data are available from all five countries, the AIR of Households vis-à-vis Banks declines in each of the five, whereas the LIR of Enterprises vis-à-vis Banks declines only in France, the US and to some extent the UK. In contrast, the German and the Japanese ratios fluctuate around 60%. In an international comparison, French banks have suffered the most, both as collectors of household savings and as monitors of loans to enterprises. In an interesting parallel to the French securitisation ratios, the French partial intermediation ratios move from a German/Japanese level towards a UK/US level.

Thus, Exhibit 6 also illustrates the structural differences between the two bank-based and the two capital market-based financial systems – and France as a special case which seems hard to classify – even more clearly than Exhibit 5. Although technological advances, deregulation and liberalisation have hit all five banking sectors with nearly equivalent intensity during the last two decades, the ratios show no signs of convergence. Contrary to what one might have expected, the differences between the roles which the banks play in the five financial systems even seem to be increasing.

Lengthening of Intermediation Chains

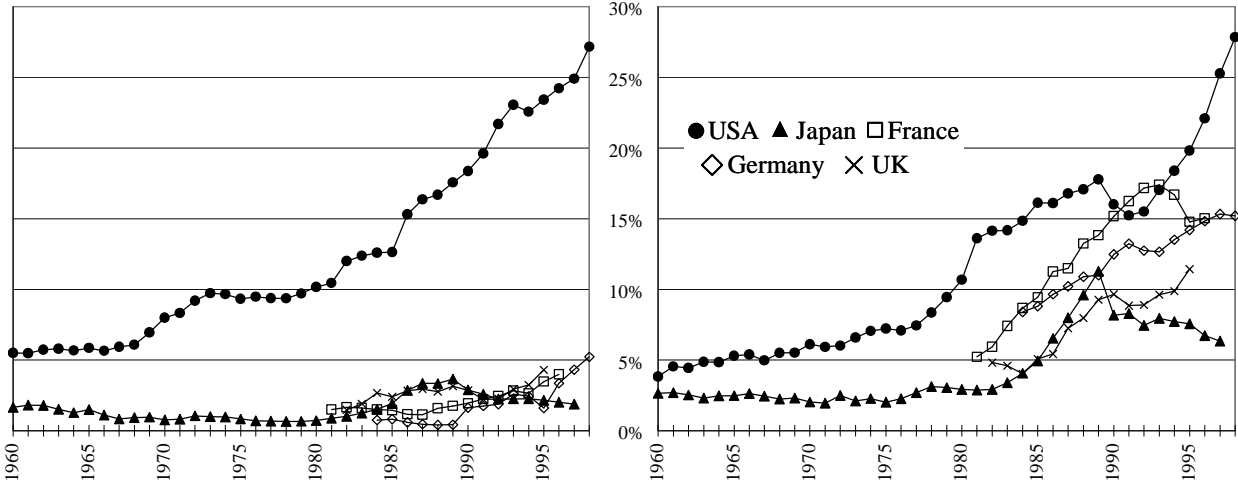
Since the early eighties, the fraction of banks' funding that they obtain from NBFIs has increased considerably in all five countries. According to Exhibit 7a, the LIR of Banks, which measures this fraction, has more than doubled in Germany, Japan and the UK, and indeed more than tripled in France and the US. Contrary to this development on the liability side of the aggregated balance sheets of banks, the AIR of Banks has hardly changed at all in four of the five countries (see Exhibit 7b). Only US banks have been investing an increasing portion of their funds with NBFIs. In 1998 more than a quarter of their intersectoral financial assets consisted of claims on insurance companies, investment and pension funds, finance companies etc. Hence, NBFIs appear to be replacing banks as collectors of savings in all five countries to a certain extent, whereas the function of banks as financiers for the nonfinancial sectors has remained almost unchanged everywhere, except in the US. This evidence suggests a higher degree of specialisation of banks and NBFIs, respectively, in the functions they perform within their financial systems. Furthermore, the growing number of financial linkages between banks and NBFIs is lengthening intermediation chains. The average dollar, franc,

mark, pound or yen invested by a surplus unit today passes through more institutions than it did twenty years ago. But evidently, this change is much more pronounced in the US than in the other countries.

Exhibit 7: Intermediation Ratios of Banks

a) AIRs of Banks

b) LIRs of Banks



In view of their atypical development the ratios for US banks pose a puzzle: Why do we not observe an increasing specialisation, with banks tending to function as allocators of funds and monitors of borrowers and NBFIs tending to function as collectors of funds, as is occurring in Europe and Japan, but rather a lengthening of intermediation chains on both sides of the US banks' balance sheets? Put differently: What makes US banks seem so unique in an international comparison and at the same time apparently less unique in their own financial system? We attempt to answer this question in the next section.

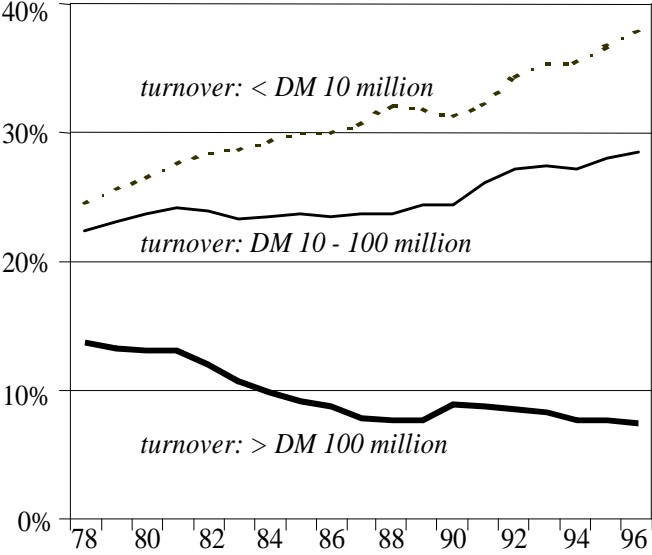
4 The Different Roles of Banks in Different Financial Systems

4.1 Banks in Germany and Japan

The high level and the immense stability of all four intermediation ratios vis-à-vis banks shown in Exhibits 5 and 6 leave no doubt that banks in Germany and Japan still play a dominant role in channelling funds from surplus to deficit units. In an examination of German capital markets in connection with the advent of European Monetary Union, the Deutsche Bundesbank arrives at the same conclusion. Based on the observation that the volume of traded securities is still minuscule by UK or US standards, the authors infer that the characteristics of financial intermediation have changed only very little. Contrary to the structural changes that have taken place elsewhere, they conclude that the German financial systems did

not witness a trend towards shifting financial relationships from banks to organised capital markets during the early nineties.¹⁰ As a consequence, the proposition that there has been a global decline of banking institutions, which is propagated by many American commentators,

Exhibit 8: Bank Debt of German Enterprises in % of Total Assets



Source: Deutsche Bundesbank (1992), p. 34, Deutsche Bundesbank (1998), pp. 11-34

must be rejected.

Further evidence that traditional banking business is not declining in Germany is provided in Exhibit 8. Unlike the relatively small number of large corporations that have gradually emancipated themselves from bank finance and instead obtain a growing fraction of their external financing from national and international capital markets, small and medium enterprises depend increasingly on bank loans.¹¹

Because the magnitude of information asymmetries is

generally negatively correlated with firm size, this trend implies rising demand for the monitoring capabilities of German and Japanese banks.¹² Many banks have supposedly (re)focused their business on one of their traditional core competencies, namely the surveillance and monitoring of "complicated" cases. The ratios thus suggest that advances in information and communication technology have not eroded banks' comparative advantages in comparison to NBFIs. It may even be the case that these innovations have allowed banks to improve their monitoring techniques and thereby extend their competitive advantages in handling transactions burdened by severe information asymmetries.

¹⁰ See Deutsche Bundesbank (1998b), p. 58. For a corresponding assessment of recent developments in the Japanese financial system refer to Hayasaki (1995), p. 235.

¹¹ Again, similar Japanese assessments exist: "[T]he borrowing from private financial institutions remains significant for small and medium sized firms. On the other hand, for large firms, borrowing has been substituted by funding from the bond and capital markets." [Hayasaki (1995), p. 232]

¹² This point is also stressed by Edwards (1996), p. 64: "[The] monitoring advantage is probably greatest with respect to small business borrowers, where problems of asymmetric information are particularly severe and where banks commonly provide those firms with unsecured credit".

The evidence and the stylised facts presented so far have clear implications for a concise assessment of the roles of German and Japanese banks. In view of the enormous importance of banks within the intermediation process and despite a shrinking demand for liquidity insurance services, German and Japanese banks can still be considered "unique".¹³ After surveying many empirical studies on Japanese banks, Hoshi (1996, p. 210) draws a similar conclusion: "*Past empirical studies suggest four important benefits of ... the main bank system in Japan: (1) implicit insurance, (2) alleviation of the information problem, (3) reduction in the cost of financial distress, and (4) effective corporate monitoring.*"

4.2 Banks in the US

A historical comparison of the American ratios with the German and Japanese ratios reveals that US banks traditionally played a fundamentally different role and that they have for this reason reacted differently to recent changes in their markets. According to Exhibit 6, the level of the partial intermediation ratios vis-à-vis banks reached in the early nineties resembles the level of the early sixties. Bearing this fact in mind, how can the historical and the new role of US banks be characterised?

Encouraged by the exceptionally good data availability on the US financial sector and its institutions, the recent literature has featured a lively discussion on whether the American banking industry is threatened by extinction and on whether its extinction would have negative long-term effects for the American economy. The participants in this discussion can be roughly grouped into two camps: One camp encompasses those who are convinced that banks are doomed and therefore also advocate a paradigm change in the way banks are regulated.¹⁴ Members of the other camp find these forecasts "exaggerated" [Boyd/Gertler (1995)] and predict instead that banks will do well in the future despite, or even especially

¹³ For the sake of brevity we mention only some of the important contributions that investigate the uniqueness of the institution "bank" [see Greenbaum/Thakor (1995) and Freixas/Rochet (1997) for two brilliant surveys on recent advances in the theory of financial intermediation]. Because individual liquidity insurance à la Diamond/Dybvig (1983) is also being provided by money market funds and because thorough monitoring à la Diamond (1994) is also being conducted by finance and insurance companies, the uniqueness of banks must stem from the combination of these two functions under the roof of a single institution. Scope economies may result a) from a more efficient use of liquidity reserves [Kashyap/Rajan/Stein (1999)], b) from a broader information base on debtors [Fama (1985); Lewis (1991)], c) from reduced incentive problems regarding the investment of deposited funds [Myers/Rajan (1998)], and d) from the improved ability to absorb systemic shocks [Allen/Gale, (1997)].

¹⁴ Representatives of this first group include Berlin/Mester (1996), Edwards (1996), Edwards/Mishkin (1995), Litan/Rauch (1998) and Miller (1998).

because of, the existing regulatory framework.¹⁵ A closer look at the arguments of both camps helps to understand that the basic assessments of the two groups are not completely incompatible but mainly rest on different definitions of what constitutes banking business. Whereas the first group generally focuses on the traditional business of (commercial) banks, most proponents of the second view define banks in an institutional context and thus incorporate most fee-based businesses that typically do not show up on banks' balance sheets.

It is the objective of this section to reconcile the two views in the light of the empirical evidence provided by the intermediation and securitisation ratios from various countries and thereby to gain additional insights into the historical and current role of US banking institutions. For this purpose, we start with a brief description of those market trends that indeed pose a serious threat to traditional banking business. We then demonstrate that many of the banks that have suffered from declining demand on the part of depositors and debtors have been able to compensate for these shortfalls by repositioning themselves and thereby expanding into new business areas. The main conclusion from this discussion will be that the increasing accentuation of the capital market-based character of the US financial system – and hence its increasing similarity to the respective prototype of a financial system – does indeed create opportunities for banks to act as catalysts. US banks no longer predominantly offer services which might be regarded as substitutes for the services which capital markets offer, but rather those services which promote and support the functioning of these markets, i.e. their activities are becoming more and more complementary to the capital markets. Banks' activities thus increasingly comply with what one could call the "inherent logic" of the US financial system. Charles Calomiris (1997, p. 9) captures this idea nicely by stating: *"American banks are finding ways to bring America's comparative advantage in capital markets into their bank."*

Traditional Banking Business in Decline

The following seven pieces of evidence seem especially relevant in sketching out the development of the traditional US banking business during the last two decades.

1) As was already mentioned, the partial Intermediation Ratios vis-à-vis Banks have declined steadily since the seventies. However, this downturn followed a period of steady growth in the previous decades. Also, the Securitisation Ratios have been increasing

¹⁵ Boyd (1998), Boyd/Gertler (1995), Ettin (1995), Blommestein (1995) and to a certain degree also Berger/Kashyap/Scalise (1995) are proponents of this second view.

continuously only since the late eighties after they had been decreasing throughout the period from 1960 to 1985. Accordingly, the alleged decline of traditional banking – as measured by intermediation and securitisation ratios – is not a phenomenon that had already been initiated decades ago and has since gained more and more momentum. Rather, banks have re-approached the status they occupied prior to 1960. Compared to other countries, historically the importance of banks for households as savers and for enterprises as borrowers had been much lower.

2) It seems as if this was particularly true with respect to their role as delegated monitors in the sense of Diamond (1984). In 1950 (1960), approximately 40% (30%) of intersectoral bank assets consisted of government bonds, while only 17% (26%) were loans to enterprises.¹⁶ As can be seen from Table 1, loans to enterprises constituted less than 10% of intersectoral bank assets in 1997, while the fraction of claims on NBFIs in the balance sheets of banks increased to 25% during the same period. Like government bonds, most of the claims on NBFIs, e.g. mortgage backed securities, commercial paper and security credit, do not typically fall into the category of instruments for which excellent monitoring capabilities lead to a competitive advantage.

3) Furthermore, both the volume and the volatility of loan write-offs by US (and UK) banks may serve as an indication that the relationships between debtors and banks in the US and the UK are of a different quality from those between debtors and German or Japanese banks.¹⁷ Apparently, US banks possess neither the capability nor the willingness of their German and Japanese counterparts to sustain relationships when the debtor is in financial distress. Rather, one may conjecture that the typical relationship between a US bank and its debtors is at "arm's length" and that at least since the Glass-Steagall Act of 1933, US banks had always been "less unique" than German and Japanese banks.

4) Another piece of evidence supporting the conjecture that in America banking is predominantly "at arm's length" is the short period of time it took foreign banks to enter the US loan market and to gain a considerable market share by luring customers away from domestic competitors. Between 1979 and 1994, the share of foreign bank loans to

¹⁶ The figures were taken from Edwards (1996, p. 66).

¹⁷ According to the OECD (1994, 1996), during the period from 1982 to 1994 loan defaults as a percentage of total assets have fluctuated only moderately, ranging from 0.4% to 0.7% for German banks and from 0.0% to 0.2% for Japanese banks. The respective band for banks from the UK and the US is, however, much wider. Values between 0.3% and 1.3% have been reported.

corporations more than doubled from 5.6% to 13.4%.¹⁸ Moreover, not only foreign banks but also domestic NBFIs have been able to replace domestic banks as lenders to US corporations. As a consequence, the total volume of outstanding bank loans with a nominal value exceeding \$25 million has dropped by 35% in just 5 years (1989-1994). Berger/Kashyap/Scalise (1995) consider advances in information processing technology and applied finance to be responsible for these shifts. It seems that these technological developments have allowed direct financing alternatives (such as commercial paper and corporate bonds) and other intermediaries (such as foreign banks and finance companies) to compete more effectively for larger borrowers than in some other large economies. Cheaper access to capital markets and financial innovations have made traditional bank products less attractive. Edwards (1996, p. 70) goes one step further: "*The decline in the importance of traditional banking may simply be the logical consequence of an evolving financial technology that is rapidly eroding the uniqueness of banks.*"

5) How did banks react to the decline of their loan business with corporations? Did they perhaps – like their German and Japanese peers – refocus their business on what theory suggests as being their core competencies and as a consequence emphasise credits to smaller enterprises characterised by larger information asymmetries? This does not seem to be the case. The volume of outstanding bank loans with a nominal value of less than \$1 million has also dropped sharply. Between 1989 and 1994 it fell by roughly 35%. Because the volume of loans with a nominal value between \$1 million and \$25 million remained almost constant and because the volume of secured consumer credit and mortgage loans actually rose during the same period, it would not be warranted to attribute this decline to the general economic climate or to regulatory restrictions like the 1988 Basle Accord. Edwards (1996) concludes from these asymmetric developments that banks shifted away from making information-intensive loans. Instead they preferred to grant loans that required less extensive (and less costly) evaluation and monitoring, especially those types of loans that could be standardised, packaged, and sold in secondary markets. Hence, after 1985 the typical US bank clearly did not specialise in eliminating/overcoming serious information asymmetries.

6) Berger/Udell (1996) and Berger/Kashyap/Scalise (1995) offer an interesting and empirically well founded explanation for this phenomenon. The still ongoing consolidation process in the US banking industry has resulted in a steep decline in the number of small

¹⁸ See Table A8 in Berger/Kashyap/Scalise (1995).

banks.¹⁹ Small banks have traditionally been the dominant players in the banking market for loans below \$1 million. The authors argue that in most cases in which a larger bank has acquired a smaller competitor or in which a small bank went bankrupt, the acquirer or any third parties have not found it worthwhile to (re-)collect or fully utilise the debtor-specific information which had been gathered by the small bank in prior periods. In many cases those loans which had been granted on the basis of this information, precisely because they promised to generate a positive return, were not prolonged or renewed after consolidation.

7) Structural changes of similar magnitude have taken place on US banks' liability sides. Taken together Exhibits 2a and 6a show that NBFIs more than tripled their share in the collection of household savings between 1960 and 1998. The difference between the AIR of Households and the AIR of Households vis-à-vis Banks – which was 20% at the start and 19% at the end of the observation period – increased from 16% to 47%. In addition to the dramatic losses of market share, the fraction of sight deposits in total intersectoral bank liabilities has plummeted from around 60% to under 20% while funding through money market paper and other kinds of securities has exploded in that time span. The demand of households for liquidity insurance services has thus always been considerably lower in the US than in Germany or Japan and has waned still further in the last decades.

Taken together, these seven aspects strongly suggest that both components of traditional American banking have been relatively less unique – that is, less differentiated from the services of domestic NBFIs and capital markets – than the corresponding components of German and Japanese banking. The successful entries of mutual funds into banks' business with households, and of finance companies²⁰ into their business with enterprises indicate, furthermore, that changes in the market environment have eroded possible competitive advantages and have probably precluded banks from fully exploiting scope economies between the two components.

¹⁹ The number of banking institutions has dropped from about 12,000 in 1980 to about 8,000 in 1993 [Ettin (1995), p. 206].

²⁰ As early as 1990, two finance companies, G.M.A.C. (*General Motors Acceptance Corporation*) and G.E.C. (*General Electric Capital*), ranked among the three American financial institutions with the highest net worth.

New Business Areas

Does the decline of traditional banking automatically lead to the decline of banking institutions? We shall demonstrate that this is clearly not the case. Four facts illustrate that US banking institutions actually have reason to regard the recent past as a successful period:²¹

- 1) For the US banking industry as a whole, the return on assets from 1983 to 1994 was higher than for the German and the Japanese banking industries during the same period. The US figures doubled in the early nineties. Interestingly enough, this growth was not only fuelled by highly profitable fee-based businesses but also by increasing returns from interest bearing instruments. Because the latter also include interest income from the banks' trading activities one could argue that intensified participation in capital markets together with the favourable development of interest rates had a positive impact on bank profits.
- 2) One alternative explanation for increasing returns on assets – namely shorter bank balance sheets – can be ruled out. Price adjusted total assets of banks increased by more than 20% between 1983 and 1994. During the same period the level of bank assets as a fraction of GDP remained roughly constant at more than 40%. Measured by financial assets under its control, the banking industry thus grew in sync with the entire economy. Finally, the number of bank employees hardly changed at all. In both 1979 and 1994 banks had about 1.5 million employees on their payrolls.²²
- 3) One could perhaps argue that the decline of banking institutions had merely not yet become evident in the pre-1995 return figures, but that it might show up as soon as interest rates change significantly. However, the expectations of market participants reported for this time span make this possibility seem highly unlikely. Berger/Kashyap/Scalise (1995) provide a time series of Tobin's q of the 50 largest banks. Tobin's q, the ratio of the market value to the book value, can be interpreted as an indication of market expectations. The 50 banks covered in this study held more than half of the entire industry's assets at that time. A ratio greater than 1 implies that the average market participant is optimistic regarding the prospects of the banking industry and implicitly advocates additional capital inflows. As a matter of fact, the ratio was greater than 1 in nine out of the ten years between 1985 and 1994. In addition, Tobin's q for American banks exceeded that of the American economy as a whole for all ten years.

²¹ All reported figures were taken from OECD (1994) and OECD (1996).

²² See Berger/Kashyap/Scalise (1995), Table A1.

4) A last piece of evidence is provided by Boyd/Gertler (1993). In their study of the importance of US banks, these authors added the credit equivalents of off-balance sheet items to the intersectoral financial claims of banks, and then compared the resulting sums with total assets of NBFIs and with US GDP. From the similarity of the patterns of all three time series they conclude that the US banking industry does still contribute a significant share of the financial sector's total value added.

Three new business areas of US banking institutions may exemplify the changing character of the industry. Firstly, banks utilise their branches, which are their most important customer interface, to promote and to sell mutual fund shares. They thus generate provision income from NBFIs at the expense of their own deposit base. Secondly, they position themselves as underwriters of commercial paper. This market grew enormously in the eighties and nineties due to increasing demand from mutual funds for liquid short-term investments and due to the success of finance companies in selling consumer credit, mortgage loans and leasing contracts, which in turn substantially increased their funding needs.²³ Banks have become the nucleus for these new investment and financing patterns within the US financial system: D'Arista/Schlesinger (1993) report that banks had underwritten 90% of the commercial paper issued by the 15 largest finance companies during that time. Boyd/Gertler (1993) estimate that in most cases the actual fee income from underwriting exceeded the interest income that could have otherwise been generated if banks had made loans to finance companies. Thirdly, banks have intensified their advisory services vis-à-vis households, enterprises and presumably also vis-à-vis NBFIs. Allen/Gale (1997a) argue that ever more complete capital markets are accompanied by an ever higher degree of complexity. This increased complexity, however, would lead to higher participation costs for those without the necessary expertise. They conclude that, although financial markets have become more important over the last decades, they have mostly become markets for intermediaries rather than for individuals. Because of their manifold contacts to individuals and enterprises, banks would seem to be well positioned to seize a large share of this market for advisory and transaction-oriented services.

The common feature of all three examples is that they show banks to be cannibalising their traditional business. It can be assumed that they do not do so voluntarily but that they have been forced to align their business with the new competitive rules imposed by the dominance

²³ In 1980 the volume of outstanding commercial paper amounted to \$122 billion. By 1996 it had risen to \$779 billion.

of capital markets. Whereas the direct financing role of US commercial banks is thus fading, their role as providers of corporate risk management and other sophisticated financial products is growing. In view of the developments described on the previous pages the slightly modified title of a 1998 article by Raguram Rajan summarises the status quo of the US banking sector nicely: "*Traditional Banking is Dead! Long Live the Bank!*" In this sense, both camps mentioned at the beginning of this section may be right.

4.3 Banks in the UK

The remarkably similar patterns of US and UK intermediation and securitisation ratios are clearly a sign of structural similarities between the two financial systems. Both systems are traditionally characterised by high liability securitisation ratios, which implies that banks have been facing strong capital market competition on their asset side for a long time. Many more firms than in most other countries are quoted on an exchange, so much more information relevant for valuing these firms is typically externalised and thereby available to the general public. As a consequence, information asymmetries between the firms and the large group of external investors can be expected to be less significant than, for example, in Germany or Japan, and therefore thorough monitoring by banks does not lead to a comparable degree of a competitive advantage for banks.²⁴

Incentives for banks to build up close and long-term relationships with their debtor-firms are further reduced by the peculiarities of the UK insolvency code. LaPorta et al (1997) consider both the UK and the US codes to be highly debtor-oriented. Should the debtor firm become financially distressed, the chances of UK and US banks' recouping their claims are not as good as they are for German or Japanese banks. As a consequence, banks have less incentive to collect information about a firm's operations that could be used to restructure the firm if it became distressed and thereby benefit from a continuation of the business relationship.

In addition to these apparent similarities between the situation of American and British banks, there are a number of important structural differences between the two capital market-based financial systems. In contrast to the US, no large commercial paper market has emerged

²⁴ A higher degree of overall transparency caused by more stringent disclosure rules complements this effect. LaPorta et al. (1996) have rated the stringency of accounting and disclosure requirements in 49 countries on a scale from 1 to 100. The UK scores 78, the USA 71, France 69, Japan 65, and Germany only 62 points.

in the UK.²⁵ Whereas British enterprises can count on liquid stock and bond markets to meet their long-term financing needs they depend on financial intermediaries for short-term financing. And indeed, the provision of short-term funds to the enterprise sector seems to be a characteristic feature of British banks. A study conducted by the Bank for International Settlements reveals that the average maturity of bank loans is considerably shorter for British banks than for German banks and interestingly also shorter than for US banks [Borio (1995)].²⁶

A second difference concerns banks' freedom to choose among a wide variety of organisational forms and business areas. Until the end of the sixties, the British banking sector was characterised by a strict functional separation of different types of banking institutions. This was not due to formal regulatory constraints, but rather to tradition and to the existence of cartel-like groups of institutions that could control interest rates in their respective market segments and which – therefore – refrained from competing in the market segments controlled by other groups. After 1971, when the British government abolished these cartels, the banking industry witnessed a rapid intensification of competition and an erosion of traditional boundaries between institutional groups. As can be seen from the growing discrepancy between the AIRs and the LIRs in Exhibit 1 on the one hand and the respective ratios of Exhibit 5 on the other, this intensification has been mainly to the advantage of NBFIs like insurance companies and pension funds. However – and this fact does not show up in the two exhibits – British banks and building societies have succeeded in sharing in the growth of these institutions. *"This diversification of the activities of the different financial institutions...is leading to the development of financial conglomerates, or financial supermarkets. Banks are again furthest along this road, with interests in broker-dealer firms operating on the stock market, insurance companies, foreign currency dealing, unit trusts and so on."* (Buckle/Thompson, 1995, p. 52) Although the significance of traditional banking has been declining in the UK too, both the banks' initial competitive position and their repositioning strategies have been very different from their US counterparts. Early on, the

²⁵ According to the Bank of England (1993), Part 1, Table 10.1, at the end of 1993 the nominal value of all outstanding commercial paper amounted to £5.5 billion in the UK compared to \$554 billion in the US (Board of Governors, 1997).

²⁶ Bond/Harhoff/van Reenen (1997) argue that this fact may not be construed as evidence for a specialisation of British banks in bridging short-term liquidity constraints as discussed by Kashyap/Rajan/Stein (1999). Bond et al. find a high correlation between an average firm's cash flow and its investments and conclude that the availability of internal funds often constitutes a binding restriction for seizing investment opportunities. This must apply even more to short-term credit.

large City banks had specialised in short-term financing, while building societies (included in the banking sector in our study) dominated the mortgage market. Having been at the core of the newly formed financial conglomerates, banks have been able to secure a strong influence on the growing markets for services offered by NBFIs.

The third major difference between the US and the UK financial systems lies in the significance of NBFIs in general and of some specific types in particular. British NBFIs are involved in a large portion of financial transactions and relationships that in the US are covered by securities traded on organised capital markets. The National Accounts for the two countries reveal that investment funds – and in particular money market funds – have become the second most important group of NBFIs in the US whereas they play only a very minor role in the UK, whose NBFIs sector is dominated by life assurance companies and pension funds. Typically, household claims on life assurance companies and pension funds are not securitised in the UK, whereas a great portion of the assets of these two types of institutions are composed of securities.²⁷ As a consequence, British banks compete on their liability side much more with NBFIs than with capital markets. Because they have positioned themselves at the centre of many financial conglomerates, they are presumably able to curb the degree of competition to some extent and to seize more control on the intermediation process than US banks.

Viewed together, these three structural differences lead us to the conclusion that traditional banking in the UK is not declining in importance to the same extent as can be observed in the US. Some anecdotal evidence for this assessment is provided by the recent success of the British bank, Lloyds TSB. By focusing strongly on its retail business, Lloyds TSB achieved the highest market capitalisation of all European banks in early 1999 [Euromoney (1999), p. 35]. We conjecture that the accentuation of historically existing functional principles has led to a stabilisation of a specific type of financial system which features market mechanisms as core elements but – in marked contrast to the US system – allows for the participation of financial intermediaries in most financial transactions. As financial intermediaries, British banks – which are at the same time the centres of financial conglomerates – specialise in specific functions, i.e. the provision of short-term loans to enterprises and of mortgage loans to households, with considerable success.

²⁷ This asymmetry explains the considerable discrepancy between the general ASR and the general LSR and in particular the discrepancy between the ASR of households and the LSR of enterprises in the UK.

4.4 Banks in France

As in the three previous sections, we start the discussion by reviewing the empirical results on intermediation and securitisation ratios presented in chapter 3. The French ratios changed in the course of the late eighties and early nineties to a much greater extent than those of any other of the other four countries. . Irrespective of the specific definition of the relevant nonfinancial sector and the balance sheet side in question, securitisation ratios have increased and intermediation ratios have decreased dramatically. This shows that direct financial transactions have grown much faster than intermediated transactions. This is only the case in France. The French ratios depict a system in the process of transformation: capital markets are clearly gaining in importance at the expense of banks. In the following paragraphs we briefly illustrate why it would nevertheless be wrong to interpret these developments as unambiguous indications of a transition of the French system from a clearly bank-based to a clearly market-based financial system.

The first question which needs to be addressed is whether the French financial system of the mid-to-late seventies really was a bank-based financial system. On the one hand, capital markets were not developed to the same extent as in Britain or the US, the scope of available financial instruments was very narrow and indirect financial relationships dominated. On the other hand, loans which were subsidised and directed by the French government accounted for 42% of total loans outstanding in 1975 [de Boissieu (1990)]. Furthermore, the French financial system and the banking sector in particular were affected by "overdetermination", that is, policy-makers were influencing interest rates and, through credit ceilings, both the volume and the allocation of credit [de Boissieu (1990)]. In addition to the omnipresence of the state, which manifested itself most clearly in the sheer size of the flows of funds in the so-called *circuit du trésor* [Faugère/Voisin (1994)], the availability of bank loans to small and medium enterprises marked another traditional major difference between the French and the German financial system. Whereas the German Hausbank principle had always applied primarily to the relationship between banks and this this group of customers, French banks concentrated on providing finance to large (often public) enterprises. Furthermore, French banks traditionally preferred to make short-term commercial loans [Henrot/Levy-Lang (1990), p. 96], which can be interpreted as a lack of willingness or even capacity to enter into close and long lasting creditor-debtor relationships. As a consequence of this approach and as a way for small firms to circumvent credit rationing, a market for back-to-back operations emerged in the sixties [de Boissieu (1990), p. 4]. On this "market" (large) firms with financial

surpluses "sold" liquidity in the form of trade credit to (small) firms having to cope with a structural lack of liquidity.²⁸ These factors suggest that in spite of the important role of banks, the French financial system of the 1970s differed greatly from the prototype of a bank-based financial system.

The inefficiency of this system and its high costs for the state were two of the reasons why the French government promoted the establishment and the "professionalisation" of organised capital markets in the 1980s. Another reason was the need to establish institutional, legal and demand-side foundations for the planned privatisation of large public enterprises and for the financing of the rising budget deficit. In the course of the reforms that took place in this era, the banking industry was deregulated [Berglöf (1996)], and capital markets and institutions associated with them flourished in the early eighties. For example, open-ended funds, which had only been introduced in 1979, grew rapidly to a considerable size. By 1987 they were managing portfolios totalling FRF 160 billion, more than the combined volume under the management of the corresponding British, German, Italian and Benelux institutions [Henrot/Levy-Lang (1990), p. 94].

Another factor that had negative implications for traditional banking business in France was the de-indexation of wages and salaries in 1982. This measure decreased the aggregate saving ratio and increased the availability of internal funds for enterprises. In his study of the balance sheet structure of French banks between 1980 and 1993, Plihon (1995) finds that the fraction of total liabilities collected in the form of deposits from non-banks had fallen from 73% to 35%, while the fraction of funding through securities had increased almost tenfold from 6% to 56%. On the asset side, the fraction of loans to nonbanks shrank from 84% to 55% during the same period. As in the US, however, these figures probably overstate the true decline in significance of the institution "bank" in France. In this context, De Boissieu (1990) and Bertero (1994) point out that banks own and manage most of the investment funds in France and are thus still the predominant players in the capital markets. Also, the business of underwriting corporate bonds is under the almost exclusive control of banks. Banks control the distribution channels and have built up the necessary reputation among financial officers of the enterprise sector.

In light of the critical profit situation of the French banking sector in the early nineties, however, Schmidt/Hackethal/Tyrell (1999) conclude that the changes in the competitive

²⁸ See Bertero (1994) and Hancké/Cieply (1996).

landscape proved too challenging for many banking institutions. In contrast to the other four countries, the local banks in France had not, prior to the reforms, developed the core capacities of providing liquidity insurance and credit monitoring.

If one looked only at banks and capital markets, one could argue that in the early nineties the French financial system was in the middle of a transition from a bank-based and state-dominated system to an Anglo-American-style capital market-based system. However, many other elements of the French financial system, such as the malfunctioning system of corporate control and the extensive pay-as-you-go pension system, seemed to be totally at odds with a prototypical capital-market system, and these elements did not appear to be undergoing a transformation. This suggests that the system as a whole was inconsistent and thus in a state of imbalance during most of the 1990s. Whether the impetus toward a UK-style system will prevail or whether retrogressive forces will re-establish a system characterised by a stronger role of banks and the state is a question that remains to be addressed by future research.

Although the forces of change captured by intermediation and securitisation rates seem to be greater in France than in the four other countries covered in our study, there is at least one important aspect in which the results for France corroborate a general assessment for which the sections on the patterns of change in the other observed financial systems laid the groundwork. In their developments over time, all five financial systems seem to be characterised by path dependencies. The way in which structures change as a reaction to internal and external forces, and the extent to which they change, depend on the given starting point. Because these starting points were very different for the US systems as compared to at least three out of the four other systems, the largely indisputable conjectures concerning the decline of US commercial banking cannot be generalised to other financial systems.

5 Summary

In this article we use the conceptual framework of intermediation and securitisation ratios to answer empirically the question of whether and how the financing structures of five of the world's largest financial systems changed between 1980 and 1998. As the title indicates, the analysis focuses on the five banking sectors and on the US banking sector in particular. One of our main results is that the financial systems differed to a great extent in the early eighties, with clear analogies between the German and the Japanese systems on the one side and between the US and the UK systems on the other side. A second important result, which may be much more surprising, is that the financial structures of the two basic types appear not to

have converged since 1980. Rather, the data even indicate an increase in the structural differences. In the two traditionally bank-based systems, Germany and Japan, the role of banks as financiers of small and medium enterprises has been accentuated. Banks have compensated for losses of market share with respect to deposits by providing a broader variety of investment products to households and by maintaining control over flourishing nonbank financial intermediaries that specialise in collecting household funds and investing them in capital markets and with banks. In the two capital market-based financial systems, the UK and the US, market mechanisms have become more and more significant, and in the case of the American financial system, this seems to be at the expense of traditional banking. However, as financial markets become increasingly complete, they are also becoming increasingly complex, raising the level of demand for advisory services, sophisticated tailor-made financial instruments, and complementary risk management services. Thus at least in the case of the US, banks have found ways to compensate for the decline in their importance as providers of traditional banking services by playing an increasingly important ancillary role within the expanding capital market system.

The reaction of banks as institutions to global trends in their market environment has thus differed from country to country in the five financial systems under consideration. Intensifying competition within all five financial sectors seems to be accentuating those fundamental functional principles that are idiosyncratic to the respective financial system [see Hackethal/Schmidt (2000)] and emphasising those specific roles of banks that fit the respective principles. Hence, the growing pressure for efficiency does not seem to increase the pressure for convergence toward a single superior type of financial system but apparently implies a more clear-cut differentiation of financial system architectures.

Based on their theoretical model of the development and dissemination of financial innovations Boot/Thakor (1996) reach a similar conclusion: In bank-based financial systems the functions of information collection, risk allocation, financing and monitoring are performed well by banks, so that the demand for financial innovations and for the respective markets is relatively low. In market-based financial systems with functionally specialised financial institutions, on the other hand, rapid financial innovation and ever more sophisticated financial markets would complement and reinforce each other. For precisely this reason, Boot and Thakor do not expect financial systems of different types to converge. Rather, path dependencies and pressure to improve efficiency tends to lead to more differentiation.

This perspective allows for a new interpretation of the French developments of the last twenty years, which in a different context is also advocated by Rajan (1996). French regulators and politicians possibly sought to combine the strengths of a bank-based and a capital market-based financial system but neglected a necessary condition for a properly functioning system, namely that its elements have to be compatible. As this condition still does not seem to be satisfied, the present French financial system may be characterised as a "middle-of-the-road system" which in its present form may be relatively inefficient and not yet stable. It may well continue its transition to an Anglo-Saxon system, or it could remain exceptional or even revert to its old features of the early 1980s. Its developments certainly pose an interesting topic for future research concerning general patterns of financial system development.

As a consequence of the prevailing characteristics of the five financial systems which can be deduced from intermediation and securitisation ratios, one has to be very careful when attempting to generalise from one financial system to the others. It would seem to be particularly dangerous to try to predict what will happen to German and Japanese banking institutions in the coming years by drawing conclusions from recent developments in the US banking industry. In an international comparison, the American banks are quite unique: disregarding the exceptional case of France, US banks are unique in the extent to which they have lost ground. On the other hand, the empirical evidence presented in this paper suggests that US banks are historically less unique relative to domestic nonbank financial intermediaries and capital markets – and this may be the reason for their relative decline.

References

- ALLEN, F./GALE, D. (1997): Financial Markets, Intermediaries and Intertemporal Smoothing, in: *Journal of Political Economy*, Vol. 105, 523-546
- ALLEN, F./GALE, D. (1997a): Innovation in Financial Services, Relationships and Risk Sharing, Working Paper No. 97-26, The Wharton School, University of Pennsylvania
- BANK OF ENGLAND (1993): *Statistical Abstract*, London
- BECKETTI, S./MORRIS, C.S. (1992): Are Bank Loans Still Special?, in: *Federal Reserve Bank of Kansas Economic Review*, Vol. 77, No.3, 71-84
- BERGER, A.N./KASHYAP, A.K./SCALISE, J.M. (1995): The Transformation of the US Banking Industry: What a Long, Strange Trip It's Been, in: *Brookings Papers on Economic Activity*, Vol. 1, 55-218
- BERGER, A.N./UDELL, G.F. (1996): Universal Banking and the Future of Small Business Lending, in: A. Saunders/I. Walter (eds.): *Universal Banking*, Chicago: Irwin, 558-627
- BERGLÖF, E. (1996): Corporate Governance, in: B. Steill (ed.): *The European Equity Markets*, London: Royal Institute of International Affairs, 5th chapter, 147-184
- BERLIN, M./MESTER, L. (1996): Why is the Banking Sector Shrinking?, Working Paper No. 96-18, Federal Reserve Bank of Philadelphia
- BERTERO, E. (1994): The Banking System, Financial Markets and Capital Structure: Some new Evidence from France, in: *Oxford Review of Economic Policy*, Vol. 10, 68-78
- BLOMMESTEIN, H.J. (1995): Structural Changes in Financial Markets: An Overview of Trends and Prospects, in: OECD (ed.): *The New Financial Landscape*, Paris, 9-47
- BOARD OF GOVERNORS (1997): *Flow of Funds Accounts of the United States*, in: *Coded Tables, Z.1 Release and Monthly Domestic Nonfinancial Debt*, Board of Governors of the Federal Reserve System (ed.), Washington, D.C.
- BOND, S./HARHOFF, D./VAN REENEN, J. (1997): Investment, R&D, and Financial Constraints in Britain and Germany, unpublished manuscript, University College London und Institute for Fiscal Studies, London
- BOOT, A.W./THAKOR, A.V. (1996): Banking Structure and Financial Innovation, in: A. Saunders/I. Walter (eds.): *Universal Banking*, Chicago: Irwin, 420-430
- BORIO, C.E.V. (1995): The Structure of Credit to the Non-Government Sector and the Transmission Mechanism of Monetary Policy: A Cross-Country Comparison, in: *Bank for*

- International Settlements (ed.): Financial Structure and the Monetary Policy Transmission Mechanism, Basle, March 1995, 59-105
- BOYD, J.H. (1998): Testimony of John H. Boyd, The Committee on Banking and Financial Services, US House of Representatives, 105th Congress, 29. April, electronic version: <http://www.house.gov/banking/42998boy.htm>
- BOYD, J.H./GERTLER, M. (1993): US Commercial Banking: Trends, Cycles, and Policy, in: O. Blanchard/S. Fischer (eds.): National Bureau of Economic Research Macroeconomics Review, 319-368
- BOYD, J.H./GERTLER, M. (1995): Are Banks Dead? Or Are the Reports Greatly Exaggerated?, NBER Working Paper No. 5045
- BUCKLE, M./THOMPSON, J. (1995): The UK Financial System, 2nd edition, Manchester: Manchester University Press
- CALOMIRIS, C.W. (1997): On the Convergence of US Banks to International Norms in Corporate Banking, unpublished manuscript, 15th International Seminar on the New Institutional Economics, Wallerfangen/Germany, June
- D'ARISTA, J.W./SCHLESINGER, T. (1993): The Parallel Banking System, Briefing Paper, Washington, D.C.: Economic Policy Institute
- DE BOISSIEU, C. (1990): Recent Developments in the French Financial System: An Overview, in: C. de Boissieu (ed.): Banking in France, London: Routledge, 1-25
- DEUTSCHE BUNDESBANK (1998): Jahresabschlüsse westdeutscher Unternehmen - vergleichbarer Kreis 1987-1996, Special Statistical Publication
- DEUTSCHE BUNDESBANK (1998b): Structural Changes in the German Capital Market in the Run-Up to European Monetary Union, Monthly Report April, 55-69
- DEUTSCHE BUNDESBANK (1995): Ergebnisse der gesamtwirtschaftlichen Finanzierungsrechnung für Deutschland 1990-1994, Special Statistical Publication 4
- DEUTSCHE BUNDESBANK (1992): Längerfristige Entwicklung der Finanzierungsstrukturen westdeutscher Unternehmen, Monthly Report October, 25-39
- DIAMOND, D. (1984): Financial Intermediation and Delegated Monitoring, in: Review of Economic Studies, Vol. 51, 393-414
- DIAMOND, D./DYBVIK, P.H. (1983): Bank Runs, Deposit Insurance, and Liquidity, in: Journal of Political Economy, Vol. 91, 401-419

- EDWARDS, F.R. (1996): *The New Finance – Regulation & Financial Stability*, Washington, D.C.: The AEI Press
- EDWARDS, F.R./MISHKIN, F.S. (1995): *The Decline of Traditional Banking: Implications for Financial Stability and Regulatory Policy*, in: *Economic Policy Review*, Federal Reserve Bank of New York, Vol. 1, July, 27-45
- ETTIN, E. (1995): *The Evolution of the North American Banking System*, in: OECD (ed.): *The New Financial Landscape*, Paris, 181-229
- EUROMONEY (1999): *Bank Boards: How to Influence People and Win Business*, May, 34-35
- FAMA, E. (1985): *What's Different About Banks*, in: *Journal of Monetary Economics*, Vol. 15, 29-40
- FAUGERE, J.-P./VOISIN, C. (1994): *Le Système Financier Français: Crises et Mutations*, 2nd Edition, Paris: Nathan
- FREIXAS, X./ROCHET, J.-C. (1997): *Microeconomics of Banking*, Cambridge, Mass.: MIT Press
- GORTON, G.B./ROSEN, R. (1995): *Corporate Control, Portfolio Choice, and the Decline of Banking*, in: *Journal of Finance*, Vol. 50, 1377-1420
- GREENBAUM, S.I./THAKOR, A.V. (1995): *Contemporary Financial Intermediation*, Fort Worth et al.: The Dryden Press
- HACKETHAL, A. (2000): *Banken, Unternehmensfinanzierung und Finanzsysteme*, Dissertation Frankfurt a.M., Frankfurt et al.: Peter Lang
- HACKETHAL, A./SCHMIDT, R.H. (2000): *Komplementarität und Finanzsysteme*, in: *Kredit und Kapital*, Beiheft 15, *Neue finanzielle Arrangements: Märkte im Umbruch*
- HANCKÉ, R./CIEPLY, S. (1996): *Bridging the Gap for Small Firms – the Role of Information Flows Across Large Firm-Based Production Networks in Supplying Finance to Small Firms: The Case of France*, WZB Discussion Paper, Berlin
- HAYASAKI, Y. (1995): *Structural Changes in Japanese Financial Markets: Trends and Prospects in Banking*, in: OECD (ed.): *The New Financial Landscape*, Paris, 231-252
- HENROT, F./LEVY-LANG, A. (1990): *Markets and Products in the Banking Sector*, in: C. de Boissieu (ed.): *Banking in France*, London: Routledge, 80-101
- HOSHI, T. (1996): *Back to the Future: Universal Banking in Japan*, in: A. Saunders/I. Walter (eds.): *Universal Banking*, Chicago: Irwin, 205-244

- JAMES, C. (1987): Some Evidence on the Uniqueness of Bank Loans, in: *Journal of Financial Economics*, Vol. 19, 217-235
- KASHYAP, A.K./RAJAN, R.G./STEIN, J.C. (1999): Banks as Liquidity Providers: An Explanation for the Co-Existence of Lending and Deposit-Taking, unpublished manuscript, University of Chicago, NBER and MIT Sloan School of Management
- LAPORTA, R./LOPEZ-DE-SILANES, F./SHLEIFER, A./VISHNY, R. (1997): Legal Determinants of External Finance, in: *Journal of Finance*, Vol. 52, 1131-1150
- LAPORTA, R./LOPEZ-DE-SILANES, F./SHLEIFER, A./VISHNY, R.W. (1996): Law and Finance, NBER Working Paper No. 5661
- LEWIS, M.K. (1991): Theory and Practice of the Banking Firm, in: C. Green/D.T. Llewellyn (eds.): *Survey of Monetary Economics*, Vol. 2, London: Blackwell Press
- LITAN, R.E./RAUCH, J. (1998): *American Finance for the 21st Century*, Washington, D.C.: The Brookings Institution
- MEGGINSON, W.L. (1997): *Corporate Finance Theory*, Reading, Mass.: Addison-Wesley
- MILLER, G.P. (1998): On the Obsolescence of Commercial Banking, in: *Journal of Institutional and Theoretical Economics*, Vol. 154, 61-73
- MYERS, S.C./RAJAN, R.G. (1998): The Paradox of Liquidity, in: *Quarterly Journal of Economics*, Vol. 113, 733-771
- OECD (1994): *Bank Profitability 1982-1992*, Paris
- OECD (1996): *Bank Profitability 1984-1994*, Paris
- PLIHON, D. (1995): L'Evolution de L'Intermédiation Bancaire (1950-1993), in: *Bulletin de la Banque de France*, No. 21, 131-158
- RAJAN, R. G. (1998): The Bank is Dead! Long Live the Bank!, in: *Financial Times* (ed.): *Mastering Finance*, London: FT Publishing, 371-379
- RAJAN, R.G. (1996): The Entry of Commercial Banks into the Securities Business, in: A. Saunders/I. Walter (eds.): *Universal Banking*, Chicago: Irwin, 282-302
- RYBCZYNSKI, T. (1984): Industrial Financial Systems in Europe, US and Japan, in: *Journal of Economic Behaviour and Organization*, Vol. 5, 275-286
- SCHMIDT, R.H./HACKETHAL, A./TYRELL, M. (1999): Disintermediation and the Role of Banks in Europe: An International Comparison, in: *Journal of Financial Intermediation*, Vol. 8, 36-67

Appendix 1: Sector Definitions

	Germany	France	Japan
Data Source	Gesamtwirtschaftliche Finanzierungsrechnung, Deutsche Bundesbank	Tableaux d'Opérations Financières (TOF), Banque de France	Flow of Funds in Japan, Bank of Japan
Period Covered	1982-1998	1981-1996	1960-1997
Nonfinancial Enterprises	corporate business, public enterprises, noncorporate business, professionals, nonprofit organisations (<i>Private Kapitalgesellschaften, öffentliche Unternehmen, Personengesellschaften, Selbständige, Organi. ohne Erwerbszweck</i>)	corporate business and public enterprises (<i>autres sociétés et quasi sociétés non financières, grandes entreprises nationales</i>)	corporate business
Households	households (<i>Privatpersonen</i>)	households and noncorporate business (<i>ménages, Entreprises individuelles, administrations privées</i>)	households, noncorporate business, nonprofit organisations
Public Sector	local, state and federal governments, social security system (<i>Öffentliche Haushalte, Sozialversicherungen und deren Anstalten und Einrichtungen</i>)	local and central governments (<i>état, organismes divers d'administration centrale et locale</i>)	local and central governments, public corporations
Banks	central bank, banks, savings institutions, credit unions, specialised credit institutions (<i>Bundesbank, Kreditbanken, Sparkassen, Kreditgenossenschaften, Realkreditinstitute, Kreditinstitute mit Sonderaufgaben, Postbank</i>)	central bank, private and public banks, savings institutions, specialised credit institutions (<i>Banque de France, Banques, Caisses d'Epargne et Caisse des Dépôts et Consignations, autres Etablissements de Crédit et assimilés</i>)	central bank, banks, specialised credit institutions, postal savings, trust fund bureau, government financial institutions
NBFIs	insurance companies, pension funds, investment funds, building societies (<i>Versicherungen, Pensionskassen, Investmentfonds und Bausparkassen</i>)	insurance companies, pension funds, investm. funds, social security system (<i>entreprises d'assurance, O.P.C.V.M., administration de sécurité sociales</i>)	insurance companies, securities companies, trusts, investment trusts
	UK	USA	
Data Source	United Kingdom National Accounts (the Blue Book), Central Statistical Office	Flow of Funds Accounts of the United States, Federal Reserve System	
Period Covered	1982-1995	1960-1998	
Nonfinancial Enterprises	Industrial and Commercial Corporations	nonfarm nonfinancial corporate business, nonfarm noncorporate business, farm business	
Households	households, noncorporate business, nonprofit organisations	households, nonprofit organisations	
Public Sector	central government, local authorities, public corporations, national savings bank	federal government, state and local government	
Banks	Bank of England, institutions authorised to take deposits, discount houses, building societies	federal reserve system, commercial banks, bank holding companies, foreign banking offices in US, savings institutions, credit unions, bank personal trusts and estates	
NBFIs	insurance and insurance holding companies, pension funds, investment trusts, credit unions, bank holding companies., factoring-/finance leasing companies, money market brokers, nonbank credit companies, unit trusts, security dealers, venture capital companies, special finance agencies	insurance companies, pension funds, mutual and closed-end funds, finance companies, government sponsored enterprises, federally related mortgage pools, issuers of asset-backed securities, real estate investment trusts, security brokers and dealers, funding corporations	