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Intermediation, integration and internationalisation: a survey on banking in Europe

Jaap Bikker and Sandra Wesseling [1]

Abstract

This paper provides a survey on recent developments in the European banking industry. Traditional banking activities have contracted in relative terms, but banks remain the predominant players in the euro area financial system. Economic and monetary integration in the eu has strongly encouraged internationalisation and concentration. The share of foreign assets and liabilities on eu banks' balance sheets is still modest but rising sharply. So far, mergers and acquisitions have mainly been of a domestic nature. Information technology has changed banks' production, products and markets, whereas the Internet may radically change the way banks interact with customers. All these phenomena have strong effects on concentration, competition and efficiency. Finally, the question is addressed whether the observed consolidation and increased competition may have impaired financial stability.

JEL codes: f36, g14, g15, g21, g34;
Keywords: banking, (dis)intermediation, integration, internationalisation, informational technology, the Internet, mergers and acquisitions, revenues, competition and financial stability trade-off;

1 Introduction

The banking world is in a state of flux. Advances in information and financial technologies are transforming banking practices and products, institutional and regulatory conditions are changing and shocks from the economic and financial environment are bearing on banks. Information technology has contributed to the internationalisation of the money and capital markets, to the development of new risk management techniques and to the introduction of a spate of new complex financial products. Furthermore, the Internet has created a world of new challenges and threats in banking services and sales potential. The second banking directive in the eu, the establishment of emu and its new single currency have radically transformed institutional conditions in Europe. Likewise, the Riegle-Neal Act of 1994 and the gradual repeal of the 1933 Glass-Steagall Act have drastically changed the banking landscape in the us. Shortly, Basel ii, a new worldwide regulatory capital requirement regime for banks, will come into force, changing regulatory conditions (see Box 1). Regional crises in Asia (1998), Russia (1999) and Argentina (2002), the near collapse of the Long-Term Capital Management (ltcm) Fund (1998), the bursting of the Internet bubble and the nearly unprecedented fall in share prices (2000–03), and the recent worldwide decline in economic growth have created an unfavourable and volatile economic environment with many threats to banks. Together with continuing disintermediation and increase of international competition, this implies a multitude of challenges to the banks.

This paper presents a brief survey of the current position and characteristics of the European banking industry, the environment in which it operates and its current and recent development, and discusses banking policy and related issues set to become important in the near future. Given the differences between the banking industries in Europe and the us, it is often elucidating to compare them. Therefore, the survey occasionally and indirectly covers the us and other non-European countries as well. Where possible, data have been collected for 2001 and five or ten preceding years.

The many developments and changes in the banking market mentioned above raise a number of policy issues. The most important ones (mainly following Belaisch, *et al.*, 2001) are:

(1) Is there such a thing as a common European type of bank or are differences across countries dominant? If the latter, will there be such a European bank in the future? Will it look more like us banks than today? What causes the differences between countries (differences in institutional and economic conditions, culture, language, etc.)?

Box 1 The new Capital Accord 'Basel ii'

The Basel Committee (bc) seeks to promote the financial soundness of individual banks, and thereby to serve the stability of the financial system.[2] At the same time, the Committee aims to establish a 'level playing field' for banks operating in international markets. To this end, the bc drafted a Capital Accord, which was signed in 1988 by the banking supervisors of the g10 countries and detailed minimum capital requirements for large internationally active banks. The provisions of the Accord have in the meantime been implemented in over 100 countries, improving the capitalisation of banks the world over. Today, however, the existing Accord, known as Basel I, has become outdated. The risk classes used to weight the assets in order to determine banks' capital requirements have come to be regarded as being too broad, while the old Accord also lacks possibilities to take account of risk-mitigating instruments such as collateral, guarantees and hedging through forward transactions. Besides, securitisation has taken the less risky part of credits off the balance sheet, while in many cases the bank continues to carry the underlying risks. As a result, the higher-risk credits remain on the balance sheet, with the ensuing danger that the minimum capital requirements prove insufficient to maintain the soundness of less responsible banks (in less solid countries). After five years of studying, negotiating, consulting banks and testing, this autumn is expected to see the endorsement of the final text of a new Capital Accord, which will remedy the above shortcomings. A third and final round of consultations, in which banks may respond to the latest proposals, is currently under way. By end-2006, the new system of bank solvency supervision is to enter into force. The new Accord – to be referred to as 'Basel ii' – will also be reflected in new eu legislation.

The three pillars

Basel ii rests on three pillars, the first of which determines the minimum capital requirements. The claim on capital by loans will come to depend more heavily on the creditworthiness of the counterparty. Under Basel i, loans fall into one of four risk classes weighing in at 0%, 20%, 50% and 100% of their nominal value, depending on the type of debtor.[3] The claim on capital is 8% of the assets thus weighted. Under Basel ii, there will be more risk classes, and banks will be given the choice of three weighting methods. Under the simplest, 'standardised' method, the distinction of credits into classes is refined and, if possible, linked to credit ratings by external rating agencies such as Moody's and Standard & Poor's. More sophisticated banks may, under strict conditions, classify credits on the basis of internal ratings-based (irb) models. Under the so-called 'fundamental' method, banks will make their own assessment of every counterparty's probability of default (pd), while under the 'advanced' approach, they also estimate the loss given default (lgd) and/or the Exposure at Default on every loan. These methods conform to market practice in that they are similar to methods used within the banks' own risk management systems and in the financial markets. At the same time, they are evolu-

tionary methods, because they will admit of further extension whenever new developments in the financial markets or in risk management should so require. Also, both the standardised and the irb methods take account of risk-mitigating instruments such as collateral, guarantees and hedging through forward transactions. Finally, methods have been developed to determine capital requirements in respect of securitisation. In addition to capital requirements for credit risk as described above, and market risks, the new Accord will also include capital requirements for operational risk such as fraud and it problems, again based on internal models.

The second pillar, that of supervisory review, requires banks to assess whether, given the specific risk profile each institution presents, their own capital suffices and would continue to suffice in the event of severe setbacks. The supervisor will then judge for every bank whether its assessment has been adequate. Also, supervisors will be given the power to impose additional capital requirements on individual banks. The third pillar, that of transparency, requires that data on risk be made public and seeks to promote market discipline. Market parties which lend money to a bank may judge for themselves whether that bank is solvent and what interest rate they wish to be paid, given the bank's risk profile.

Together, the three Pillars will serve to encourage a more adequate determination of capital requirements and to promote the financial soundness of individual banks.

Effect on banks

The new Capital Accord will have strategic consequences for the banking sector. Competition within the banking industry may be influenced. On the one hand, there are factors that may reduce competition, such as higher entry barriers, increasing uniformity in pricing through the use of models and external ratings. On the other hand, there are factors that may increase competition, such as the use of freed-up capital to capture market share. Moreover, banks could embark on the merger and acquisition path. Because of costs involved and the regulatory requirements, the most advanced capital-saving techniques will in practice only be accessible to the largest institutions, whereas the smaller institutions will use less advanced approaches with higher capital requirements. This underlines the importance of scale, which can be achieved through consolidation, thereby stimulating the existing merger and acquisition activity in the banking industry. When a large bank uses the irb approach, it may result in a substantial amount of free capital, which can be used to acquire smaller institutions. For the latter being acquired is also a way to gain access to the advanced capital-saving techniques of the acquirer (*i.e.* possibility to apply irb). Finally, the Accord could lead to changes in the activities of banks. Activities that face an increase in capital requirements, for example, exposures to small and medium-sized enterprises and activities that involve relatively high operational risk, such as asset management, specialised lending and custody, could be reduced.

(2) Does financial disintermediation endanger the profitability of the euro area universal banks or are banks flexible enough to react adequately to the decrease in traditional banking business? Will the new revenue sources continue to generate profits?
(3) How does the fact that many banks in the eu are controlled by (local) governments and hence do not come up for sale affect the reshaping of the financial system in the eu?
(4) Could the prevalence of national level consolidation (as opposed to cross-border consolidation), particularly in retail banking, hurt competition? To what extent may it undo the benefits of technological advances such as Internet banking?
(5) Will Internet banking affect bank returns in Europe?
(6) Consolidation has been rationalised as an opportunity to generate economies of scale and of scope, which may vary between retail and wholesale lines of business. Are the conditions for realising the benefits of consolidation – free access to new markets and flexible use of inputs – fulfilled in the euro area?
(7) Will increased competition and ongoing consolidation in banking constitute a threat to financial stability in the European countries?
Where possible, the observations made in this paper will be used to give the initial impetus to answering these questions.

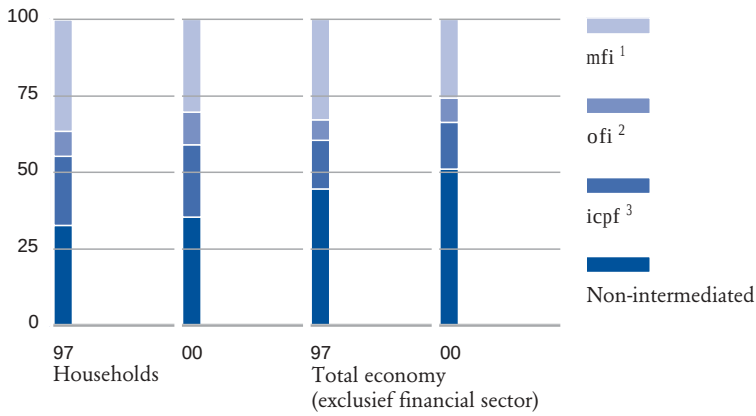
This paper is organised as follows. Section 2 discusses the role of banks within the economy and the recent development towards disintermediation. The internationalisation of the banking industry is reviewed in Section 3, while Section 4 goes into mergers and acquisitions and their causes. Section 5 deals with technological developments. Section 6 explains revenue and cost measurement of banks, which bear relationships with competitive conditions and efficiency. The following section addresses the question whether the observed consolidation and increased competition may have impaired financial stability. The final section presents a summary and conclusions.

2 Disintermediation: the role of banks within the economy

The euro area's financial system has often been described as a bank-based system, owing to the prominent role traditionally played by banks in the major economies in the euro area. The us financial system, by contrast, has long been recognised as the foremost example of a market-based system. However, non-financial sectors in the euro area are increasingly directing their savings and surplus funds away from banks towards new forms of financial intermediation, such as investment funds, insurance corporations and pension funds, as well as towards the capital markets, for investment in shares or debt instruments. Moreover, non-financial enterprises increasingly access the capital markets for their financing and, although still on a limited scale, increasingly use debt securities.

Chart 1 Distribution of financial assets between intermediated and non-intermediated instruments in the euro area

Percentage



1 mfi: Banks, investment firms and other monetary financial institutions.
2 ofi: Other ('non-bank') financial intermediaries.
3 icpf: Insurance corporations and pension funds.
Source: ecb (2002).

Financial assets owned by non-financial sectors in the euro area are split almost equally between intermediated and non-intermediated assets (see Chart 1).[4] For households, banks are still a popular place to hold financial assets: about 30% in 2000 compared to 37% in 1997. However, in recent years, households put significant amounts of financial assets into pension funds and insurance corporations as well as into investment funds. Figures indicate that the domestic sectors are gradually shifting their preferences away from keeping financial assets with banks in favour of other intermediaries and the capital markets.

Many factors have contributed to these developments. Liberalisation and the development of information technologies in the 1980s and 1990s have underpinned the development of capital markets and increased the possibilities for asset diversification. The introduction of the euro has led to a further increase in the diversification of investors' portfolios within and between asset classes, while tax regulations, for example a different fiscal treatment of non-bank investments compared to bank savings have played a role too (see Box 2 for an overview of the introduction of the euro). Given the decrease in interest rates and inflation in recent years, the decline in intermediated instruments also reflects an increased demand among investors for high-yield, though riskier, instruments compared to safer but lower-yield bank deposits. Households have also invested more in the capital markets in an attempt to benefit from the high valuation of equity in recent years: the share of (non-intermediated) invested funds in the capital markets increased from almost 33% in 1997 to 36% in 2000 (see Chart 1). The recent fall in share prices has reversed this process

somewhat. Finally, demographic trends have heightened incentives to create complementary (private) pension schemes and hence the channelling of savings into investment funds, pension funds and insurance companies.

Box 2 The introduction of the euro

The euro has clearly boosted the freedom of capital across Europe. It has enabled participants in the markets to access a much broader range of instruments, whereas investors have also gained access to a wider spectrum of investment opportunities (see Hämäläinen, 2003). The introduction of the euro has had a significant effect in accelerating integration of wholesale markets, although the degree of integration varies across different market segments.

target, the real-time gross settlement system for the euro, made possible area-wide settlement in central bank money, and improved the soundness and efficiency of cross-border payments in the euro area. It co-exists with private systems, which process large-value payments in euro to provide a competitive infrastructure for the money markets.

The new infrastructure has promoted rapid integration of money markets, particularly in the unsecured market. For example, the market for interbank deposits shows virtually complete convergence in very short-term interest rates, and convergence at somewhat longer maturities, so the 'law of one price' holds well. eonia (Euro Overnight Index Average) and euribor (Euro Inter-Bank Offer Rate) are now fully accepted price references. Also the euro area derivatives market is highly integrated, as reflected in very narrow bid-ask spreads and relatively large issue sizes.

There has also been significant further integration of securities markets in recent years. For example, the single currency has boosted the increased integration of the euro-denominated bond market. While the euro-denominated government bond market is comparable in size and issuance volume to that of the us, the private bond market in euro remains relatively underdeveloped. Nevertheless, corporate issuance in euro has risen in the period since the introduction of the euro: the market share of private issuance is now about half of total issuance (more than quadrupling since 1998), average maturities have lengthened, and issue sizes have increased with tranches above eur 1 billion now commonplace.

In addition to the consolidation of stock exchanges (*e.g.* the creation of Euronext, which merged the Amsterdam, Brussels and Paris exchanges in mid-2000, and has since been enlarged with the Portuguese exchanges and the London derivatives exchange, liffe), the integration of eu equity markets is also visible in a change in perspective by investors. Professional investors have to some degree disbanded their country desks and reorganised their operations on a euro area- or eu-wide basis, focusing more on sectoral investment. Empirical evidence on equity price movements increasingly confirms this shift to a more sectoral focus within a pan-eu investment strategy.

Table 1 Capital and bank markets indicators

	Stock market capitalisation, as % of gdp	Debt securities,[1] as % of gdp	Bank loans, as % of gdp	Capital raised on stock markets, as % of gdp	Bank loans, as % of total assets of banks	gdp at 1995 market prices (eur billions)
2001						
eu	87	51	135	1.2[2]	42	7,616
emu	72	49	130	1.1[2]	44	6,111
of which: uk	152	69	204	2.0	36	1,020
us	140	38	17	1.1	16	6,911
Japan	94	7	29	0.4	19	4,345
1996						
eu	51	17	117	4.5[3]	50	6,693
emu	35	14	104	4.9[3]	46	5,384
of which: uk	143	29	208	2.6	68	891
us	108	6	11	2.7	18	5,860
Japan	118	4	21	0.4	15	4,185

1 Outstanding amounts.
2 2000 instead of 2001.
3 1997 instead of 1996.

Sources: Eurostat, ecb Working Group on Banking Development and oecd Bank profitability.

In the eu, non-intermediated liabilities of the non-financial sectors, such as stock market capitalisation and debt securities, have become just as important in size as intermediated ones, such as bank loans, especially for non-financial enterprises, whereas non-intermediated liabilities are far more important in Japan and the us (see Table 1). For the non-financial enterprises, there has also been a gradual shift in the eu from bank financing to capital market financing, now that the euro capital markets are more transparent, deeper and more liquid than their predecessors. Particularly in 2001, the value of debt securities issued has been high due to Universal Mobile Telecommunication System (umts) auctions. Of the two forms of capital market financing, bond financing and equity financing, the former has been gradually gaining importance in the major eu countries, from 75% on average in 1996 to 86% on average in 2001 (see Table 2). Nevertheless, on the bank balance sheets in the euro area, loans to resident non-banks still constitute the most important asset class and this classical bank intermediation activity remains highly significant (see Table 1). This is different in Japan and the us, where loans take minor positions on bank balance sheets. Yet bank loans as a percentage of gross domestic product (gdp) are still increasing substantially in most countries and regions, in the eu from 117%

in 1996 to 135% in 2001 (see Table 1). An exception is the uk where the high bank loan-to-gdp ratio fell somewhat over time. However, for the eu, the share of loans in total liabilities of non-financial enterprises diminished between 1995 and 2000, from, on average, 39% in 1995 to 28% in 2000 (see Table 3). In 2001, less capital was raised on stock markets than in 1996, probably due to the mood on these markets, which was much more buoyant in 1996 than in 2001 (see Table 1).

Apart from heavier reliance on capital market financing, figures also indicate heavier reliance on *international* capital markets. This can be seen in Table 4, which also shows wide differences from one country to another, with percentages ranging from 12% in Italy and Denmark via 62% in the Netherlands to 75% in Ireland, leaving aside the special case of Luxembourg (see Box 3 for on overview of differences between countries).

A driving force behind the growth of debt securities issuance has been the merger and acquisition activity, accounted for notably by the telecom sector. On the stock market, the privatisation policies in several euro area countries played a role (telecom sector and other utilities). However, the issue of corporate bonds was generally restricted to very large companies that have been closely involved in the wave of mergers and acquisitions. Bank loans remain an important instrument for non-financial firms' funding, because the bulk of euro area corporations experience difficulties accessing debt securities and equity markets for funding. As the euro area

Table 2 Funds raised in the capital market by non-financial enterprises [1]
usd billions

	International bonds and notes by nationality of issuer, net issues				Announced international equity issues by nationality of issuer			
	1996		2001		1996		2001	
France	15.7	(67.7)	96.0	(83.0)	7.5	(32.3)	19.6	(17.0)
Germany	87.0	(90.9)	246.5	(97.7)	8.7	(9.1)	5.9	(2.3)
Italy	6.6	(59.5)	75.1	(92.9)	4.5	(40.5)	5.7	(7.1)
Netherlands	27.3	(80.3)	46.1	(83.4)	6.7	(19.7)	9.2	(16.6)
Spain	8.0	(80.8)	35.0	(93.3)	1.9	(19.2)	2.5	(6.7)
Sweden	5.5	(67.1)	8.8	(80.7)	2.7	(32.9)	2.1	(19.3)
uk	36.4	(80.2)	86.1	(73.7)	9.0	(19.8)	30.8	(26.3)
Total (average)	*186.5*	*(75.2)*	*593.6*	*(86.4)*	*41.0*	*(24.8)*	*75.8*	*(13.6)*
us	138.5	(94.3)	622.1	(96.3)	8.4	(5.7)	23.9	(3.7)

1 In parentheses: % of total capital market financing.
Source: bis.

Table 3 Liabilities of non-financial enterprises [1]

Percentage

	Securities as share of loans and securities		Share of loans in total liabilities	
	1995	2000	1995	2000
Austria	6.1	9.5	74.9	69.3
Belgium	13.8	17.3	35.9	30.0
Denmark	10.5	4.8	47.1	41.8
Finland	8.6	12.5	30.8	14.7
France	20.3	25.7	27.5	14.1
Germany	6.4	4.0	42.5	37.3
Italy	4.0	2.5	54.4	43.3
Netherlands	5.4	11.4	37.8	31.2
Portugal	14.2	12.8	27.7	32.7
Spain	9.7	5.3	37.5	32.3
Sweden	5.1	12.0	40.2	29.9
EU average [2]	*9.9*	*10.6*	*38.6*	*28.2*

Source: Eurostat (Newcronos).

1 Figures for Greece, Ireland, Luxembourg and the uk were not available.

2 For these eleven countries.

Box 3 Differences between countries

The banking industries in different European countries show important differences. Focusing on only a few indicators, *e.g.* capacity and concentration, the following observations can be made (see Groeneveld, 1999). Indicators of capacity in the banking industry are, for example, the number of inhabitants per bank branch and per employee (see Table 8, main text). On the one hand, countries like Germany Belgium, Austria, Luxembourg, Spain and Portugal, and to a lesser extent Italy, have ample capacity. On the other hand, the banking industries in countries like the uk, the Netherlands and the Scandinavian countries operate under much lower levels of distribution capacity, which in the latter case reflect extensive rationalisation operations following the wave of bank failures in the early 1990s. The figures for the Dutch banking sector are influenced by large bank (and insurance) mergers in the late 1980s and early 1990s.

Indicators of concentration within the banking industry are the market shares of the five largest banks in the whole banking sector for total assets, deposits and loans (CR_5; see Table 7, main text). Looking at all eu countries, there are major dif-

ferences in concentration. Highly concentrated banking industries exist in the Scandinavian countries, the Netherlands and Belgium, compared to much lower figures for the uk, Italy, France and Germany. It appears that on average the larger countries exhibit lower concentration ratios than the smaller countries. There is more room for viable banks in countries with bigger populations. A notable exception is Luxembourg.

economy is dominated by small and medium-sized enterprises (smes), traditional bank loans, trade credits and non-listed shares as well as other equity tend to be primary sources of financing rather than market-based financing, such as publicly listed shares and corporate debt issuance (see ecb, 2002). Moreover, despite a gradual shift towards more transaction or deal-based banking, the relationship between banks and their corporate customers continues to be very important in all eu countries. The continued importance of bank loans might also be explained by the increasing use of syndicated loans, where a number of intermediaries provide funds under pre-specified conditions, giving firms faster and generally easier access to funds than traditional bank loans.

Table 4 International debt securities: outstanding amounts

Per cent of total debt securities

	1996	2001
Austria	31	41
Belgium	6	15
Denmark	10	12
Finland	39	38
France	14	28
Germany	7	30
Greece	17	23
Ireland	48	76
Italy	4	12
Luxembourg	96	100
Netherlands	49	62
Portugal	15	28
Spain	8	17
Sweden	27	36
uk	31	45
EU average	*27*	*37*

Source: bis.

All in all it seems that while the importance of traditional banking activities (collecting deposits and granting loans on a retail basis) has diminished in relative terms, banks still remain the predominant players in the euro area financial system. Banks administer many of the investment funds, are part of the holding companies along with insurance groups and are major participants on the securities markets. This has been accompanied by a restructuring process and a reorientation of activities from traditional bank lending towards investment banking-style activities such as enhancing financial market intermediation by creating and selling new capital market products or advising clients on the pricing and structuring of a merger or acquisition. This is in turn reflected in a shift in bank revenue flows from interest income to non-interest income such as fees, commission and profit on trading activities (see also Section 6). Hence most euro area companies remain by and large dependent on banks to finance their activities. In this respect it has to be taken into account that banks in the euro area have expanded their role to encompass more market-oriented types of intermediation. Through advising on and managing initial public offerings (ipos) and the issue of debt securities by corporations, it would seem that an important part of the financing of euro area companies remains in the hands of financial intermediaries.

The observations made in this section provide some information regarding the policy questions mentioned above. Firstly, we address question (1) 'Is there a common European type of bank?' There is indeed evidence in the European banking market of tendencies, which reflect a shift towards greater similarity. Examples of such trends are disintermediation (on both the assets and the liabilities side of banks' balance sheets), a single currency, an increase in scale, rationalisation and internationalisation (preceded, some years ago, by integration in the eu and deregulation in the Member States; see Box 4 for an overview of financial integration in the eu). The same trends have also been observed in the us, resulting in reduced differences between European and us banks. On the other hand, typical differences between European and us banks have remained. As the euro area economy is dominated by smes, traditional bank loans and bank services continue to be the primary sources of finance. Also, different institutional and economic conditions, preferences, cultures and languages constitute impediments to further European integration. As a result, many differences persist, both between eu and us banks as well as among European banks, as is also illustrated by the different figures for these regions and countries as presented in this section. All in all, the answer to question 1, 'Is there a common European type of bank?' is 'Not yet' and to the question, 'Will it look more like us banks than is currently the case?', the answer is 'Yes, it will'.

With respect to question 2, 'Does financial disintermediation endanger profitability?', the analyses in this section indicate a negative answer. The gradually waning share of bank mediation in financing is more than offset by the ongoing increase in total firm financing (as a share of gdp), so that the bank loan business continues to grow. Besides, banks have expanded their non-traditional bank activities, which has resulted in a substantial increase in the share of non-interest income (see below). Probably, during the current recession, not all new revenue sources will continue to generate the kind of profits seen in recent years.

Box 4 European financial integration

The eu financial markets have been in the process of institutional integration for many years. This integration has evolved around Directives of the European Commission. Most legal barriers to cross-border capital flows have been removed. Moreover, the eu has adopted a policy of mutual recognition for financial services, whereby Member States have agreed to allow financial intermediaries from other states to operate under home country rules and supervision. A consequence of this is the European passport for banks, see below. The following measures have been important in establishing a free European financial market.[5] The 1985 White Paper sought complete liberalisation of capital movements. The Single European Act, adopted in 1986, amending the Treaties establishing the eec, set a target date of December 31, 1992 for the ec to create complete free movement of goods, persons, services and capital. The liberalisation of the capital movements by eec Member States was an essential part of the Delors Report (1989). It put forward a three-stage plan preparing for the Economic and Monetary Union (emu) and was confirmed by the 1991 Maastricht Treaty. The first stage entailed the liberalisation of financial markets and the enlargement of the membership of the exchange rate mechanism (erm). The second stage established the European Monetary Institute, which initially operated alongside the national monetary authorities. The third stage involved the irrevocable fixing of exchange rates among national currencies eligible to join the third stage of emu. The final piece of the monetary integration was the introduction of the transferable single currency in 1999 and the circulating euro as of 2002.

In parallel to the efforts towards European economic integration, specific instruments were adopted for deregulation, focused on the financial and banking sector, including the first and second banking Directives of 1979 and 1993. The implementation of the second banking directive created the internal European market for banking services. It introduced the so-called European passport for banks, which means that banks, on the basis of a single licence in a European country, can offer their services in other Member States, either through cross-border servicing or through the establishment of branches. Moreover, the Financial Services Action Plan (fsap), which was ratified in 1999, identified a number of areas where action was needed to complete financial integration in Europe. The fsap formulates 42 new laws in the areas of financial law, regulation and supervision, and taxation. It is designed to achieve the completion of a single European wholesale market and the development of open and secure retail markets for financial services in 2005.

3 Internationalisation

The steady development towards integrated European financial markets has made the banking sector more international. Banks are increasingly involved in offering financial services to foreign businesses and individuals. Although internationalisation has long been the trend, it has been fostered by the introduction of the euro, *e.g.* the merging of the infrastructures for large-value payments and interbank markets as well as the increasing integration of capital markets. The introduction of the euro has further intensified competition in an already highly competitive environment for financial institutions. The most visible response of financial intermediaries to these pressures has been consolidation through either mergers and acquisitions or cross-shareholdings. Other ways to internationalise are the development of foreign banking through the direct provision of financial services and through foreign branches. Foreign branches and subsidiaries can result from international takeovers or from 'greenfield' investments, for instance in new activities or in new regions. However, the volume of international mergers and acquisitions (m&as) has been fairly modest compared to domestic m&as. As we will see in Section 4, domestic m&a transactions accounted for 78% of the total transaction value in 1990-2001. There are significant differences in national legal and regulatory environments, which hinder cross-border mergers. Cultural factors and differences in the framework for corporate governance also tend to discourage cross-border consolidation.

The degree of internationalisation of the banking industry can be measured in three different ways: 1) through the foreign ownership of banks, 2) through the external positions of banks, and 3) through the origin of bank income. These measures will be elaborated in the following sub-sections.

3.1 *Foreign ownership of banks*

Summary information on the extent of foreign ownership of banks in the eu is provided in Table 5. The weighted average of the combined market share of foreign branches and subsidiaries amounts to 16% in terms of banking assets for the euro area countries at end-2001 (13% in 1997). This average masks enormous differences across countries. The asset share of foreign banks is almost 95% in Luxembourg compared to around 50% in Ireland and the uk and 25% in Belgium, while it is negligible in some other European countries. The data also indicate that foreign banks in the eu countries are predominantly subsidiaries of banks in European Economic Area (eea) countries, followed by branches from the eea and subsidiaries from third countries. The uk is an exception: the share of branches of foreign banking groups is significantly higher than the share of subsidiaries, irrespective of the regions of origin. This may be due to the fact that the wholesale and investment banking business being conducted in a financial centre like London could immediately benefit from the rating assigned to the parent company.[6] From the perspective of the expansion

Table 5 Share of foreign banks

Per cent of total assets of domestic banks

	From eea countries				From third countries				Total	
	Branches		Subsidiaries		Branches		Subsidiaries			
	1997	2001	1997	2001	1997	2001	1997	2001	1997	2001
Austria	0.7	0.8	1.7	18.2	0	0	0	0.5	2.4	19.5
Belgium	8.5	3.8	14.1	18.8	6.1	0.6	1.6	1.6	30.4	24.8
Denmark	4.5	4.2	0.1	12.5	0	0	0	0	4.6	16.8
Finland	7.8	5.7	0	0	0	0	0	0	7.8	5.7
France	2.8	3.2	4.7	7.8	1.9	0.6	4.7	7.8	14.1	19.3
Germany	0.9	1.5	1.4	1.8	0.7	0.6	1.2	0.9	4.3	4.7
Greece	9	6	2.1	8.2	6.8	5	0.8	0.6	18.8	19.8
Ireland	n.a.[2]	11	27.8	27.9	1	0.2	7.1	9.3	n.a.	48.5
Italy	3.5	5.6	1.9	1.1	1.4	1	0.1	0.1	7	7.8
Luxembourg	19.2	18.2	64.3	69.3	1.4	1	7.6	5.4	92.5	93.8
Netherlands	2.1	2.2	2.8	7.6	0.5	0.2	1.8	1.3	7.2	11.3
Portugal	3.9	4.2	5.8	12.1	0.2	0.2	0.9	0.9	10.7	17.5
Spain	4.9	4.1	4.1	4	1.6	0.2	1.9	1.2	12.5	9.5
Sweden	1.4	n.a.	0	n.a.	0.1	n.a.	0.2	0	1.7	n.a.
uk	n.a.	23.7	n.a.	1.2	n.a.	20.9	n.a.	5.2	n.a.	51.1
EU [1]	*2.5*	*8.4*	*4.5*	*6.8*	*1.1*	*5.4*	*1.7*	*3.2*	*9.8*	*23.8*
EMU [1]	*3.2*	*3.7*	*6.0*	*8.6*	*1.4*	*0.6*	*2.3*	*2.8*	*13.0*	*15.7*

1 Weighted average.
2 N.a. means not available.

Source: ecb or authorities represented in the ecb's Banking Supervision Committee.

of European banks outside Europe, there seems to be a strong tendency in the recent past to expand into Central and Eastern Europe to anticipate the economic development in these regions and into Latin America, mainly by Spanish banks. Moreover, some important acquisitions have also been made in the us to benefit from its large market.

For banks planning to enter a new market, there are several considerations to take into account in selecting the appropriate mode, *i.e.* a branch or a subsidiary, the latter being a separate legal entity. Foreign bank branches often concentrate on corporate finance services, trading activities and private banking rather than retail activities. Branches are commonly used by parent banks to support the activities of home-country clients operating abroad. Retail businesses are much more difficult to enter. Domestic banks enjoy substantial competitive advantages, because of their wide-

spread branch distribution networks. Moreover, the branch mode is often used to operate in a leading financial centre. The regulatory environment, however, is also a major factor in determining the organisational form of the development of cross-border banking activities. The preference for a branch or a subsidiary may furthermore be linked to differences in national regulation, *e.g.* deposit guarantee schemes, tax reasons, restrictions on the foreign ownership of banks, restrictions on the activities of foreign branches, capital use optimisation. Thus, the most effective way of gaining access to the retail sector has been to merge with or acquire an existing local bank. A significant number of such operations has indeed taken place over the past three years, as is described in Section 4 on m&as. This might be the strongest available indicator that integration is progressing.

3.2 *External positions of banks*

Further evidence on the internationalisation of banking can be derived from balance sheet data, which reflect the volume of direct cross-border provision of financial services. Table 6 presents separate data on the external assets (loans and the ownership of foreign marketable securities, such as government and corporate bonds) and external liabilities (deposits, bonds and other marketable short-term securities) of national banking systems. These data indicate that the international deposits and liabilities held by non-banks at European banks are rather significant in the eu 17% and 16% of gdp respectively in 2001, a substantial increase since 1996, while these figures are much lower for the us and Japan. Internationalisation on the assets side of bank balance sheets has taken place in tandem with the internationalisation of financial markets and businesses and can also be explained by the integration of the European money market and the increased issuance activity in the corporate debt market, especially by the telecom sector. On the liabilities side, the increased external positions of banks reflects changes in motives by households for maintaining bank balances abroad, for example, the evasion of domestic income and wealth taxation.

3.3 *Origin of bank income*

The existence of significant cross-border activity by financial institutions can be confirmed by the geographical breakdown of the revenues of financial institutions. Van der Zwet (2003) investigated the largest fifty banks and insurance company groups and pointed to significant international diversification. The largest financial groups appear to focus equally on home and foreign markets. Insurance companies seem to have a more explicit foreign bias (earnings in foreign countries being, on average, 65% of their revenues) than banks (earnings from their home country being 61% of their revenues). From this study, it also appeared that European financial groups are

Table 6 External positions of banks in individual countries

Percentage of gdp

	Loans to foreign non-banks		Deposits of foreign non-banks	
	1996	2001	1996	2001
Austria	6.8	15.8	5.0	5.3
Belgium	12.2	20.5	24.2	43.1
Denmark	7.3	8.8	4.3	5.9
Finland	1.4	9.8	0.5	1.9
France	4.7	7.1	3.7	5.1
Germany	5.5	17.5	7.5	17.6
Ireland	35.4	58.7	25.3	35.3
Italy	3.1	2.5	1.3	1.5
Luxembourg	608.1	580.3	939.2	687.1
Netherlands	8.4	12.9	14.1	23.9
Portugal [1]	2.1	6.9	7.2	9.5
Spain	2.9	4.1	7.5	19.3
Sweden	3.7	6.0	3.0	4.8
uk	24.0	34.2	31.2	34.0
EU-15	*8.5*	*15.7*	*10.9*	*16.9*
EU-15 (EUR billions)	*775.6*	*1244.4*	*989.9*	*1345.1*
Switzerland	18.6	29.7	83.0	125.1
Norway	2.9	3.2	1.5	2.1
us	1.4	1.7	1.0	1.6
Canada	1.4	1.6	6.0	4.4
Japan	3.1	5.5	0.4	0.8

[1] 1997 figures instead of 1996.
Source: bis.

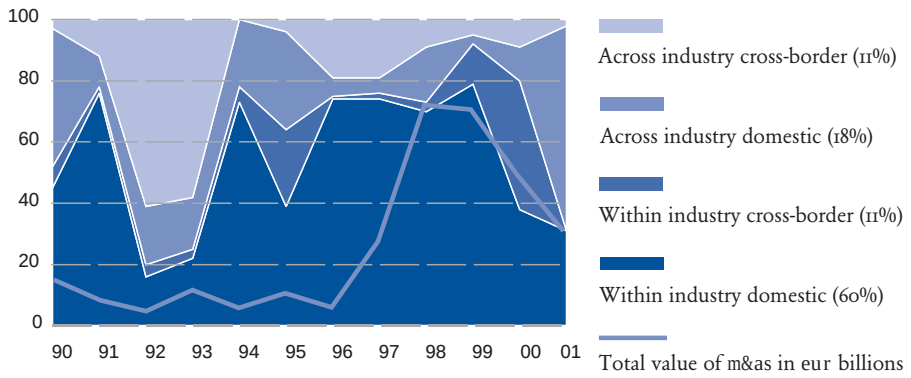
more strongly internationally diversified than financial groups from the us, which may be due to the internal market in Europe for financial services. This method points to significant international diversification among the largest financial institutions.

4 Mergers and acquisitions

As was mentioned above, the intensified competition on the financial markets on which banks operate, has given further inducement towards consolidation, *e.g.* through mergers and acquisitions (see Box 5 for an overview of the arguments behind m&as). Data on bank mergers in the euro area, including mergers between banks and non-banks (insurance companies and securities firms), are presented in Chart 2. The data show that m&a activity increased significantly in 1998-2001 compared to the beginning of the 90s. Also, average transaction size sharply increased, suggesting that large banks became increasingly involved in the merger activity, compared to a dominance of mergers between smaller institutions at the beginning of the 1990s. A clear majority of m&a transactions has occurred with other banks. However, financial conglomerates involving banks, insurance companies and securities firms have also been created (see Box 6). During 1990-2001, 30% of the total m&a value was due to cross-sector transactions, in the euro area most prominent in Belgium, Germany, Finland, Ireland and the Netherlands. Domestic mergers continue to dominate international mergers. In the period 1990-2001, domestic transactions accounted for 78% of the total transaction value and 60% within the banking sector.

The relatively modest volume of international mergers could indicate that domestic banking mergers are apparently more advantageous than international mergers. Individual European economies are rather heterogeneous, implying that purely domestic banking mergers offer ample opportunity for asset risk diversification. Domestic mergers will thus be preferred to international mergers, as they avoid the problems related to the mixing of different cultures and languages, while the prospect of increased market power is still offered. Moreover, as we have seen, differences in national regulation, in terms of, for instance, deposit insurance systems,

Chart 2 Value of m&as involving banks in the euro area



Source: Cabral *et al.* (2002).

Box 5 Motives for mergers and acquisitions

A large literature has reviewed the various motives for bank mergers and acquisitions (m&as), see *e.g.* MacKay (1998) and Berger *et al.* (1999). Theoretically, the decision to merge two banks (or to acquire one in a takeover) stems from the desire to increase the wealth of the shareholders of both firms (or of the acquiring firm). Agency conflicts between shareholders and managers might lead to cases where m&as are prompted by the interest of the managers. Following Groeneveld (1999), we identify two main types of reasons for m&as: input and output efficiencies.

Input efficiencies

In official press releases, cost considerations are frequently mentioned as the main argument for m&as. Input efficiency improvement is achieved when production factors are employed more efficiently. Various kinds of efficiencies reflect that there are different approaches to using input for the same production (see also Dermine, 1999).

The first is cost-based economies of scale. Scale efficiency can be achieved by reducing average cost per unit of output through expanding single lines of business. Empirical research generally reveals a U-shaped average cost function, where the bottom of the U indicates the optimum bank size. Recently, this optimum size has increased, which is explained by the large it investment required for, among other things, the use of the Internet for (retail) sales purposes.

The second is cost-based economies of scope. Combined production of bank services is less costly than separate production. This is the main driver behind those mergers and takeovers, which establish universal banks where all kinds of bank services are produced simultaneously. The argument also holds for cross-sector mergers of banks and insurers, where combined services can be offered at lower cost or new integrated products may be developed. Revenues of banks may also be higher when banks sell a large range of services. This would be the case if consumers value one-stop shopping and are prepared to pay a certain mark-up on the prices of competitors, offering a smaller range of services.

Cost x-efficiency, that is the managerial ability to decide on input and output in order to minimise cost, is also a common argument for takeovers. Besides cost x-efficiency, also profit x-efficiency can be distinguished, that is the managerial ability to decide on input and output in order to maximise revenues. Obtaining improvement of x-efficiency through m&as is far from obvious: the larger the (financial) institutions, the harder it is to manage. Gains are possible where high-efficiency banks with strong management purchase low-efficiency banks with weak management.

In general, empirical studies rarely find significant scale economy effects or improvement of x-efficiency (for an overview, see Dermine, 1999). An exception is Berger *et al.* (1999) who focus on the takeovers of banks with weak management, where indeed x-efficiency is achieved. Also when domestic banks with dense

branch networks merge, substantial cost savings could well be obtained by closing branches (Rhoades, 1998).

Output economies

Other reasons behind m&as are related to the desire to achieve efficiency gains on the output side of the bank production process. Output arguments are based on strategic considerations.

A first example of output economies is risk diversification. Combination of different bank activities or activities on varying markets or in diverging sectors reduces credit and other risks and makes profits less volatile. This is a main driver behind the establishment of cross-sector financial conglomerates. Geographical diversification is a possible driver behind cross-country mergers.

A second type of output economies is market power. Large banks are more capable of achieving a dominant market position, which enables them to abuse market power by reducing competition and raising prices. This argument might be particularly valid for banks in smaller markets, such as in smaller countries, but also for retail banks in rural areas or for specialised banks. Many studies have sought to reveal the impact of market concentration on interest rate margins on deposits and loans (see Bos, 2002, and Bikker and Haaf, 2002 a, b). Strengthening the position on the home market can also be seen as a necessary precondition for creating a financial base for a possible future expansion abroad.

Achieving a large size may act as a defence against hostile takeovers: eat so as not to be eaten. In most us mergers, large banks buy smaller ones, and this is also typical of Europe. This is probably a drive behind many mergers. In particular, it has been cited in a few cases of large domestic mergers in France as a defence against foreign takeovers, which would hurt national pride.

Large size combined with large capital enables banks to underwrite large loans or securities issues, which has a positive impact on the demand for this type of services. Increased size enables banks also to improve their brand recognition at lower cost. The brand might be a potential key source of competitive advantage in the near future when consumers of financial services will be shopping on the Internet. For certain types of bank activities, size is a *sine qua non*.

When banks become very large, the possibility increases that they may be considered by the public authorities as being too big to fail. Such status provides a certain degree of protection and while it may lower funding costs, it also contributes to the acceptance by counterparties of larger positions.

A final, but not negligible, argument for mergers is to boost prestige for top-ranking management. To accomplish a large merger or acquisition or to be in charge of a large (merged) conglomerate can be seen as a personal achievement, even when the merger or takeover does not contribute to the wealth of shareholders.

tax systems and specific restrictions on banking activities, discourage cross-border consolidation.

Table 7 provides concentration indices (the share of the five largest banks per country, CR_5; see Bikker and Haaf, 2002 a) of total assets, lending and deposits for 1996 and 2001. An increase in concentration is found in almost all eu countries. This reflects the ongoing process of further consolidation in Europe, particularly in the

Table 7 Concentration indices (CR_5) based on total assets, lending and deposits

	Total assets		Loans		Deposits	
	1996	2001	1996	2001	1996	2001
Austria	55	66	51	60	56	68
Belgium	67	90	70	91	67	89
Denmark	77	84	78	83	79	84
Finland	96	93	95	94	98	93
France	45	45	46	42	49	44
Germany	25	37	24	33	21	33
Greece	87	84	85	83	88	85
Ireland	59	65	64	69	61	65
Italy	36	46	37	45	39	47
Luxembourg	29	39	35	46	28	38
Netherlands	81	88	80	86	81	93
Portugal	53	76	52	75	54	79
Spain	57	60	54	56	57	57
Sweden	63	76	62	73	84	87
uk	33	41	38	47	36	44
EU region	*10*	*12*	*9*	*11*	*11*	*11*
EMU region	*12*	*16*	*12*	*15*	*13*	*14*
EU average	*58*	*66*	*58*	*66*	*60*	*67*
ROW average [1]	*57*	*61*	*55*	*59*	*61*	*64*
Norway	63	64	60	62	69	68
Switzerland	74	76	66	59	76	77
Australia	68	77	67	77	74	83
Canada	79	86	75	85	78	85
Japan	40	40	43	39	48	41
us	18	24	18	31	21	30

Source: Fitch-ibca.
1 Rest of World.

Box 6 Financial conglomerates

One of the major recent developments in the market for financial services is the combination of banks and insurance firms into financial conglomerates (fcs). In the past, many countries pursued a policy of prohibiting concentration of power in (unduly) large financial groups. However, many of these restrictions have been lifted in the light of, or in anticipation of, liberalisation and deregulation of financial markets, international financial and economic integration (particularly in the eu), increased competition from non-banks and the blurring of sectoral borders. Since the early 1990s, banks and insurance companies in the Netherlands have been allowed to merge, which has resulted in several large fcs, most prominently ing and Fortis. In 1999, the Glass-Steagall Act was repealed, which had for a long time prevented firms from combining banking and insurance activities in the us, and in the runup to this rescission procedure, the Citigroup-Traveller combination was formed. Similar large financial groups have also emerged in other countries (*e.g.* Dresdner-Allianz and Credit Suisse-Winterthur), albeit in more limited numbers. Besides, in many countries a number of smaller or even small fcs were established. Whereas many banks in Europe have combined banking and securities activities for many years, such institutions, now that they are no longer banned, are new to the us. In the us, the term fc is used to refer to such institutions as well.

fcs are usually created through mergers between banks and insurers or through acquisition. There are many incentives for such cross-sector mergers. Life insurance firms often have vast funds available for investment and seek favourable investment opportunities, whereas banks may see promising investment opportunities but have insufficient resources at their disposal. Also encouraging cross-sector mergers is the possibility to use each other's selling channels. For instance, bank branches may sell insurance products, while insurance agents can sell bank products. The scope effect, or integration of banking and insurance services into new single products, provides another stimulus. A final reason is diversification of risk and hence of both profits and solvency. Of course, all the standard arguments in favour of mergers also apply (see Box 5).

Owing to their size, the larger fcs are of major importance for financial stability. This is specially true in the Netherlands, where fcs take a central position in the financial landscape, handling, in 2000, 91% of overall banking activities, 73% of insurance transactions and 57% of securities transactions (see table B.1). The size of fcs prompts the question whether these conglomerates are more or less stable than their constituent parts. This could be the case when typical bank and insurance shocks are for the greater part uncorrelated or – even better – negatively correlated, so that diversification takes place.[7] If, on the other hand, contagion risk plays a major role, *e.g.* if both components are threatened with loss of reputation should problems arise in one of the constituent parts, financial stability would suffer from these cross-sector mergers. Closely related to this is the too-

big-to-fail issue: is moral hazard risk greater for large financial groups? When constituent parts of fcs expect support from other subsidiaries should they run into serious problems, they may engage in riskier behaviour otherwise, again causing moral hazard risk. Regulatory arbitrage is also an additional risk in fcs. A crucial question is how these extra risks of fcs compare to the diversification effect: is the net effect positive or negative?

Table B.1 Volume of fcs and shares of banking activities in the Netherlands (2000)

	Total assets in eur billions	Share of banks in %
Rabobank Holding	597.4	94.5
ing Holding	577.6	73.1
abn amro Bank Holding	563.4	98.8
Fortis Netherlands [1]	192.6	73.1
Aegon Netherlands nv	96.5	13.6
sns Reaal Holding	88.4	75.6
Achmea Holding nv	82.9	36.9
Delta Lloyd Nuts Ohra bv	50.0	6.1
Zwolse Algemeene nv	11.7	2.9
Levob Insurances bv	4.5	24.7
Robein Life nv	1.9	13.9
Total conglomerates	2,266.7	79.4

[1] The headquarters of Fortis are nowadays in Belgium.

For supervisory purposes, banks and insurance firms in an fc remain legal entities, which have to satisfy the same supervisory requirements as stand-alone banks and insurance firms. The minimum capital requirements are based on the so-called simple-sum-plus approach,[8] where the simple sum of separate minimum capital requirements for banks and insurance firms is assumed to be adequate for the fc. Of course, the various types of additional risk in fcs mentioned above are tied in with the question of whether this assumption of adequacy applies.

larger countries where consolidation was lagging behind. Figures do not deviate much across the object of measurement: total assets, lending and deposits. The conclusion that concentration is progressing also holds for the entire eu. For such a large region, concentration is still low, reflecting the limited cross-border consolidation in Europe, but it is rising. Concentration in the euro area is substantially lower than in the us, in part due to the fact that the euro area is a larger region. This goes all the

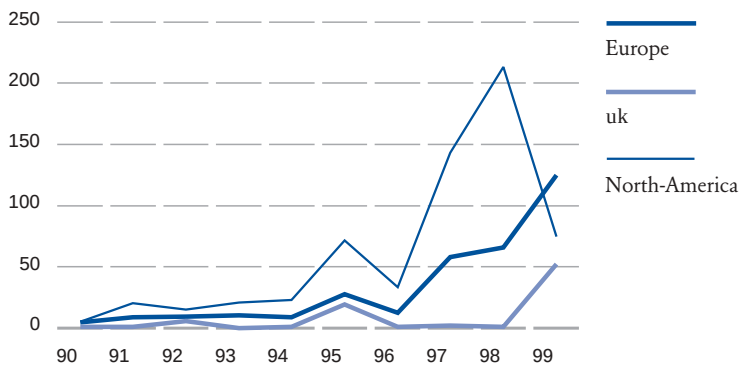
more for the entire eu where the CR_5s are lower. The process of concentration in the us is moving at an even higher pace than in Europe, both for individual countries and for the entire eu. Apparently, the institutional changes in both regions, mentioned above, are effective. In some non-emu countries, such as Japan, Norway and Switzerland, there was almost no consolidation during 1996-2001, whereas in others, like Australia and Canada, concentration increased markedly.

For long, consolidation has been a continuing process, moving in waves: years of fewer mergers were followed by years of increased activity. Institutional and other changes may have triggered such waves, which were then often reinforced by herd behaviour. Chart 3 provides figures on consolidation during the last decade. The wave behaviour is evident: a strong rise in 1995, a fall in 1996 and an overwhelming rise in 1997, to an unprecedented level, which persisted into the following years.

Herd behaviour is often observed in connection with mergers and acquisitions. Apparently, bank managers are quick to follow competing banks in their merge step, probably for fear of choosing the wrong strategy, due to general uncertainty about future bank market developments. The fact that merge waves in Europe and the us have been fairly similar reflects this herd behaviour, see Chart 3. These regions recorded the same high merge levels in 1995 and 1997-99, and the rise or fall in levels of mergers in both regions is similar in most years considered. Except for 1999, the value involved in the us has nearly always been much higher than in Europe, roughly twice as high. As also appeared from the concentration ratios, us consolidation leads that of Europe. The role of the rest of the world - not shown in the chart - is minor, even decreasing over time.

Consolidation can lead to very large financial institutions. Tables A.1-3 in the appendix present the 20 largest firms in 2001, 1996 and 1991, respectively, ranged by

Chart 3 Total value of bank mergers by country of origin of acquiring firm
usd billions



Source: Thomson Financial sdc Platinum and Group of Ten (2001).

shareholder value and expressed in usd. In 2001, the shareholder value of the largest banks was twice as high as in 1996 and 3.2 times higher than in 1991. For the balance sheet figures, growth rates were 77% and 155%. These growth rates far exceed the nominal growth of the real economy, as us gdp in 2001 was 31% up on 1996, and 71% up on 1991. Moreover, gdp growth expressed in usd over the decade was less than 20% in Japan and only just above zero in Europe (*e.g.* 3% in Germany). Hence it appears that the process of consolidation and the higher growth rates of financial values compared to real economic values have been the major forces behind the expanded size of the large banks.

Another issue worth noting is the shift in countries dominating the ranking list. Where Japanese banks occupied all four top positions in 1991, they gradually fell back over time, in line with the depressing real economic developments in Japan. This is nevertheless remarkable in the light of the large-scale mergers, which have taken place in Japan in order to rescue institutions in distress. us banks show an impressive advance over time: in 1991 only one us bank just made the top 20, but in 1996 the country had five banks in the sub top. In 2001 seven us banks were on the list, of which three in the top 5. In recent years, a number of us banks and investment firms amalgamated, contributing further to concentration. The presence of European banks is stable over time, with around ten banks on the chart. The large number of European banks, with fewer representatives at the top of the list, underlines the fact that during the last decade, consolidation was somewhat stronger in the us than in Europe.

The analyses in Section 3 and 4 touch upon a series of policy issues. Section 3 reveals that the share of foreign banks (branches and subsidiaries) has increased significantly in recent years, that banks attract more foreign non-bank deposits and lend more to foreign non-banks than they used to, and that a large part of their income comes from abroad. This confirms the other evidence of increasing internationalisation. Section 4 makes clear that mergers and acquisitions have been mainly domestic (which is remarkable given the observed increase in internationalisation) and, except for some years, intra-sectoral, that national concentration rates have increased over time and that very large financial institutions have thus been formed. The figures also underline (i) the differences across countries in banks' attitudes towards foreign activities and (ii) the different levels of national merger activities and bank market concentration (addressing question 1). The diverging concentration levels across European countries point to different market structures. In countries where governments own banks or exercise a strong influence on the banking market, the process of consolidation seems to have lagged substantially. This suggests that ownership by (local) governments is indeed an obstacle to reshaping the financial system (question 3). Obviously, domestic mergers which have created large banks with fairly dominant positions in national banking markets raise more concern about competition, particularly at the retail level, than do similar cross-border mergers (question 4).

5 Information technology

Well-known developments in information technology, particularly the advance of the personal computer, software, data bases and communication, has changed banks' production and products and the size of the financial markets. In this section we will focus on the Internet, which has the potential to radically change the way banks interact with their customers and to make established markets more vulnerable to new entrants (see Box 7 for an overview of Internet banking). Many banks are cautious about these developments and are opting for a multi-channel distribution strategy, combining the traditional 'bricks-and-mortar' branch network with remote distribution channels, such as telephone banking and Internet banking.

Internet banking is growing but is, with the exception of the Nordic countries, still relatively unimportant. It is most successful in securities trading and other standardised transaction-based services, such as savings deposits and mortgage loans. Very few pure Internet banks actually exist in Europe. The lack of an established brand name and security concerns seem to be important hindrances. Moreover, major parts of the public are hardly approachable through the Internet. In practice, Internet banking facilities have been integrated into the existing distribution network. Some banks have chosen to pursue a stand-alone venture, for example to break into foreign markets by offering products at very competitive prices.[9] Transaction costs using new distribution channels like the Internet are substantially lower than operating branches, which means that banks will have an incentive to develop these channels further.

The branch network remains an important asset for European banks, in line with the multi-channel strategy and despite the ongoing consolidation process and the expansion of alternative distribution channels. This preference may also explain why branch networks are not decreasing as significantly as one would perhaps expect on the basis of banks' investment in information technology. Another reason is that some banking transactions require face-to-face interaction between client and banker, while, in general, banks also aim for a certain geographic coverage of their branch network. Table 8 shows that in the eu the numbers of inhabitants per bank branch and per bank employee slowly increased over 1997–2001, albeit with substantial differences across countries. Apart from the advent of new distribution networks, important factors behind the development of delivery channels have been the wave of mergers and acquisitions, and an increased focus on profitability and cost management. In that respect, the multi-channel strategy with the branch network as an important cornerstone clearly implies certain risks for the future.

Box 7 Internet banking

Parallel to the development of the Internet, electronic banking has swiftly developed in Europe. Following the lead of American and Nordic banks, virtually all major European banking groups have developed this distribution channel. However, only a few pure Internet banks have been set up in Europe. Figures for the American market show that pure Internet banks have 5% of the online banking market, whereas 1% of Internet banking clients consider the pure Internet bank as their primary bank. Internet banking is most successful in securities trading and other standardised transaction-based services, such as savings deposits and mortgage loans.

Several features of Internet banking make it an attractive distribution channel. Transaction costs using the Internet are substantially lower than using branches, which means that banks will have an incentive to develop these channels further. Costs can be lower because Internet banks operate without a branch network. If the Internet banks transfer this advantage to their clients through higher deposit compensation or lower interest rates on loans than traditional banks, which we see in practice, the consumer will also have some benefit. These competitive tariffs are also a means for the Internet banks to acquire and keep clients. An important aspect is that the clients of Internet banks are in general not very loyal and tend to easily switch from bank to bank. This also implies that Internet banks face difficulties in realising cross-selling of other banking or non-banking products.

As noted above, very few pure Internet banks actually exist in Europe. Most of the banks choose the so-called 'brick and click' strategy, and use Internet as one of the many distribution channels. The lack of an established brand name and security concerns seem to be important hindrances. Moreover, major sections of the public are hardly approachable through the Internet. Some banking activities, especially where advice is given, require face-to-face interaction between client and banker. Finally, starting Internet banks face large initial investment in information technology, marketing and acquisition. Together with the competitive tariffs it might take some time before the cost savings outweigh such high investment. In practice, Internet banking facilities have been integrated into the existing distribution network. Some banks have chosen to pursue a stand-alone venture, for example to break into foreign markets by offering products at very competitive prices.[10]

Table 8 Numbers of inhabitants per bank branch and per bank employee

	Numbers of inhabitants per bank branch		Numbers of inhabitants per bank employee	
	1997	2001	1997	2001
Austria	1,721	1,781	107	109
Belgium	1,385	1,664	133	135
Denmark	2,319	2,251	110	110
Finland	3,978	4,282 [1]	196	206 [1]
France	2,289	2,266	141	142 [2]
Germany	1,299	1,524	102	102
Greece	4,188	3,560	185	177
Ireland	3,131	3,800 [1]	100 [2]	110 [1]
Italy	2,278	1,976	166	168 [1]
Luxembourg	1,349	1,471 [1]	22	18
Netherlands	2,302	3,057	140	126
Portugal	2,098	1,450	154	183
Spain	1,035	1,028	153	154
Sweden	3,134	4,141 [2]	205	205 [2]
uk	3,615	4,206 [1]	130	134 [1]
EMU[3]	*1,664*	*1,719*	*134*	*135*
EU[3]	*1,850*	*1,933*	*134*	*136*

1 2000.
2 1999.
3 Weighted average, possibly over different years.

Source: ecb or authorities represented in the ecb's Banking Supervision Committee.

6 Revenues, costs and competition

The net interest rate margin is an interesting measure of bank profitability, which allows comparison over time and across countries. It also reflects competitive conditions or efficiency on the banking markets, assuming that competition enforces efficiency and reduces the margin.

Table 9 presents for all eu countries the net interest rate margin for two recent years, 1997 and 2001, and averages over two recent periods, 1994-1997 and 1998-2001. Two general trends stand out. First, margins in many countries fell over time. The same is apparent from the eu averages, which also reflect the downward trend in the margins. This indicates growing competition, as is commonly assumed to be the case in the eu.[11] Secondly, the level of the margin differs considerably across eu countries. Especially the Southern European countries Italy, Greece, Spain and Portugal all face

Table 9 Net interest rate margins

Per cent

	1997	2001	average 94-97	average 98-01
Austria	1.5	1.5	1.6	1.7
Belgium	1.5	1.0	1.6	1.3
Denmark	2.0	1.4	2.2	1.6
Finland	2.6	1.8	2.2	2.0
France	1.3	0.9	1.6	1.1
Germany	1.5	0.8	1.7	1.1
Greece	2.6	2.5	2.1	2.6
Ireland	2.1	1.6	2.8	1.7
Italy	2.7	2.2	3.1	2.3
Luxembourg	0.7	0.6	0.8	0.7
Netherlands	1.7	1.5	1.9	1.6
Portugal	2.6	1.9	3.0	2.3
Spain	2.8	3.0	2.9	2.9
Sweden	1.5	1.4	1.9	1.4
uk	1.7	1.3	2.1	1.6
EU average	*1.9*	*1.6*	*2.1*	*1.7*
us	2.7	2.3	2.7	2.3
Japan	1.1	0.9	1.1	1.3

Source: Fitch-ibca.

high margins, of around 2.5%, although in Italy and Portugal the margins have declined over time. Finland, recovering from a banking crisis, and Ireland, dealing with high inflation and high economic growth, also had high margins in earlier years. Margins fell to relatively low levels in Belgium, France and Germany, whereas Luxembourg takes a special position as intermediary of savings escaping fiscal authorities.[12] The us, sometimes seen as the champion of liberty and competition, has margins well above those of the eu, although they, too, tend to decline over time.[13]

For long, interest income has been the major source of banks' income, see Table 10. However, this source has become less abundant over time, reflecting, among other things, the process of disintermediation described above. Other sources of income, such as fees, commissions and profit on trading, grew over time for banks of all sizes, especially in the earlier years of the 1990s. On average, in Europe, interest income was of roughly equal importance for all bank sizes in 1990 and 1996, but in 2001 other income was more important for larger banks than for smaller and medi-

Table 10 Share of net interest revenue for various bank-size classes [1]

	1990			1996			2001		
	small	medium	large	small	medium	large	small	medium	large
France	0.79	0.59	0.79	n.a.	0.58	0.42	0.58	0.67	0.19
Germany	0.86	1.64	0.97	0.81	0.85	0.85	0.77	0.84	0.79
Italy	0.76	0.78	0.71	0.78	0.70	0.69	0.76	0.65	0.60
Spain	0.86	0.87	0.88	0.81	0.79	0.74	0.75	0.75	0.70
Sweden	0.76	0.91	0.94	0.80	0.81	0.83	0.79	0.90	1.05
uk	0.71	0.79	0.75	0.63	0.52	0.51	0.63	0.59	0.53
'EU'	*0.80*	*1.05*	*0.86*	*0.63*	*0.73*	*0.60*	*0.72*	*0.73*	*0.60*
us	0.65	0.65	0.46	0.76	0.66	0.49	0.76	0.66	0.61

1 In the sum of net interest revenue and other operating income.
Explanatory notes: 'Small' refers to banks below the 75th percentile of the size distribution; 'medium' between the 75th and 95th percentile; 'large' above the 95th percentile. Percentiles are computed on total assets held in 2001. 'eu' is defined as the average of the six countries considered. Percentages higher than 100% are possible where trading losses or high expenses on commissions occur.
Source: Danthine *et al.* (1999), Table 1.7, and authors' own computations on data from Fitch-ibca.

um-sized banks, pointing, for the former, to greater specialisation in non-lending services and trading. Such specialisation of large banks was especially manifest in France and the uk. In the us, interest income was already less dominant before the review period, typifying a market-based banking system, and specialisation emerged earlier than in Europe.

Another determinant of bank profitability is operating expenses (Table 11). Expressed as a percentage of gross income, it is also often used as a proxy of competitive conditions and efficiency, although its interpretation is ambiguous (as explained in Bikker, 2001). This cost-to-income ratio is high – and hence the profit-to-income ratio low – in France, Germany, Italy and Spain, which are indeed often seen as less efficient countries (although that would imply higher profit margins), but also in the Netherlands, a country with fairly efficient banks (see Bikker, 2002). Staff expenses, the larger part of operational costs, are high in France and Italy, and highest in the Netherlands. The cost-to-income ratio is low – and profits high – in the Scandinavian and Anglo-Saxon countries. Again, Luxembourg is an outlier.

The cost-to-income ratio tends to fall over time, as is clear from the eu average, indicating lower costs compared to income. This is remarkable, particularly in the light of the falling interest rate margins, and indicates cost reduction. Indeed, the

Table 11 Operating expenses

Per cent of gross income

	1997	2001	average 94-97	average 98-01
Austria	81	60	85	70
Belgium	72	77	76	72
Denmark	65	69	70	67
Finland	69	54	93	57
France	87	77	91	79
Germany	77	94	77	85
Greece	85	73	85	65
Ireland	63	63	64	64
Italy	90	82	95	82
Luxembourg	50	59	50	55
Netherlands	78	84	78	80
Portugal	80	71	84	77
Spain	84	77	82	77
Sweden	61	55	64	59
uk	67	67	67	66
EU average	74	71	77	70
us	67	68	70	67
Japan	151	116	126	115

Source: Fitch-ibca.

staff costs ratio (not shown here) declines over time too, both in Europe and in the us, indicating rationalisation of bank production. Evidently, here we observe improved efficiency, probably the effect of increased competitive pressure. In general, interest rate margins have been earned over larger amounts of assets, with bank profit levels sustained until quite recently. The cost-to-income ratio is also low in the us. For Japan the ratio is above 100%, reflecting that income does not cover expenses, and hence that losses are being incurred.

Increased competitive pressure in the eu countries, the bursting of the internet bubble, causing, among other things, a nearly unprecedented fall in share prices with adverse effects on banking activities, and the worldwide economic downturn, have subjected the banks to a severe test. Going by the banks' profit figure, banks in most countries have firmly stood the test (see Table 12). This does not hold for Germany, where the falling profits of recent years indicate the fairly poor condition of many

of its banks. The very low German returns on assets (roa) and on equity (roe) also reflect the unsteady circumstances of its banking system, due to, among other things, government intervention and lack of consolidation. The disastrous state of the Japanese banks speaks for itself.

On average, roas in Europe remained nearly constant in the years under consideration, rising from 0.40 to 0.42. The outcome is even more favourable if Germany is disregarded. This is remarkable, given the observed decline in net interest rate margins, and reflects the increasing non-interest income from non-traditional banking activities, such as asset management, the management of stock and bond issues and trading. The differences across countries are striking too; they depend to some extent on national circumstances, such as market structure (see below), and fluctuate over time. European returns compare unfavourably with those in the us, which are at least twice as high. In part this is explained by the fact that banks in the us are subject to

Table 12 Profit before tax and returns on assets and equity

	Profit before tax (usd billions)		roa (in %)		roe (in %)	
	1996	2001	1996	2001	1996	2001
Austria	1.2	2.1	0.3	0.3	8.3	8.2
Belgium	4.5	3.6	0.3	0.4	11.2	10.1
Denmark	2.5	2.5	0.8	0.4	12.5	8.6
Finland	0.7	3.9	0.4	1.0	6.9	18.3
France	13.1	34.4	0.2	0.4	4.5	10.1
Germany	23.5	14.8	0.2	0.1	5.5	2.7
Greece	0.8	1.7	0.4	0.8	9.6	8.8
Ireland	2.1	2.9	1.1	0.6	14.4	10.2
Italy	12.1	20.7	0.3	0.5	4.0	7.7
Luxembourg	3.3	3.3	0.5	0.4	13.6	11.1
Netherlands	7.0	9.6	0.5	0.5	10.7	11.1
Portugal	1.9	2.6	0.6	0.6	11.1	12.2
Spain	11.4	14.8	0.7	0.9	11.6	12.8
Sweden	5.3	5.4	0.8	0.8	19.5	17.8
uk	35.2	38.1	0.8	0.5	16.9	10.0
EU total	*124.7*	*160.4*	*0.4*	*0.4*	*8.8*	*9.3*
us	84.5	157.2	1.0	0.9	17.0	14.4
Japan	-0.9	-44.6	-0.6	-0.4	-1.6	-6.9

Source: Fitch-ibca.

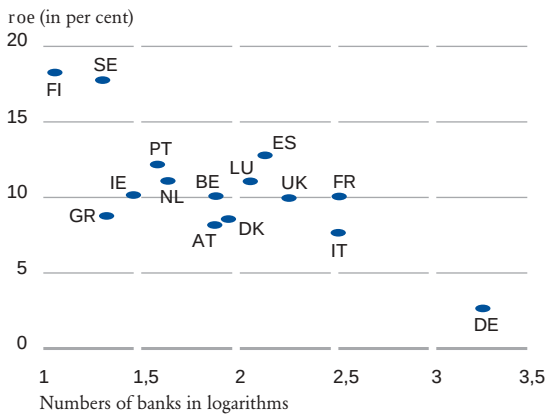
greater risk than those in Europe (among other things, due to their more expanded investment activities), which is also reflected in the lower rating of the us banks. Besides, the roes in the us are higher for all sectors. The roe figures are shown in the last two columns of Table 12. They underline the observed diverging levels across countries and the volatility over time.

Chart 4 depicts the relationship between the number of banks (proxying market structure) and roe, providing some – anecdotal – evidence in support of the well-known Structure-Performance hypothesis. The number of banks (in logarithms) accounts for more than 50% of the variation in roe, at a level of significance of no less than 99.85%, and has a similar impact on roa. Various alternative measures of the market structure, such as concentration indices, perform substantially less well in explaining roe or roa levels.

A few of the policy issues may be addressed here. Will Internet banking affect bank returns in Europe? (question 5). Obviously, Internet banking presents a challenge to some banks, offering new opportunities, and poses a threat to others. It stirs up competition, raises deposit rates, lowers the cost of payment systems and stock exchange transactions and allows the development of new services, thereby improving social well-being. On the other hand, it requires large it investment, (while traditional banks are hardly able to economise on their costly branch networks in order to allocate resources to other services, due to the multi-channel strategy), while it actually reduces the interest rate margin (as we have observed). Hence, for many traditional banks, the Internet may indeed reduce business volumes and profits.

The perceived reductions in interest rate margins and operational expenses are probably the fruits of increased competition. Banks' profitability has held its own, despite lower margins and other developments such as disintermediation and the advent of Internet banking, thanks to, most importantly, increases in volumes, cost reductions, and the shift towards profitable non-traditional bank service activities.

Chart 4 Relationship between number of banks and return on equity



A question that remains is whether the conditions for realising the benefits of consolidation – free access to new markets and flexible use of inputs – are fulfilled in the euro area (question 6). In principle, new banks meet little formal resistance when they enter a market. In practice, however, the euro area banking market is fairly diverse, given the many differences in legal frameworks relating to taxes, pensions, businesses, bankruptcy, mortgages, shareholders, supervision, consumer protection and so on, which add up to major impediments for banks trying to enter new markets and (hence) for cross-border competition. For this reason, the euro area banking market is not fully contestable. The flexibility in the use of inputs is also less than perfect. As noted above, the labour expenses of continental banks are comparatively rigid and should probably be adjusted gradually in order to avoid both high costs and social unrest. Branches too are a fairly inflexible input of banking production. Their numbers have not been reduced as much as expected given consolidation and Internet banking. Branches are indispensable points of sale for many banking products and services and the reduction of branch networks, especially in rural areas, is met with resistance, as politicians make their influence felt to maintain service levels. Hence, it may take quite a while before the full benefits of consolidation may be reaped.

7 Consolidation, competition and banking stability

Indications of increased competition (such as improvement of efficiency) and ongoing consolidation in banking as observed in this paper raise the question whether these developments may give rise to the threat of financial instability (question 7). At the same time policies to prevent instability may adversely affect competition among banks. Hence, there might be a trade-off between competition and stability (Canoy *et al.*, 2001). The literature on bank instability largely ignores the consequences which different bank-market structures may have for the sector's safety (Carletti and Hartmann, 2002). In the course of their relationship with borrowers, banks invest in the acquisition of private information that generates informational revenue. As long as banks appropriate at least part of this revenue (the so-called charter value), they are encouraged to limit their exposure so as to enjoy the (future) value of the relationship. As soon as the banking market becomes more competitive, relationship banking will decrease in value and banks will take more risk (Boot and Thakor, 1993, Allen and Gale, 2000). This is illustrated by events in the us during the 1980s, when various deregulation measures and market factors reduced monopoly rents. Banks' response to the erosion of profits was excessive risk-taking, thereby increasing the value of the existing deposit insurance funds, as the respective fund premium does not (fully) reflect the bank's risk profile (Edwards and Mishkin, 1995). Canoy *et al.* (2001) and Carletti and Hartmann (2002) present surveys of literature elaborating on the charter value, the impact of deposit insurance and policy reactions. Smith (1984) and Matutes and Vives (2000) found for various (institutional) conditions that competition for deposits also makes banks fragile.

However, a more recent strand of literature suggests that stronger competition does not necessarily wear out stability. Regarding liability-side risk, some papers argue that problems among depositors causing bank fragility can emerge independently of the degree of competition (Matutes and Vives, 1996). Others show that bank mergers may lead to a higher probability of possible liquidity shortages in the interbank market (Carletti *et al.*, 2002). Concerning asset-side risk, some writers argue that there are possible circumstances in which concentrated banking markets would be riskier than a competitive sector, indicating that consolidation might be worse than severe competition (Nagarajan and Sealey, 1995, Caminal and Matutes, 2003). All in all, the theoretical literature does not seem to be conclusive as regards the relationship between competition and stability, although only a limited number of studies support a positive relationship. Theory suggests that adequate policies, such as risk-adjusted deposit insurance premiums,[14] could mitigate a certain trade-off between competition and stability (Carletti and Hartmann, 2002).

The prominent charter-value hypothesis is supported by a number of empirical papers, although other writers failed to find evidence for this paradigm (Carletti and Hartmann, 2002). Concentration can go hand in hand with lower risk for individual banks, as shown by a set of articles on the diversification effects of mergers. Where concentration implies less competition, this would also contribute to less fragile banks. Other studies indicate, however, that larger (merged) banks do not benefit from lower default probabilities. De Nicolo and Kwast (2001) find evidence that consolidation in the us might have increased interbank related systematic risk, irrespective of changes in competitiveness. Cross-country comparisons indicate the presence of a trade-off between competition and stability in some country pairs, whereas in many others there seems to be no trade-off.

Increased competition may be welcomed as it contributes to allocative efficiency and social wealth. However, the theoretical and empirical literature also makes clear that changes in market structure and competition may impair financial stability. Hence, in general, the answer to question 7 ('Will increased competition and ongoing consolidation in banking constitute a threat to financial stability in the European countries?') tends to be in the affirmative, although competition does not (necessarily) always cause instability. It depends on specific cases and circumstances whether a change in competition and concentration is associated with more or less (in)stability (Group of Ten, 2001). In any case, this outcome stresses the importance of stringent rules for the antitrust and supervisory authorities regarding bank mergers and for the permanent vigilance of supervisory authorities where competition is rising or already fierce.

8 Summary and conclusions

This paper observes and explains the changing environment and characteristics of banks in European countries. Although traditional banking business has fallen off

in relative terms, due to increased competition from non-bank institutions and capital markets, it has not contracted in absolute terms, but, on the contrary, has even grown substantially, so that banks still remain the predominant players in the euro area financial system. Besides banks have managed to generate revenues on various new kinds of financial activities. All in all, financial disintermediation does not significantly endanger the profitability of the euro area banks.

Economic and monetary integration in the eu has strongly encouraged both internationalisation and concentration of the banking industry. The share of foreign assets and liabilities on eu banks' balance sheets is still modest, though sharply rising. Europe has seen waves of large-scale bank mergers and acquisitions, albeit mainly at the domestic level. However, this process of consolidation is still lagging in a number of countries, in part due to governmental influence on banking. Information technology has changed banks' products, markets and the way banks interact with customers, and has amplified competition. Although the Internet provides new opportunities for banks, it requires large it investment, where the cost of branches can only be reduced to a small degree, and reduces the interest rate margin, so that, for many traditional banks, the Internet may indeed reduce profits and even business volumes.

Increased competition has furthermore resulted in smaller interest rate margins and in somewhat lower profits, although operational costs have also been reduced. Increased competition and consolidation require well-designed rules for the antitrust authorities regarding bank mergers and for permanent vigilance of supervisory authorities.

There is evidence in the European banking market of tendencies, which reflect a shift towards greater similarity between countries: disintermediation, a single currency, an increase in scale, rationalisation and internationalisation. These trends have also been noticed in the us, resulting in smaller differences between these two regions. On the other hand, typical differences between the eu and the us banks, such as the dominant positions of banks and markets, respectively, have remained. Differences between countries in Europe, often due to diverging institutional conditions, are still huge and may constitute impediments to further financial integration in Europe.

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Appendix

Largest twenty banks in terms of shareholder equity in 2001, 1996 and 1991

Table A.1 Largest twenty banks in terms of shareholder equity in 2001
usd billions

Bank	Country	Share-holder equity [2]		Total assets		Market capitalisation	
Citigroup	us (1)	81.2	1	1,051	2	259.7	1
Mizuho Bank/Mizuho Corp Bank [1]	jp (1)	56.6	2	1,287	1	53.0	9
hsbc Holdings	uk (1)	52.5	3	696	9	109.6	2
Bank of America	us (2)	48.5	4	622	12	99.0	3
JPMorgan Chase	us (3)	41.1	5	694	10	71.7	5
Deutsche Bank	de (1)	41.1	6	813	4	43.9	11
Royal Bank of Scotland Group	uk (2)	40.9	7	535	14	69.4	6
Sumitomo Mitsui Banking Corp [1]	jp (2)	40.2	8	958	3	48.9	10
HypoVereinsbank	de (2)	31.8	9	645	11	27.9	16
ufj Bank Ltd [1]	jp (3)	30.3	10	721	8	10.7	19
Groupe Credit Agricole	fr (1)	29.4	11	499	16	15.1	18
ubs	sw (1)	28.5	12	749	5	64.6	7
Wachovia Corporation	us (4)	28.5	13	330	18	42.7	12
Wells Fargo & Company	us (5)	27.2	14	308	20	73.7	4
Santander Central Hispano	sp (1)	27.0	15	317	19	39.1	15
Bank of China	China (1)	26.4	16	406	17	7.6	20
bnp Paribas	fr (2)	25.4	17	731	6	39.6	14
Bank of Tokyo-Mitsubishi	jp (4)	24.7	18	722	7	40.0	13
Barclays Bank	uk (3)	24.0	19	518	15	55.3	8
Credit Suisse	sw (2)	23.3	20	611	13	19.3	17

[1] Pro-forma.
[2] Including reserves.

Sources: Euromoney (shareholder equity and total assets) and Datastream (market capitalization).

Table A.2 Largest twenty banks in terms of shareholder equity in 1996
usd billions

Bank	Country	Share-holder equity		Total assets		Market capitalisation	
hsbc Holdings	uk (1)	29.4	1	402	9	19.4	16
Bank of Tokyo-Mitsubishi	jp (1)	28.4	2	720	1	86.3	1
Groupe Credit Agricole	fr (1)	22.8	3	477	8	-	-
Chase Manhattan	us (1)	21.0	4	336	12	39.2	7
Citicorp	us (2)	20.7	5	281	16	29.1	8
BankAmerica	us (3)	20.7	6	251	17	28.1	9
Dai-Ichi Kangyo Bank	jp (2)	19.5	7	498	5	44.9	3
Sumitomo Bank	jp (3)	18.6	8	500	4	45.2	2
Sanwa Bank	jp (4)	17.7	9	501	3	39.5	6
ubs	sw (1)	16.3	10	325	13	3.9	18
Sakura Bank	jp (5)	16.0	11	478	7	24.4	12
Deutsche Bank	de (1)	15.6	12	536	2	22.9	13
Fuji Bank	jp (6)	15.6	13	487	6	42.2	5
abn amro Holding	nl (1)	14.4	14	341	11	21.6	14
Wells Fargo	us (4)	14.1	15	109	20	16.1	17
NationsBank	us (5)	13.7	16	186	19	28.1	9
National Westminister Bank	uk (2)	13.1	17	310	14	20.8	15
Barclays Bank	uk (3)	12.9	18	306	15	26.4	11
Groupe Caisse d'Epargne	fr (2)	12.7	19	230	18	-	-
Industrial Bank of Japan	jp (7)	12.5	20	361	10	44.0	4

Table A.3 Largest twenty banks in terms of shareholder equity in 1991
usd billions

Bank	Country	Share-holder equity		Total assets		Market capitalisation	
Sumitomo Bank	jp (1)	15.2	1	406	2	53.3	4
Dai-Ichi Kangyo Bank	jp (2)	13.6	2	426	1	60.2	2
Fuji Bank	jp (3)	13.3	3	396	5	57.9	3
Sanwa Bank	jp (4)	13.0	4	401	4	52.0	5
ubs Group	sw (1)	12.9	5	184	15	2.2	15
Mitsubishi Bank	jp (5)	12.0	6	380	6	18.2	8
Barclays Bank	uk (1)	11.7	7	264	10	11.3	9
Sakura Bank	jp (6)	11.6	8	406	3	47.7	6
Deutsche Bank	de (1)	11.2	9	298	8	18.8	7
Compagnie Financiere de Paribas	fr (1)	11.1	10	200	14	-	-
Industrial & Commercial Bank of China	China (1)	10.6	11	180	16	3.7	14
National Westminister Bank	uk (2)	10.4	12	232	12	8.4	10
Credit Lyonnais	fr (2)	9.7	13	306	7	0.6	16
Citicorp	us (1)	9.5	14	217	13	4.3	13
Industrial Bank of Japan	jp (7)	9.4	15	288	9	60.6	1
Swiss Bank Corp	sw (2)	9.2	16	153	18	-	-
Caisses d'Epargne Ecureuil (cencep)	fr (3)	9.1	17	174	17	-	-
abn amro	nl (1)	9.0	18	243	11	6.5	11
Bank of China	China (2)	8.2	19	140	19	5.4	12
Caisse des Depots et Consignations	fr (4)	8.1	20	75	20	-	-

Notes

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2 The BC is composed of banking supervisors and central bankers from Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the UK and the US. The Committee's Secretariat is established with the Bank for International Settlements in Basel.
3 Types distinguished are: enterprises, banks and governments of OECD and OECD countries.
4 A chart based on data of 2001, but on 9 instead of 12 euro countries only, is available from the authors at request.
5 For a detailed description, see Vanthoor (1996).
6 Note that branches have the same ratings as their parents, whereas subsidiaries have their own ratings.
7 This has been investigated empirically by Bikker and Van Lelyveld (2003).
8 Special rules apply to avoid 'double gearing' (counting capital issued by the FC for both the bank and the insurance firm) or 'excessive leverage' (issuing debt by the FC and using the proceeds as equity for the regulated subsidiary).
9 An example is ING Direct, the online banking unit used by ING to enter foreign deposit-taking markets.
10 Examples in the Netherlands are 'ING Direct' and 'Rabobank.be'.
11 The interest rate margin tends to move with the level of interest rates. As interest rates dropped between 1997 and 2001, that might have contributed too to the lower margins.
12 High margins in Southern Europe may reflect weaker competition. It is however harder to believe that the low margins in Germany and France point to high competition, as this is contrary to 'accepted wisdom'.
13 The high US margins also violate the simple high competition, low margin theory.
14 See also Garcia (2000) and Bikker and Prast (2001).

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