

# Cahiers Papers

BEI EIB

European banking after EMU



European Investment Bank



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# Preface



Sir Brian Unwin  
President

*At the start of 1993, Europe stood at the beginning of a new era with the creation of the Single Market in financial services. Countries accepted the mutual recognition of national regulatory practices, though within a harmonised set of principles. Price differentials for financial services were significant throughout Europe, and the expectation at that time was that fierce cross-border competition would soon drive prices down to the level in the countries with lowest prices. In the event, this turned out to be an excessively optimistic forecast, and cross-border activity in the retail banking sector remains muted. The existence of national currencies has remained a formidable barrier to the integration of financial markets, and in retrospect we can see why this should be so.*

*This year has seen the next fundamental step in the development of European banking and capital markets - the successful launch of EMU and the euro. This is a truly remarkable accomplishment in European integration, and indeed a first in the history of monetary economics. Much work has been done to achieve this. While not wishing to overstate our own contribution - we were certainly not at the technical sharp end like the European Commission or the European Central Bank - support of EMU has been a key strategic objective of the EIB.*

*Broadly speaking, the EIB has contributed to the establishment of the euro in two ways. Firstly, through its funding activities. This amounted to the equivalent of EUR 31 billion last year, of which more than 40 percent was raised either in euros or its constituent currencies. Indeed, the EIB's first global euro issue was already made as early as January, 1997, and since then many "Euro-tributaries", that is, bonds in a national currency, but with a provision to be converted into euros, have also been issued. Furthermore, in the course of the first half of this year, the EIB will convert part of its existing stock of debt into euro. The result of this strategy will be the building up of a large and liquid stock of euros.*

*Second, on the other side of our Balance Sheet, the EIB's lending operations have aimed at underpinning the economic transition to EMU. To give specific support to the growth and employment initiative of the June 1997 European Council, the EIB allocated EUR 1 billion of its reserves for the Amsterdam Special Action Programme (ASAP). Under this Programme, the EIB now provides venture capital for the financing of innovative Small and Medium Sized Enterprises (SME) with growth and job creation potential across Europe. New programmes were also introduced to invest in the sectors of health, education and urban renovation. As we move past the current round of EU budget discussions, I suspect that the Bank's lending operations, particularly in the peripheral economic areas, will be even more relevant to sustaining economic growth than in the past.*

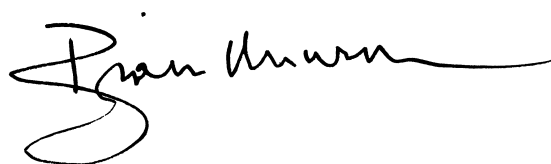
*With EMU still in its infancy, we are now faced with a new set of forecasts regarding the outlook for the financial sector. The consensus view, which is in line with my own thoughts, has the following logic:*

- *the euro will over time develop into a major world currency rivalling the USD and serving as an increasingly attractive investment, reserve and trading medium;*
- *the size and liquidity of the European bond market will grow strongly and stimulate dynamism and innovation;*
- *this will reduce reliance on bank lending, much as has happened in the US;*
- *European banks will face strong competitive pressures from this disintermediation process;*
- *they will have to cut their costs and increase efficiency further if they are to survive;*
- *and,*
- *as a result, there will be a major restructuring of the European banking industry.*

*Looking at these hypotheses in more detail was the subject of the conference held at the EIB. This brought together both theorists and practitioners from the financial world. The current issue of the EIB Papers includes the papers presented at the conference. They cover the likely development of European capital markets, the outstanding issues relating to banking supervision within EMU, an analysis of the current performance of European banks and the way in which the restructuring process may unfold, and a discussion of the most appropriate banking strategies for the new EMU environment.*

*Structural differences between the US and Europe are many. For that reason, it may be inappropriate to look too closely at the North American model as the end point for Europe. However, the recent wave of bank mergers does seem to be the harbinger of a major restructuring of the European banking industry. Responding to these challenges will test the mettle of even the most prescient of bank managers.*

*With the final stage of EMU and the circulation of the euro coins and notes in sight, it is important for us to learn more on how the financial architecture of Europe may evolve. After all, a major purpose of both the Single Market and EMU was to contribute to prosperity in Europe by creating well functioning financial intermediaries and capital markets.*



# A conference on European banking at the EIB

The conference on **European banking after EMU**, was held at the EIB on 21 January, 1999. The conference covered the future of EU capital markets, recent trends in the European banking sector and an assessment of bank performance, outstanding policy issues relating to the supervision of the financial sector, and appropriate bank strategies for the new euro environment.

Speakers included:

**Graham Bishop,**  
of Salomon Smith Barney, London

**Martin Brookes,**  
of Goldman Sachs International,  
London

Professor **Jean Dermine,**  
of INSEAD

**Daniel Gros,**  
of the Center of European  
Policy Studies, Brussels

Professor **Colin Mayer,**  
of the Saïd Business School,  
Oxford University

Professor **Philip Molyneux,**  
of the University of Wales,  
Bangor

**Eric Perée,**  
of the EIB

**Alessandro Prati,**  
of the IMF

**Dirk Schoenmaker,**  
of the Ministry of Finance,  
The Netherlands

Professor **Luigi Spaventa,**  
President of Consob, Italy

**Sir Brian Unwin,**  
President of the EIB

**Rien Wagenvoort,**  
of the EIB

Professor **Ingo Walter,**  
of the Stern School,  
New York University

Professor **Clas Wihlborg,**  
of the University of Gothenburg.

Other participants included representatives from the European Central Bank, the European Commission, the European Investment Fund, national central banks and universities.

# European banking after EMU

## Editors' introduction

*The euro is a catalyst for forces that will reshape the financial architecture of Europe. Banking markets will become increasingly competitive and will lose territory to capital markets. This is the received wisdom among many bank analysts and financial sector commentators. The purpose of this edition of the EIB Papers, and the conference from which it is derived, is to examine this thesis in more detail.*

*The Single Market for Financial Services was launched six years ago. Since then, only modest progress has been made towards the creation of a truly integrated European banking market. There are a variety of reasons for this. However, the restraint due to there being many different currencies throughout Europe cannot be under-emphasised. This means that the arrival of the euro may well be a watershed event for the banking sector.*

*The structure of this review article, together with the ordering of the papers in the document, is as follows. We start with a discussion of whether continental Europe will move towards a market-based financial system. The general conclusion is that this is inevitable, but there may be high inertia and the transition may happen slowly. In the second part, the economic consequences of maintaining the different types of financial systems are discussed. The reliability of the banking supervisory system emerges as a key topic. This is discussed in the third section. We then ask how well banks are performing, and argue that a merger wave in Europe is possible (part four). This may be driven by a push for efficiency, but also by banks wishing to maintain a dominant position in their local markets. This is reviewed in part five, together with a summary of other reasons why cross-border banking may still be slow to develop. The sixth part discusses which strategies banks could adopt in response to the changes in their environment.*

### **European capital markets will grow steadily, but perhaps relatively slowly**

*It is well known that the stock and bond markets in continental Europe are substantially smaller than the securities markets in the US. One of the common predictions for the future of the European financial landscape is that the euro will foster financial disintermediation – and capital markets will grow at the cost of bank revenues.*

*What are the forces that could push Europe in an Anglo-Saxon direction? In the past, the key to success for investors in Europe was to get the currency and interest rate bet right on government bonds in the various EU countries. Clearly, the elimination of separate currencies within the borders of Euroland eliminates this possibility. In addition to the European Central Bank's mandate*

to maintain a low-inflation environment, market perception of the credit risk of government bonds is also very small. Spreads on ten-year benchmark bonds between the lowest and highest yielding governments in Euroland have fallen to less than 30 basis points. Indeed, **Martin Brookes** (Goldman Sachs) argues that investors can no longer reach their performance target (given their risk tolerance) by only diversifying between national government bonds within EMU.

Brookes notes that there are three possible responses: Invest in fixed-income markets in the US or Japan, invest in longer-dated government bonds, or switch to European corporate bonds. The options are, therefore, either to take more sovereign risk outside Euroland, more maturity risk, or more credit risk within Euroland.

As mentioned, there has been a distinct approach by investors in the EU. The absence of credit risks (or other legal uncertainties) on government bonds allowed investors to focus on changes to macroeconomic fundamentals. Over the last decade, the steady decline and convergence of interest rates throughout Europe, has meant that investing in EU government "high-yielders" has been a profitable business. In the future, some investors may maintain a similar focus and shift portfolios to government bonds in the US, Japan and the emerging markets. However, the most important single investment group - insurance companies - are prohibited from doing so by the EU Third Life Insurance Directive. This requires insurance companies to hold at least 80 percent of their assets in the same currency as their liabilities (before EMU this restriction used to apply at the national level). In the short-term, the Asian crisis has also made many investors think again about investing in emerging markets.

**Graham Bishop** (Salomon Smith Barney) notes that governments are lengthening the maturity of their bond issues as they try to benefit from historically low interest rates. Several are making large liquid issues in the ten-year segment of the yield curve, and the number of 30-year bonds is increasing. This will expand the maturity choices available to investors, but will it necessarily permit the desired risk profile? If the yield curve flattens in Europe as price stability in Euroland gains in credibility, then fund managers may also find they have limited scope to increase the yield-to-risk ratio through purchasing bonds with longer maturities.

This leaves the third option - increasing credit risk - and it seems quite likely that there will be much greater interest in the European corporate bond and equity markets in the future. The US experience has shown that the capital markets can compete efficiently with the banking sector - in other words there should be a supply of corporate bonds if there is the demand to create a sufficiently large and liquid market.

If capital markets do grow, this raises the question of how investors will diversify risk. Will this best be done by spreading investments across sectors (since some sectors behave in an uncorrelated manner) or across countries (since the business cycle in each country still dominates company performance regardless of sector)? Brookes reports a recent survey of fund managers



in this respect. According to the survey, almost two-thirds of fund managers intend to organise their portfolios on a sector basis, less than ten percent replied that they would rebalance by country, while the remaining one-quarter indicated a mixture of these two factors. Most managers thought that rebalancing would take place within the space of a few years. Brookes tries to quantify what may happen by calculating the capital flows needed for investors to match the sectoral composition of the aggregate euro-zone equity index (though it should be recognised that this is not necessarily an optimal diversification strategy). In this case, investors may be able to largely achieve the desired sectoral distribution in their own home market, and cross-border capital flows may not be large.

In discussing this point, **Luigi Spaventa** (President, Consob) notes that the empirical evidence suggests that, in the past, investing in capital markets on the basis of home country has offered better scope for diversification than a strategy based upon sector. Simply put, firm behaviour has depended more on the home country than on the sector itself. Of course, this may change in the future with structural changes arising from the Single Market and Monetary Union.

These uncertainties make it difficult to identify the best route to diversification, and no serious investor will wish to take risk without a sound diversification strategy. To some extent this is a secondary point since, other things being equal, the overall size of the European capital market is not affected. Nonetheless, uncertainty about the correct strategy could still slow down the rate of growth of the capital markets.

Indeed, there are many important reasons why continental European capital markets may not grow rapidly to the relative size of Anglo-Saxon markets. For example, Brookes mentions that there is still a lack of harmonisation of the tax treatment of investors and of accounting standards, and that the legal framework protecting shareholder rights varies throughout the European Union. There are many constraints to the rate in which capital markets may develop.

Which will be the leading growth sectors on the capital markets? It is sometimes suggested that the limited size of European capital markets is due to the difficulty of small and medium enterprises (SMEs) in gaining a listing. If so, releasing this constraint would be particularly beneficial for market growth. However, Spaventa believes the problem is rather that many SMEs do not want a listing because of the public disclosure of information that this requires. In any case, Brookes shows that in relative terms SMEs are not under-represented when compared to US equity markets. This means that the impact of this channel may be limited.

Bishop makes another point. A key factor in the development of US capital markets has been mortgage-backed securities issued by Federal agencies (such as the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation, or "Fannie Mae" and "Freddie Mac" as they are more colloquially known). In fact, the value of the outstanding stock of bonds

issued by US Federal agencies is the same order as that of the US government. Thus, public policy has played a critical factor in the development of the North American system. To quote Bishop: "The securitisation of mortgages was fashioned to sponsor home ownership - reflecting the political desire to build a nation. That desire is absent in Europe." In many European countries an alternative solution has been found for the financing of mortgage lending. This is the issuing of collateralised bonds by mortgage banks, or the Pfandbriefe model. However, legal differences across countries mean that it may be difficult to put mortgages from different countries together in a pan-European collateral pool. There may continue to be fragmented national markets, without the liquidity (say, EUR 10 billion or more) necessary to minimise yields relative to government bonds (the so-called Jumbo-Pfandbriefe currently have an EUR 2 1/2 billion size and still trade at more than 40 basis points above Bunds despite a triple-A rating).

On the other hand, Bishop predicts the market will grow as new issuers enter European bond markets. For example, regional governments and even large cities increasingly issue bonds. With EMU releasing the rating cap of the home nation, some of these institutions are better rated than the government (e.g. Florence is better rated than the Italian State). Other candidates are asset-backed securities (such as credit cards, car loans, and even corporate loans). However, taking stock of the major forces on both the demand and the supply side of European capital markets, there appear to be a number of reasons why things will not follow the same path as observed in the US. Progress may be relatively slow in the absence of additional public policy intervention. This may, however, be relatively indirect such as tax incentives to build up private pension assets.

### **Does it matter if most of Europe remains with a bank-based financial system?**

The differences between countries have deep roots, and these go back to the start of industrialisation. For example, David Landes in his recent book on *The Wealth and Poverty of Nations* (1) notes that, at the early stage of the industrial revolution in Britain, investments were typically of a small-size and were financed either through the pooling of personal resources or cashflow. Therefore "banks confined themselves to supplying short-term credit or demand loans to facilitate real transactions." Continental Europe industrialised later. Investment needs had grown with technological advancement, but there were relatively fewer and smaller private fortunes. Institutions were needed to mobilise resources, and the universal bank, combining investment and commercial banking, was born. The result is that bank ownership of equity has always been much larger in continental Europe than in the UK. Different types of corporate structure have also emerged.

**Colin Mayer** (Oxford University) notes that major differences in structure remain today. In Continental Europe, ownership of quoted companies is appreciably more concentrated than it is in the UK or US, and frequently stock is held in the form of pyramid holdings. Pyramids

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1) Published by Little Brown in 1998.

allow shareholders at the top to exert disproportionate influence by bringing in equity lower down the pyramid. While this situation is changing (new listings on Continental stock markets are growing strongly, and minority shareholders are becoming increasingly vocal) it may take time for new sources of external finance to be pursued if they influence ownership structures to the detriment of some dominant shareholders.

Does this have implications for economic growth? There is a large literature showing the link between financial development and economic growth. However, Mayer argues that for countries that are already highly developed, such as those in Europe, "financial and corporate systems may have more relevance to the composition rather than the overall level of economic activity". Typically, stock markets should be well adapted for uncertain high-technology investments. In contrast, more traditional manufacturing activities should benefit from the long-term relationships that banking intermediaries can provide.

Mayer takes this point one step further and argues that having different financial systems across Europe may be beneficial. There would be competition between countries (or financial systems) to serve as the location for companies. No single winner would emerge since different regions could specialise in different types of finance. Corporations would then benefit from the diversity in financing choices available.

The problem with this logic is that it ignores geography. If it is the case that manufacturing industry flourishes within bank-based systems, linguistic and cultural barriers still mean that a company must find an appropriate bank near-by. Likewise, it will be more difficult for a German entrepreneur to sell her idea to a British venture capitalist than to someone from her own country. If it is true that each type of financial institution actually does provide a comparative advantage to certain customers, then a geographic segmentation of financial systems will also strengthen the spatial segmentation of the corporate sector. It is doubtful if this is an optimal outcome. Ideally, financial markets should become sufficiently integrated that all options are available everywhere, and there is no real reason why this should not be the case.

Spaventa also doubts the value of competition between financial systems. Regulatory differences could mean that companies could relocate to jurisdictions with the most lax rules of conduct. In this case, investor protection could be compromised. This means that harmonisation is needed at the EU level. While such harmonisation does not preclude having different systems in different countries, it will minimise the scope for countries to develop "niches".

Are there other economic consequences of the different financial systems? One point made by **Daniel Gros** and **Karel Lannoo** (Centre for European Policy Studies) is that external financial shocks may affect a market-based financial system and bank-based system differently. In particular, corporate bond markets may be more volatile than bank systems, with credit spreads reacting strongly to bad news. These swings in sentiment may be unnecessarily large

due to a lack of information by investors of what is actually happening. Obviously, this has implications for investment and subsequently economic growth.

On the contrary, regions with a large banking sector should be better in coping with a transitory adverse shock, since banks are better informed of the strengths and weaknesses of their borrowers. This means they can better identify creditworthy companies even in times of financial turmoil. They should continue to lend to these companies on similar terms as before. A credit crunch can be more easily avoided, and so the overall consequences of an economic downturn are mitigated. The other side of the coin is that problems may accumulate within the banking sector until they reach critical dimensions. The fact that loans are recorded as assets at their book value rather than their true economic value means that it is difficult for outsiders to know what is going on. For example, many European banks have been very active in lending to emerging markets. As a result, they may be exposed to important financial risks that have yet to be fully recognised. Thus, one advantage of traded instruments is that they permit marking-to-market and much greater transparency.

It is critical for bank-based financial systems to have sound regulation and supervision if potentially very serious economic problems are to be avoided. Japan is a current extreme example of what can go wrong, but **Clas Wihlborg** (Göteborg University) also lists a number of other cases where large volumes of tax-payers' money have been used to bail-out insolvent banks. Indeed, Wihlborg also doubts the stabilising feature of a bank-based system. On the contrary he sees the potential for "stop-go" banking. In the "go" period banks lend rashly since they believe that they will be bailed-out if things go wrong. In the "stop" period, there is a shock that causes losses throughout the banking system. Banks suddenly stop lending as they try to rebuild their capital, and many borrowers are unnecessarily forced into bankruptcy when they cannot rollover loans. Wihlborg argues that this is what happened in Sweden during the early 1990s. How does the EMU system fare in this regard?

### **Weaknesses - or not - in bank supervision in Europe**

A number of possible weaknesses with the EMU system have been identified by Gros and Lannoo, Wihlborg, Alessandro Prati and Dirk Schoenmaker (2) among others. The regulatory system in the EU is based upon mutual recognition of national supervisors. This operates within a set of harmonised rules regarding the minimum acceptable capital structure of banks (e.g. solvency ratios and large exposures), and an agreed approach to the design of the safety-net for the banking system (e.g. deposit insurance and lender of last resort facilities).

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2) Alessandro Prati of the IMF and Dirk Schoenmaker of the Netherlands Ministry of Finance also made presentations on this topic at the conference.

*Banks may be increasingly operating throughout Europe, but this in itself does not mean that the national supervisor at the head office of a particular bank should be in a worse position than one based anywhere else. For us, the more powerful criticisms of the current system are that:*

- *the lender of last resort facilities may not work correctly; and,*
- *the current supervisory rules may distort the behaviour of bank managers.*

*Let us start with the lender of last resort issue. Since the loans made by banks are illiquid, the situation can arise where a solvent institution has a temporary liquidity problem. This applies to other corporations as well, but the problem for banks is that the temporary problem of one bank could spread through the payment system to other banks, and thus lead to a sector-wide crisis. To avoid this, the central bank stands ready as the lender of last resort.*

*Under the EMU system, the National Central Bank (NCB) is able to provide liquidity against acceptable collateral to banks under its jurisdiction. If the NCB gets it wrong, and actually lend to an insolvent bank, this should remain an issue for that NCB and local taxpayers. The main problem that has been pointed out relates to the situation where there is a crisis of sufficient magnitude that liquidity must be injected on a system-wide basis. A frequently quoted example is Black Monday in 1987 on the New York Stock Exchange. Such liquidity injection must be done by the European Central Bank (ECB) since it is sufficiently large to increase the money supply. Critics argue that the information flows and decision-making processes are too unwieldy for the ECB to respond rapidly to such problems. The ECB counters that it is indeed ready to react in a timely manner. There are no theoretical reasons why this should not be the case - it is a question of faith, or lack of it, in the institutional structure of the European System of Central Banks. The problem is that, until the system has been tested, doubts will remain.*

*The second point mentioned above has two dimensions. One issue is that ambiguity regarding bailouts creates moral hazard problems. This can lead to the "stop-go" banking of before, or simply that problems build up before there is a crash. A second issue is that capital adequacy rules are black-and-white. Either a bank is above the minimum, in which case it is "good", or it is below, and is "bad". This could lead to abrupt changes in lending policy by banks as they pass the threshold. The US solution has been "Structured Early Intervention", where the involvement of the supervisor in a particular bank increases in a number of steps as the bank's capital adequacy deteriorates. Wihlborg argues that the European Union should adopt such an approach, and proposes other associated rules to increase transparency. These are intended to "make it possible to credibly state that insolvent banks will be allowed to fail and be liquidated."*

*For us, the critical issue for a sound banking system in the long run depends first and foremost on the competence of the national banking supervisors rather than a reorganisation of current institutions into central bodies. In this context, Tommaso Padoa-Schioppa (3), in a recent speech to the London School of Economics, has observed that the EU regulatory system is "heavy", in that many provisions are included in Community primary legislation. The EU legislative process is slow and it can take many years to pass new Directives. There is, therefore, the question of the ability of the regulatory framework to adapt sufficiently quickly to a changing world.*

*However, the approaches outlined by Wihlborg are worth considering further. For one thing, the bailout of insolvent banks simply because they are the "national champions" is unacceptable from a competition point of view. And as competition increases in the banking sector, it would be normal to see more banks having difficulties.*

### **The state of banking in Europe, and the coming merger wave**

*How well will banks be able to cope with greater competition? The banking markets in Europe have evolved in various directions. For example, Austria, Germany, Italy and Spain have relatively many savings banks (more than 40% of the total) compared with the other EU countries. We must, therefore, be careful in drawing conclusions from a sketch of the industry at an aggregated European level. Comparisons between Continental Europe and the US are also complicated by the fact that structure of the balance sheet varies widely between these regions. For example, US banks provide relatively more loans to corporations and consumers, and have essentially no interbank lending. On the contrary, as much of one-quarter of Euroland assets are due to interbank business. Moreover, European universal banks are involved in a range of activities, such as insurance, that are prohibited to their peers in North America.*

*With the caveat that there are these important differences, **Christopher Hurst, Eric Perée** and **Mireille Fischbach** (EIB) examine a number of balance sheet and profit and loss ratios to see what can be said about performance. The overall conclusion is that Euroland banks are more oriented towards lower-risk, but also lower revenue activities. The share of income from non-interest sources has increased everywhere, but the reasons for this are quite different. In Europe it is due to a falling interest margin (i.e. the revenue earned from borrowing and lending activities), while in the US it is due to the relative growth in fee-related business and own-account trading.*

*Given the asset composition of European banks, costs seem relatively high, and the share of costs absorbed by staff is greater than elsewhere. Though the volatility in earnings of banks in the Anglo-Saxon countries is higher than in Euroland, they also earn a substantial higher return on equity (ROE) on average. In 1996, the average ROE exceeded 20 percent in the US and the UK, but the corresponding figure in Euroland was stuck at a humble 6 percent.*

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3) Member of the Executive Board of the European Central Bank. The speech was given on 24 February, 1999, to the Financial Markets Group.

*There are many factors that could potentially explain the poor performance of Euroland banks, and it is extremely difficult to quantify them with any precision. On the one hand, Euroland banks may have inadequate product mixes and pricing strategies for corporate clients, together with a lack of understanding of cross-subsidies. On the other, managers in European banks appear to fail in controlling costs. This latter topic is also examined in more detail by **Rien Wagenvoort** and **Paul Schure** (EIB).*

*Poor management decisions (e.g. over-branching, over-staffing, inappropriate technological choices, inefficient purchasing, etc) move a bank away from best practice. This is the so-called "X-inefficiency". Other sources of inefficiency can be due to size (i.e. whether a bank is of the right scale to minimise costs) and product mix.*

*Wagenvoort and Schure assess a range of efficiency measures for almost 2000 credit institutions in the EU. To do this, a cost frontier is estimated to distinguish those banks which provide the highest level of financial services given their resources and input prices. X-inefficiency is found to be of the order 15 to 20 percent for the overall European banking industry. This means that "wastage" due to poor management is over one-third of gross profits for the sector as a whole. Many studies show similar management shortfalls in the US, so there are substantial possibilities to reduce costs on both sides of the Atlantic. Indeed, the estimated gains for the European banking sector from raising X-efficiency dominate by far the possible cost reduction effects from changing size or the type of bank.*

*Scale economies are exhausted at a balance sheet total of about EUR 600 million, and so big is not necessarily better. Of course, these econometric results have their limitations. A very simple three-input/five-output model of a bank is estimated, and a number of proxies must be used to estimate the actual level of services produced by banks. Moreover, there could be systematic differences across countries that distort the results. Still, our conclusion is that, once a very small size is passed, average costs do not seem to either decrease or increase with size. This means that banks can consolidate without necessarily gaining or losing in competitive edge. In some cases, overlapping networks between two merging banks can be cut, and this reduces costs. However, the key test for a successful merger is that management is improved (and X-inefficiency reduced). This would normally happen when an efficient institution acquires a poorly performing one. In fact, Hurst, Perée and Fischbach argue this is the way in which the sector should respond to greater competition, and, as a result, Europe will see a merger wave in the coming years. The alternative of trying to drive competitors out of business is usually too costly in the banking industry. Concentration in banking markets will increase, though this has nothing to do with pursuing size for its own sake.*

### **Defensive strategies, and other barriers to cross-border banking**

*On the other hand, many mergers will not be successful, or even driven by profit motives. Bank managers may go for scale since compensation packages and prestige are linked to bank size. And they may seek to merge with other banks in an attempt to shore up a dominant position in their local market. Thus, increasing concentration in the sector does raise the question of whether this might not also be a poor deal for customers.*

**Philip Molyneux** (University of Wales, Bangor) argues that there is less and less scope for banks to have market power. Molyneux believes that European banking markets are increasingly "contestable" in the sense that monopolists are vulnerable to a hit-and-run by new competitors. For example, banks face growing competition from non-traditional rivals, such as internet banking, credit card operators, consumer finance firms and venture capitalists. Incumbents should, therefore, behave as though they were in a competitive environment in order to forestall these new incursions.

*To us it seems premature to see European banking markets as contestable. Firstly, large investments in information technology and marketing are required to enter the business. This brings along high sunk costs. Secondly, although large corporate borrowers may indeed tap other financing sources, the range of options for small and medium enterprises and retail customers are much more limited. These customers have high switching costs, and the fact that their credit history is privy to their bank may tend to lock them into a particular banking relationship. The possibility of defensive strategies that build upon this market inertia mean that there will be many false starts on the path to an efficient banking sector.*

*Many banks in Europe are either mutuals or within the public sector. These institutions may not feel the same urgency to react as private banks with shareholders. The role of the state in banking will come under increasing scrutiny in the post-EMU environment (for example, the government guarantee of some public sector banks is currently being challenged as distorting competition), and privatisation is also on going. Still, one feature of the US experience has been the mopping-up of very small banks into larger organisations. In the case of Europe, this may require demutualisation first, and this is unlikely to happen over-night.*

*There are other constraints to restructuring even when suitable merger opportunities are correctly identified. For example, staff reductions - often a key element of the restructuring process - may be difficult due to labour legislation. Cross-border business may also be hindered by the continued existence of tax and legal differences throughout Europe. Since successful mergers normally require that a better management culture is transferred from one organisation to another, general linguistic and cultural barriers are also extremely important.*



*Our conclusion is that banks will exploit merger and acquisition possibilities in national markets before going cross-border. Exceptions could be banks with a large market share in their own countries, and that see limited prospects nationally - such as Nordic and Dutch banks.*

### **Banking strategies post-EMU**

*How should banks best react to the new more competitive environment? **Jean Dermine** (INSEAD) sees three key factors that determine the strategic choice. EU legislation has established the universal banking model for Europe - commercial banks can also undertake investment banking, insurance, and fund management. Dermine argues that home country advantage of banks will disappear in a variety of non-lending market segments, such as bond and equity underwriting and trading, and fund management. A second issue is that there are economies of scale in some of these markets. The final factor is that it will be better to diversify throughout Europe. This will allow banks not only to spread credit risks across several regions, but also to stabilise the demand for services in capital markets. Putting these three elements together, a pan-European growth strategy is optimal.*

***Ingo Walter** (New York University) takes a somewhat more nuanced view. For him it is clear that "the fabled economies of super-scale, like the abominable snowman, have unfortunately never been observed in nature". Walter also notes that pan-European mass market branding is not easy to achieve. So far, successful cross-border retail business in Europe has been limited to special cases (such as private banking), with broader-based incursions being very rare. However, different product lines and customers do exhibit different features. Mayer's earlier point about the comparative advantage of different financial systems, can also be argued at the level of the institution. Thus, the range of strategic options for firms is very large, and there is "room for firms that range from large to small and from universal to specialist".*

*Should many business lines be grouped together in one institution? Universal banking does allow banks to pursue strategies based upon diversification to other markets. However, the benefits of cross selling are often offset by corporate culture clashes. For example, there are considerable differences between a commission-drive sales force selling insurance products, and bank staff offering bank accounts and related services. If separate organisations are maintained with the same corporate conglomerate (and this is often the case) then the only economies of scope would come from integrated marketing and brand loyalty by customers.*

*Universal banking may seriously compromise other strategic choices due to conflicts of interest. This comes about if managers no longer dispense dispassionate advice to clients, but push "house" products. Indeed, they may even use private information gained from one activity to the disadvantage of customers in other business streams. In Euroland, few "Chinese" walls exist between different businesses to deal with this problem, and there appears to be a reliance on the loyalty and professional conduct of employees. Unfortunately, these can come under pressure*

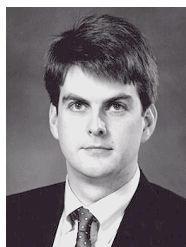
*as competition increases, and short-term results are boosted at the expense of long-run returns. As Walter notes, "the conflict of interest issue may seriously limit effective strategic options. For example, inside information accessible to a bank as lender to a target firm would almost certainly prevent it from acting as an adviser to a potential acquirer. Entrepreneurs are unlikely to want their private banking affairs dominated by a bank that also controls their business financing. A mutual fund investor is unlikely to have easy access to the full menu of available equity funds though a universal bank offering competing in-house products. These issues may be manageable if most of the competition is coming from other universal banks. But if the playing field is also populated by aggressive insurance companies, broker-dealers, fund managers and other specialists, these issues will prove to be a continuing strategic challenge to management."*

*Walter also notes that research work has shown that industrial conglomerates tend to use capital inefficiently due to over-investment in marginally profitable activities and cross-subsidisation. As mentioned before, we believe one of the problems of the poor performance of banking in Euroland is exactly due to this lack of transparency in choosing product mixes and setting prices. In sum, the attraction of conglomerates may wane, and shareholders may increasingly feel that the sum of the separate parts is greater than the whole.*

*The growth of capital markets is a competitive threat to banks, but it is also provides opportunities. By this we do not mean that banks will be able to develop capital market business, though some will do that. Rather it will allow banks in general to better manage their balance sheets through the sale of securitised loans. Mergers and acquisitions must also be financed in some way, and a more efficient European-wide stock market will make it easier for those banks with sound acquisition strategies to get the deal done.*

*Christopher Hurst and Rien Wagenvoort,  
The Editors*

# The impact of EMU on portfolio management



**Martin Brookes**

## 1. Introduction

A considerable amount has been written about the impact of EMU on European financial markets. A broad consensus has emerged from this work, with the main conclusions as follows:

- Government bond markets will be more closely integrated and yields closely correlated.
- Non-government borrowers will increasingly borrow directly from investors by issuing debt securities rather than borrowing from banks, leading to a US-style corporate bond market.
- The national bias in equity and fixed income investments will diminish and funds will be increasingly managed against Euro-wide benchmarks, possibly involving some reallocation of existing investments.
- Equity markets will grow as more companies go public and more investors seek to invest funds in equity markets.

There are a raft of additional conclusions which have emerged and some writers make greater claims than others. But the above are the core conclusions of research on EMU and financial markets.

This paper is not going to challenge this consensus. Instead it will highlight how EMU will change the behaviour of institutional investors, which is the key factor behind the expected changes to capital markets. It is useful to distinguish between factors influencing the supply of funds in different financial markets and factors influencing the demand for funds. The aggregate approach usually taken often does not make this distinction clear. Most papers look at the size of Euroland financial markets and the barriers to their development caused by having distinct currencies. We aim to ask why EMU is expected to lead investors to change the way that funds are managed, prompting the changes above.

The plan of the paper is as follows. The following section considers the impact of EMU on a fixed income fund manager - how does the introduction of the euro affect the behaviour of this fund manager and how does this affect the demand for new financial markets? Subsequent sections discuss equity markets and EMU. There is evidence that EMU is already changing investor behaviour and will do so further. We present evidence from a survey of investors managing over USD 2 500 billion of funds. After a discussion of investor behaviour the paper describes transitional issues in fixed income and equity markets caused by potential flows of funds between national financial markets and interest rate convergence.

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*This paper draws upon much existing research of colleagues at Goldman Sachs. In particular, the work of Kurt Winkelmann, Sandy Rattray, Mike Young, Peter Sullivan and Francesca Massone is used. I am grateful to Joshua Rauh for research assistance in preparing the paper.*

*Martin Brookes is Executive Director, International Economist at Goldman Sachs International, London. He has worked on economic issues relating to EMU, and on European fixed income markets. He was ranked top in Gilt research by Institutional Investor in its 1996 and 1997 surveys of European analysts.*

**EMU is expected to lead investors to change the way that funds are managed.**

The penultimate section describes the current state of financial markets within Euroland, comparing them with the US and Japan. This serves to emphasise that an important feature of discussions about Euroland financial markets is the size of the Euroland economy. We question whether financial markets within Euroland can realise their full potential and grow to match those in the US. Several barriers to integration remain as well as shortcomings in the regulatory environment. These are likely to remain for a considerable time, inhibiting the growth of Euroland financial markets. Nonetheless, the introduction of the euro paves the way for a substantial change in the way that investors in Euroland behave.

## **2. EMU and fixed income markets (1)**

### **2.1 Government bond markets in EMU**

The financial markets that have felt the impact of EMU most forcibly to date are the national government bond markets of countries joining the monetary union. A key concern of investors in these markets during the past three years has been the prospects for EMU going ahead and which countries would join any monetary union. Fluctuations in these prospects have been a prime factor in influencing bond yields. Now that EMU has begun, all new government debt of the 11 countries in Euroland will be issued in euro. In addition all governments are redenominating the vast majority of tradable government debt (2).

Therefore, there are now no remaining currency differences between (say) German and French government debt. Historically, foreign exchange risk between these currencies may have been low, but the different currency denominations of the two bonds made them distinct assets. Removing foreign exchange risk should increase the degree of substitutability and the correlations between bond markets of different governments. Indeed, EMU has already boosted correlations between returns in different markets.

An alternative way to make this same point is to use the expectation hypothesis of the term structure of interest rates. The current bond yield can be broken down into the current level of short-term interest rates and expectations of future interest rates. For example, today's two-year bond yield can be written as the average of the current one-year interest rate and the one-year interest rate expected in a year's time (3). Additional factors, such as the credit risk of the borrower and liquidity may also influence the current level of two-year bond yields, but this formula contains the dominant factor. Inside EMU market interest rates and expectations about future interest rates are determined by the monetary policies of the ECB. The dominant influence on government bond yields is therefore common across all government bond markets, making the markets more closely correlated. In the run-up to EMU, the anticipation of this drove actual bond yields close to one another through the convergence of forward interest rates implicit with current yields (see Figures 1 and 2).

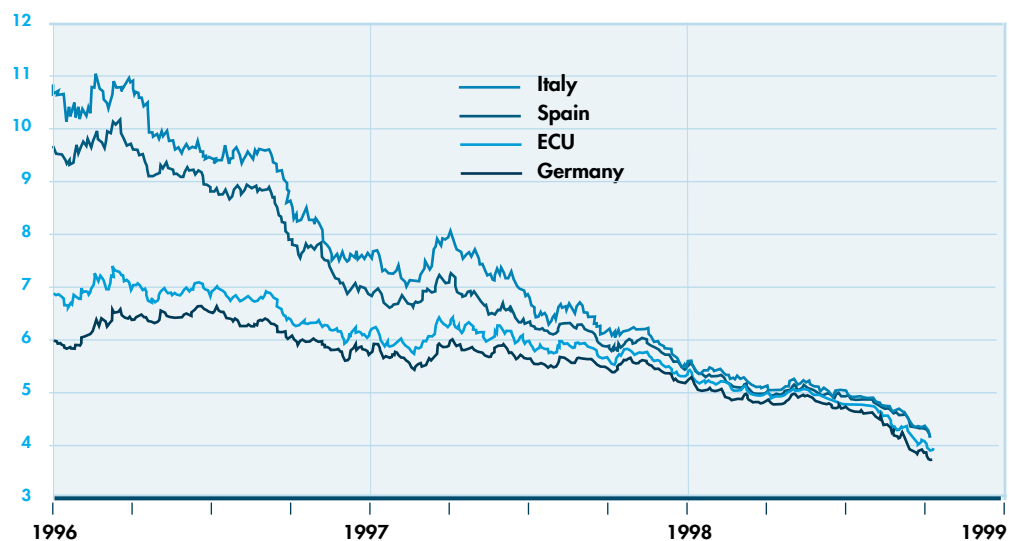
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1) This section draws on three papers by the author in Goldman Sachs European Economics Analyst. These are: "Portfolio Flows Between Government Bond Markets in EMU" of February 1998, "Credit Risk and Bond Yield Spreads Within EMU" of March 1997, and "Government Bond Markets in EMU - The Supply and Demand for Corporate Credit" (with Kurt Winkelmann) of March 1998.

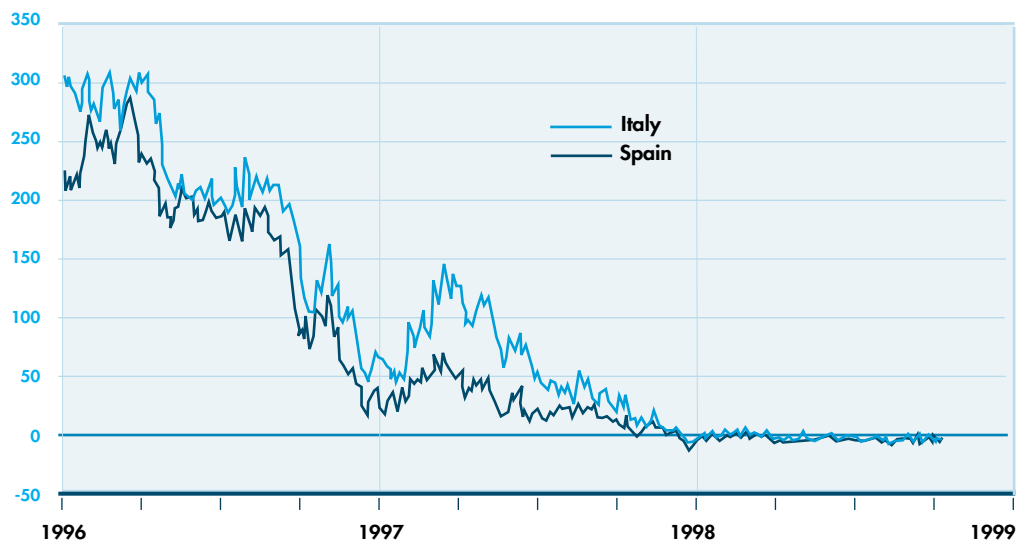
2) A report published in April by the EU monetary committee shows the share of tradable national currency government debt which is being re-denominated is over 80% for all countries joining EMU except Finland (77%) and Austria (34%).

3) This is a linear approximation rather than an exact formula, but it suffices for our purposes.

**Figure 1.** Benchmark government bond yields, percent



**Figure 2.** Five year, five year forward swap spreads over Germany, basis points



As well as removing currency distinctions, governments are taking steps to harmonise the conventions on different bond markets, e.g. the way that accrued interest is calculated and the settlement terms. This will remove another distinction between new issues of government debt, increasing the degree of substitutability yet further. However, some distinctions between different government bonds will remain. Two important distinctions will be issuance practice, which will remain the responsibility of national governments, and credit risk, with individual governments responsible for the consequences of their own fiscal actions. These factors are likely to prevent the different government bond markets being perfectly correlated with one another. Nonetheless, the impact of EMU on government bond markets will still be higher correlations. This will remove the differences between bond markets, which were a key part of the process of investing in these markets until recently. This could markedly change the way that fixed income funds are managed in Euroland.

## 2.2 Fixed income fund management in EMU

**Higher correlations between national government bond markets reduce the benefits of diversification.**

Higher correlations between national government bond markets reduce the benefits of diversification. For example, a French investor holding a portfolio of French government bonds could alter the volatility of his portfolio by shifting some funds into foreign currency government bonds, such as German Bunds. So long as the correlations between the two markets was low this would reduce the volatility of the overall portfolio without reducing returns. Switching bond holdings into other government debt was also a means of seeking higher returns on a portfolio.

Table 1 illustrates the impact of higher correlations on bond portfolios. It shows the tracking error on a portfolio of either French or German government bonds relative to a benchmark of all Euroland government bonds. These tracking errors are shown under different assumptions about the correlations between government bond markets in Europe. The correlations begin at zero and end at one, with perfect correlation between the national government bond markets. Intermediate values for the correlations are the actual correlations in January 1994, when EMU was an uncertain prospect, and January 1998, when the prospect of EMU had pushed correlations higher. The tracking error on a portfolio of purely French or German government bonds declines as the correlations increase from left to right. This is because the portfolio of French or German government bonds becomes a closer substitute for the aggregate Euroland portfolio. When bond markets are highly correlated the tracking errors are very small.

This shifts the focus of fixed income fund management within Europe. A traditional method of managing a fixed income portfolio of government bonds within Europe was to decide whether to increase allocations to certain European markets to try and boost returns. The choice of country was the main decision variable for a fund manager.

**Table 1.** Tracking errors decline as correlations increase

	Tracking Error (basis points)			
	Corr = 0.0	Corr: Jan 94	Corr: Jan 98	Corr = 1.0
France	305	191	150	15
Germany	260	197	129	47

Table 2 shows the change due to EMU most starkly. Imagine an investor managing a portfolio of European government bonds who is not allowed to take duration risk, that is, he has a "market exposure" of one. This investor has a target tracking error for his portfolio relative to the benchmark aggregate Euroland portfolio of 50bp. This represents his appetite for risk. The investor takes the risk by switching funds between different government bond markets, e.g. moving out of France and into Italy. If correlations between the government bond markets are in line with those in January 1994 it is possible to construct a portfolio which has a tracking error of 50bp and achieves an expected out-performance relative to the benchmark of 30bp. This represents the pay-off for assuming additional risk in the portfolio (4).

4) All these calculations are based on the Goldman Sachs Black-Litterman asset allocation model.

**Table 2.** Less opportunities to take risk

Portfolio	Market Exposure	Tracking Error (basis points)	Projected Performance (basis points)
Corr. Jan 94	1.00	50	30
Corr. Jan 98	1.00	37	7

If we use the higher correlations between the government bond markets of January 1998, the story changes. It is now not possible to construct a portfolio with 50bp of tracking error without taking duration risk. The different government bond markets are too close substitutes, and the maximum tracking error, which is possible, is 37bp. For this level of risk the expected out-performance relative to the benchmark portfolio is just 7bp.

*Inside EMU it is not possible to satisfy investors' typical appetites for risk by the normal process of switching between the different national government bond markets.*

Therefore, inside EMU it is not possible to satisfy investors' typical appetites for risk by the normal process of switching between the different national government bond markets. There are several possible responses - all involve taking on additional risk in at least one dimension. First, the investor actively managing a portfolio of European government bonds can manage the duration of the portfolio more aggressively than before. A second possibility is to change the parameters on the portfolio and manage the international exposure between the US, Europe and Japan more aggressively. The third option is to look elsewhere within European fixed income markets to find opportunities to take risks.

### **2.3 A Euroland corporate bond market**

Investors seeking new fixed income opportunities to boost returns on bond portfolios will add to the demand for corporate credit inside EMU. This has already happened to some extent, but the process is likely to intensify. First, correlations of returns on government bonds should increase further between much of the EMU bloc. Second, unfunded pension liabilities and pension provision in the private sector will push fund managers into seeking higher returns on existing portfolios of pension assets. This will necessarily entail higher risk, partly in the form of greater credit risk. Third, the supply of government bonds may diminish as governments keep fiscal deficits low in line with the stability and growth pact, reducing further the available returns on portfolios of government bonds.

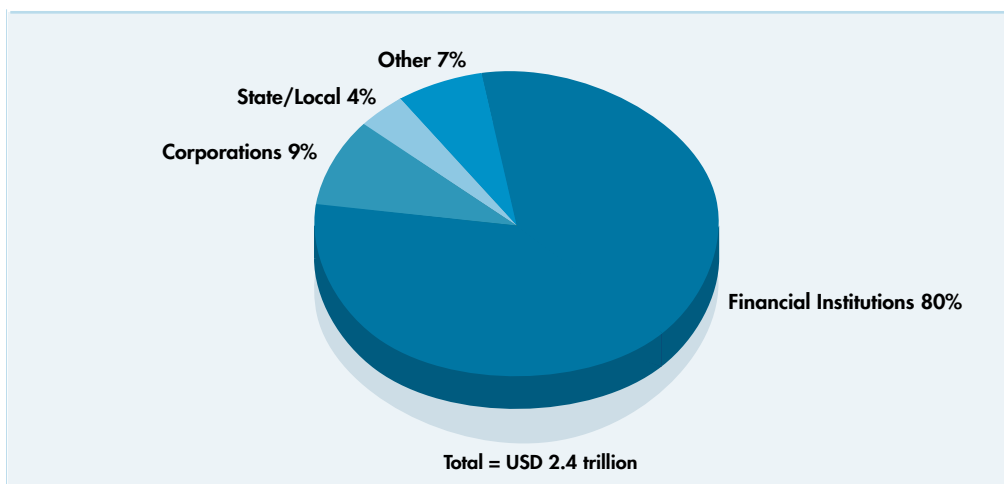
A final impact is through increased opportunities for diversification. By broadening the universe of domestic currency corporate bonds, EMU will increase the scope to diversify away any individual corporate credit risk. This increases the attractiveness of investing in a given corporate credit. The demand for a given corporate credit therefore increases at unchanged spreads - i.e. the demand curve shifts rightwards.

An increased demand for credit risk will also reduce the corporate credit spread over government debt. This will boost the overall supply of corporate debt and will go some way to restoring the opportunities to take risk and increase returns on fixed income portfolios in Europe. However, the total corporate bond market in Euroland is currently woefully small (see Figure 3). Data from the IMF show that two thirds of every dollar raised by US companies comes directly from the capital

*Investors seeking to boost returns on bond portfolios will add to the demand for corporate credit inside EMU.*

markets with the remainder coming from bank borrowing. The balance is exactly reversed in Europe - two thirds of borrowing comes from banks and only one third direct from capital markets. Moreover, most of the borrowing in capital markets is done by financial institutions. There is very little direct borrowing by non-financial institutions to finance their activities.

**Figure 3.** The corporate bond market in EMU



One of the factors which has inhibited the development of a corporate bond market is exchange rate risk. Due to restrictions on investments in foreign currency assets, the possible range of investors for most companies has effectively been limited to domestic investors. This has raised the cost of issuing debt securities for most companies relative to the alternative of borrowing directly from the banking sector. EMU should broaden the investor base for European companies wishing to issue corporate debt. In addition the foreign exchange cost of issuing debt in one main currency and then transferring the proceeds into various different local currencies to finance local operations will disappear. These factors should boost the supply of corporate credit independently of the increase in demand.

An increase in both the demand for corporate credit and also the supply of corporate credit will foster the development of a corporate bond market. Back of the envelope calculations suggest that this market could grow fivefold or more from its current anaemic state. The main consequence of EMU for fixed income investors is, therefore, a shift in focus from the national economic policies of individual governments towards corporate credit.

### **3. EMU and equity markets**

#### **3.1 Sector versus country**

There is considerable evidence that investors in financial markets have a strong domestic bias. Many studies show that the proportion of assets held domestically is suboptimal and that a shift of some funds into overseas assets would reduce the volatility of portfolio returns without reducing the level of returns. One of the barriers to such diversification of portfolios is exchange rate risk. Investors are either wary of shifting funds into overseas markets because of exchange rate risk or are prevented from doing so by regulations which are themselves justified by exchange rate risk.



As noted above, EMU changes the definition of the home market, and should reinforce the move from managing portfolios of European equities along national lines towards sectoral lines. Equity market strategists and academic researchers continue to debate the merits of distinguishing equity markets along national or sectoral lines for investment purposes. The issue here is whether (for example) an investor should compare the share prices of German banks with the share prices of other German companies or with those of banks in other European countries.

EMU has led to increased stability in exchange rates and convergence of bond yields and interest rates in the countries joining the monetary union. In principle this might have increased the correlations between national equity markets as the determinants of corporate profits and risk premia move more closely. Simultaneously, one might expect correlations between equity prices within the same sector to increase as European economies become more integrated and trade flows between European countries increase.

**Sectors have become relatively more important in determining equity returns than countries.**

Research by Goldman Sachs suggests that sectors have indeed become relatively more important in determining equity returns than countries (5). This research looks at average historic correlations between equity returns within national equity markets and within sectors. Although there is no conclusive increase in correlations within sectors during recent years there has been a decline in correlations within national markets. However, the evidence remains ambiguous as to whether sectors or countries have proved better asset classes. Nonetheless, the research concludes: *"from a European perspective, and more specifically from the perspective of EMU, it seems likely that the ability of any analytical system to generate country rotation signals within Europe will fall as interest rate and exchange rate changes among countries included in EMU fade into history. Even if the sector signals do not improve, this suggests an increase in the relative ability of sectors to contribute to the investment decision process. ... we believe investors have a basis to assume that sectors will be better asset classes going forward"*.

Ultimately the question of whether investors will look at sectors or countries when making investment decisions is empirical, and survey evidence strongly indicates that investors will base their decisions on sectors rather than countries. Together with the investment consultants Watson Wyatt, Goldman Sachs undertook a survey of our client base asking about the impact of EMU on behaviour (6). The aggregate value of funds under management covered by the survey was approximately USD 2 700 billion.

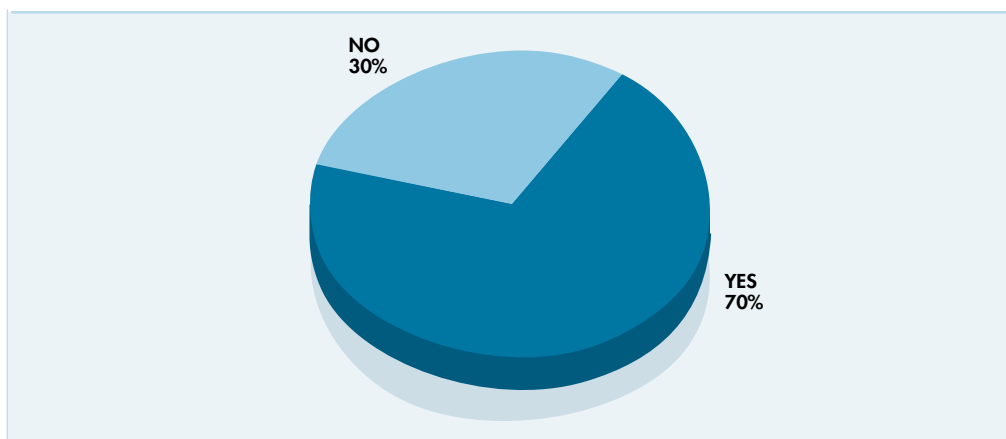
The results are shown in Figure 4. Out of the fund managers surveyed, a full 70% said that EMU would lead them to reconsider their approach to asset allocation. The fund managers were asked whether they would organise their European equity portfolio on a country or a sector basis. 64% of managers said that European equity portfolios would be organised on a sector basis. Only 9% said that portfolios would be organised on a country basis, the remaining 27% saying "other", probably indicating a mixture of country and sector factors. Linked to this finding there is strong evidence from the survey that fund managers increasingly find the country of listing of a company within Euroland to be irrelevant.

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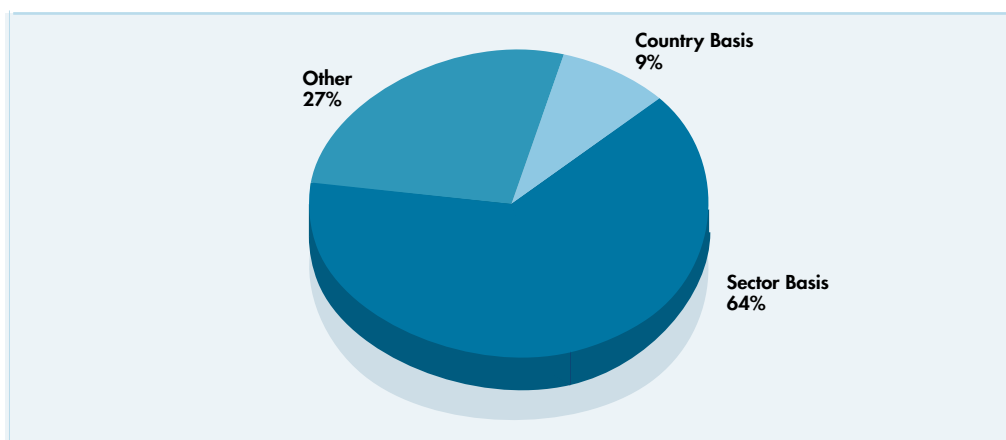
5) "Sector Versus Country - When is an Asset Class an Asset Class?". Goldman Sachs Portfolio Strategy, March 1998.

6) "The Goldman Sachs/Watson Wyatt EMU Survey - Summary of Results", Sandy Rattray & Richard Boomgaardt, Goldman Sachs Equity Derivatives Research, 17 June 1998.

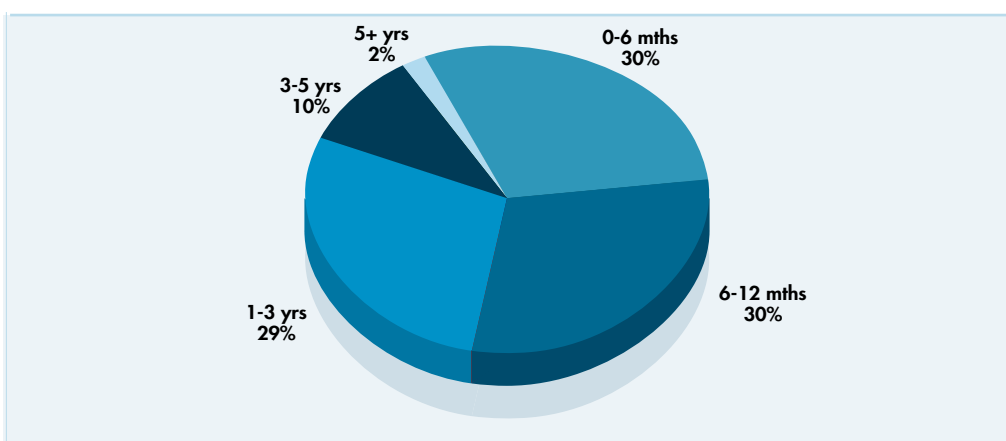
**Figure 4.** The Goldman Sachs/Watson Wyatt EMU Survey



Will the establishment of the euro prompt you to reconsider your asset allocation?



Post EMU will your European equity portfolio be organised on a country or sector basis?



How long do you expect transition from your current portfolio to your "EMU compatible" portfolio to take?

One factor, which might stimulate change in the way funds are managed, is changing regulations. EU based insurance companies are covered by the EU Third Life Insurance Directive which is reflected in national law in each country. This directive requires insurance companies to hold at least 80% of their assets in the same currency as their liability. This forces insurance companies to hold the bulk of their equity portfolios in domestic equities. Now that EMU has begun, this effectively removes the restriction on investing in equity markets in other countries within the monetary union.

There is no common framework of regulation for pension funds and attempts by the European Commission to propose a framework continue to face opposition by individual countries. The impact of EMU on restrictions on pension fund investment is, therefore, less clear. However, it is expected that EMU will ease restrictions on pension fund foreign holdings by redefining the "home" market, for example through changing the results of asset-liability studies.

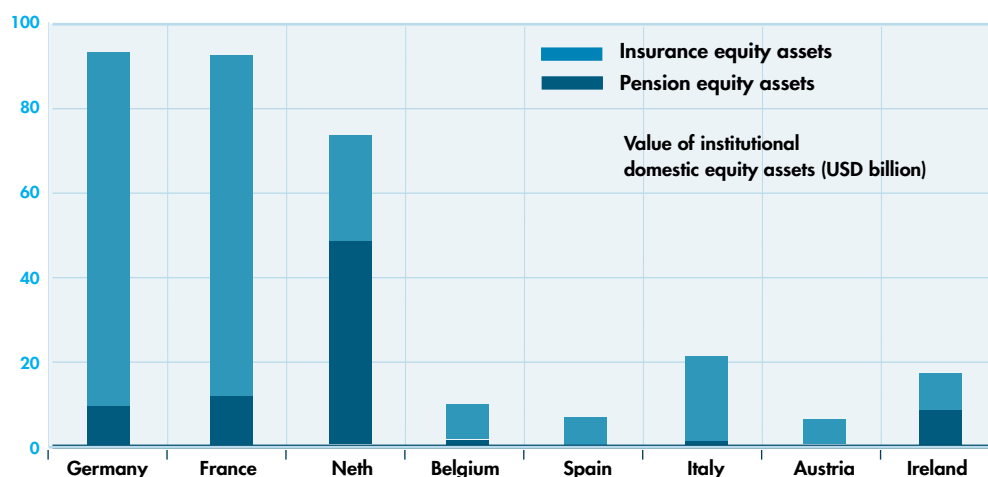
One interesting feature of the survey was the speed with which changes are likely to be implemented. Almost 60% of fund managers expected the transition period to take no more than one year and almost 90% expected it to be finished three years into EMU. This suggests a fairly rapid adjustment to equity portfolios. It is possible that this might cause some dislocation in some national equity markets as funds migrate from national portfolios into pan-Euroland portfolios. This is one of the transitional issues for EMU discussed below.

### 3.2 Portfolio rebalancing

*Concentration of institutional holdings of equities in particular countries has raised the possibility of massive net flows between some markets.*

The prospect that equity investors might adjust their portfolios fairly rapidly has led to some speculation about the extent of cross-border flows. In principle these flows might be substantial. If investors in each national equity market decide to adjust their portfolios into pan-Euroland portfolios the majority of funds under management could change hands. Institutional holders of equities are more likely to adjust their portfolios than individual investors. The concentration of institutional holdings of equities in particular countries, most notably in Dutch pension funds and German and French insurance companies (see Figure 5), has raised the possibility of massive net flows between some markets.

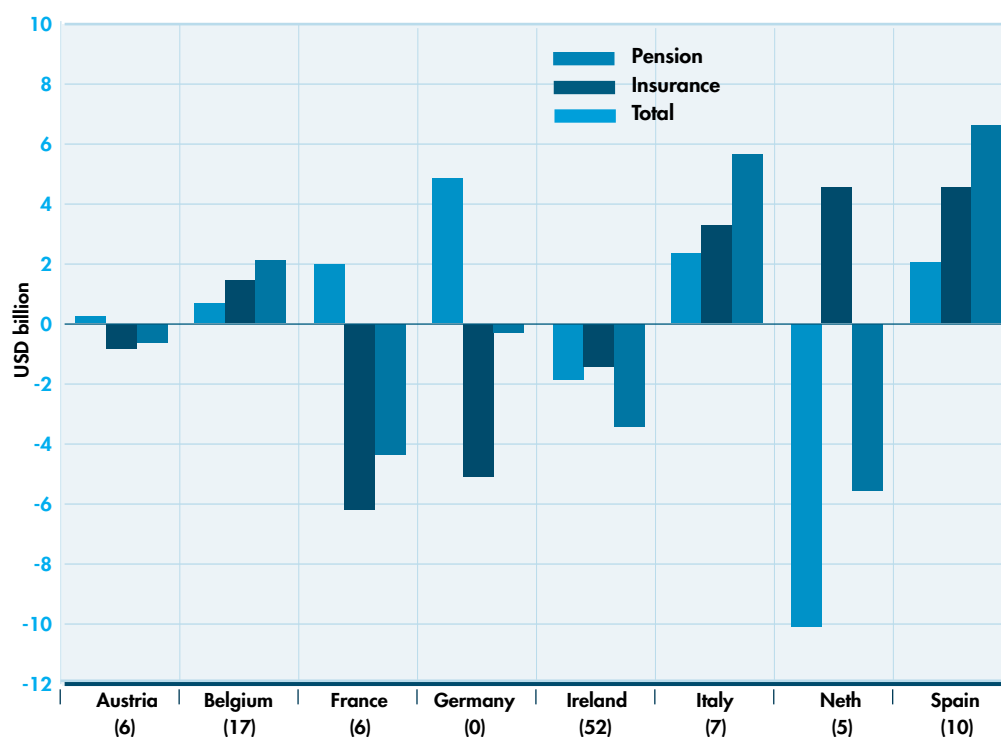
**Figure 5.** EMU zone domestic equity assets



Two distinct approaches can be taken to portfolio rebalancing (7). First, one can consider rebalancing using a country approach. This would involve selling domestic equity holdings and investing the proceeds across the euro-zone on a country basis. With such an approach, those markets with the highest level of institutional equity investment relative to their weight in the euro-zone would suffer most. There would be massive flows of funds out of the Dutch and French equity markets and into Spain and Italy. There would also be large selling of Irish equities. Figure 6 shows the net rebalancing flows and also the number of days trading volume assuming that 30% of portfolios are adjusted. Flows from insurance companies and pension funds are shown separately as pension funds may rebalance more slowly than insurance companies owing to the differences in regulation.

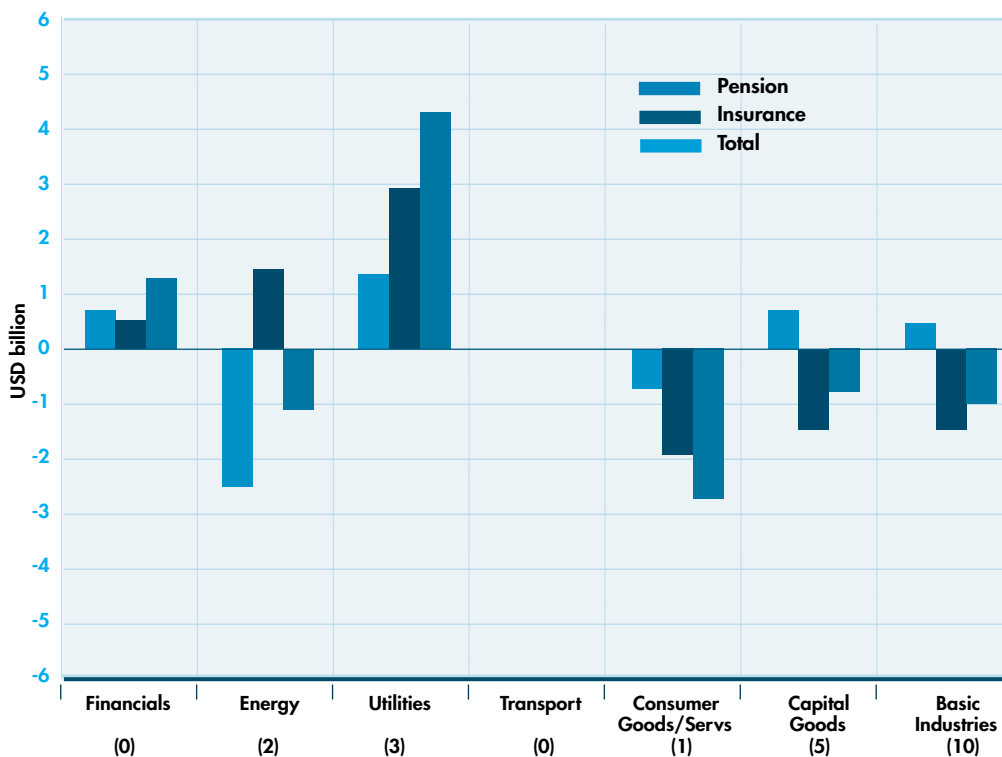
The alternative approach to portfolio rebalancing is to do it along sector lines. Country of portfolio holding is irrelevant here - one is only interested in whether sector holdings match the sector breakdown of the aggregate euro-zone equity index. Consequently, institutional investors remain biased on a country basis after rebalancing. Given the stated preference of equity fund managers for managing portfolios along sector lines inside EMU, this seems a more realistic approach to take. Figure 7 shows the net portfolio flows assuming 30% of funds are reallocated on a sector basis across the Euroland equity market. The flows are more muted than for a reallocation along country lines. This is because existing allocations of funds look less unbalanced when measured against a neutral sector benchmark. Moreover, on sector lines there are more flows which cancel out.

**Figure 6.** Rebalancing flows using a country approach



7) The following draws on "The Great European Rebalancing: Fact or Fiction?". Sandy Rattray, Goldman Sachs Equity Derivatives Research, 16 May 1998.

**Figure 7.** Rebalancing flows using a sector approach



**Cross-border equity flows due to rebalancing may be skewed towards "large-cap" names.**

The aggregate effect of portfolio rebalancing in equity markets may therefore be more limited than is widely thought. However, one feature of these potential flows is particularly worth noting. Typically, when investors rebalance portfolios they concentrate new purchases on "large-cap" names. This suggests that cross-border equity flows, which result from rebalancing, may be skewed towards these stocks. One factor reinforcing this is that the most widely used benchmarks for pan-Euroland equity investors are likely to be "large-cap" biased. Investors will therefore have an added incentive to concentrate purchases in these stocks. The rebalancing effect within equity markets may have the most marked effect on stocks of different market capitalisations within the same sectors rather than on different countries or sectors (8).

#### 4. A logical end-point?

Table 3 compares Euroland with the US. It is common to use the US economy as the benchmark for comparison for Euroland because the two are not so different in terms of economic size (Euroland GDP is roughly three-quarters US GDP). Some of the arguments about the future development of Euroland financial markets stem from this fact alone. To illustrate this point, imagine that EMU did not involve 11 EU countries together, but instead economies the size of the 16 German Länder

8) It is possible that there will also be rebalancing flows within bond markets. However, correlations between different government bond markets are very high and the diversification benefits from switching between different markets will be low. Perhaps the most compelling argument in favour of diversification comes from prudential considerations, i.e. to avoid excessive exposure to the credit risk of the home government. Nonetheless, the force of this argument is fairly limited and diversification of bond portfolios may be slow and protracted. See "Portfolio Flows Between Government Bond Markets in EMU", Martin Brookes, Goldman Sachs European Economics Analyst, February 1998.

(coming together to yield the DEM). The key part of this process is exactly the same, i.e., economic areas adopting a common currency. But it is difficult to imagine analysts making the same claims about the future development of DEM-denominated financial markets, which are made about euro-denominated financial markets. The qualitative claims which would be made may well be similar - greater liquidity and depth in financial markets leading to greater range of instruments and markets - but the range of instruments and markets expected to develop would be smaller than is the case for Euroland.

**Table 3.** Euroland comes close to matching the US

	Euroland	USA
GDP	USD 6.8 trillion	USD 7.6 trillion
Population	288m	261m
Share of World Trade	18.6%	16.1%
Government Bond Market	USD 2.3 trillion	USD 2.2 trillion
Equity Market	USD 2.6 trillion	USD 8.4 trillion

**Two key barriers are the lack of a common Euroland regime for the tax treatment of investors and the lack of a common accounting standard.**

However, there are many barriers to Euroland developing financial markets and a fund management industry to match the US. The size of the economy is not everything. Two key factors are the lack of a common Euroland regime for the tax treatment for investors and the lack of a common accounting standard (9). Although some governments have expressed an interest in harmonising taxation policies, progress is likely to be slow. The role of accounting policies inhibiting the growth of European financial markets was highlighted by the listing of Daimler Benz on the New York Stock Exchange. In order to comply with NYSE listing rules Daimler Benz had to adopt US GAAP (Generally Accepted Accounting Principles). These led to markedly different results from those produced under German accounting rules. Progress is likely to be made in integrating accounting systems within Euroland, but again progress will probably be slow.

These factors will inhibit the growth of financial markets in EMU and will likely detract from international investor involvement in these markets. Consequently, the size of financial markets within the US is probably an exaggerated end-point for Euroland. A further factor that could inhibit the growth of financial markets is the legal framework protecting shareholder rights in Europe. Recent research highlights the role of investor protection in promoting or restricting the growth of capital markets. For example, La Porta *et al.*, examines the links between four measures of the development of financial markets and a quantitative measure of the extent of investor protection (10). The measures of financial market are stock market capitalisation, the number of listed companies per head of population, the number of initial public offerings of shares (IPOs) and a

9) "Capital Markets and EMU", Report of a CEPS Working Party, Centre for European Policy Studies, 1998.

10) La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R. (1997). "Legal determinants of external finance". Journal of Finance, July.

measure of debt finance. The hypothesis is that investors are more likely to provide funds if the legal system provides adequate protection for their investments.

The evidence suggests those countries with common law legal systems, such as the US and UK, provide greatest investor protection and also support the most developed equity markets. Countries governed by French civil law systems, such as France, Italy, Spain, the Netherlands and Belgium among the Euroland countries, provide the weakest investor protection and support the smallest equity markets. Countries with German and Scandinavian origin legal systems lie between these two extremes and in turn support medium sized financial markets.

***It is excessively optimistic to assume that the logical end-point are markets of the size and breadth of the US financial system.***

This line of research is still relatively new. But the results to date highlight a further drawback for the potential growth of financial markets within Euroland. Euroland countries are covered by legal systems which do not provide the same extent of legal protection, as does the US. Therefore, it is probably excessively optimistic to assume that the logical end-point for European financial markets is the size and breadth of the US financial system. The differences between the two are much more than the exchange rate differences preventing the exploitation of economies of scale within Europe.

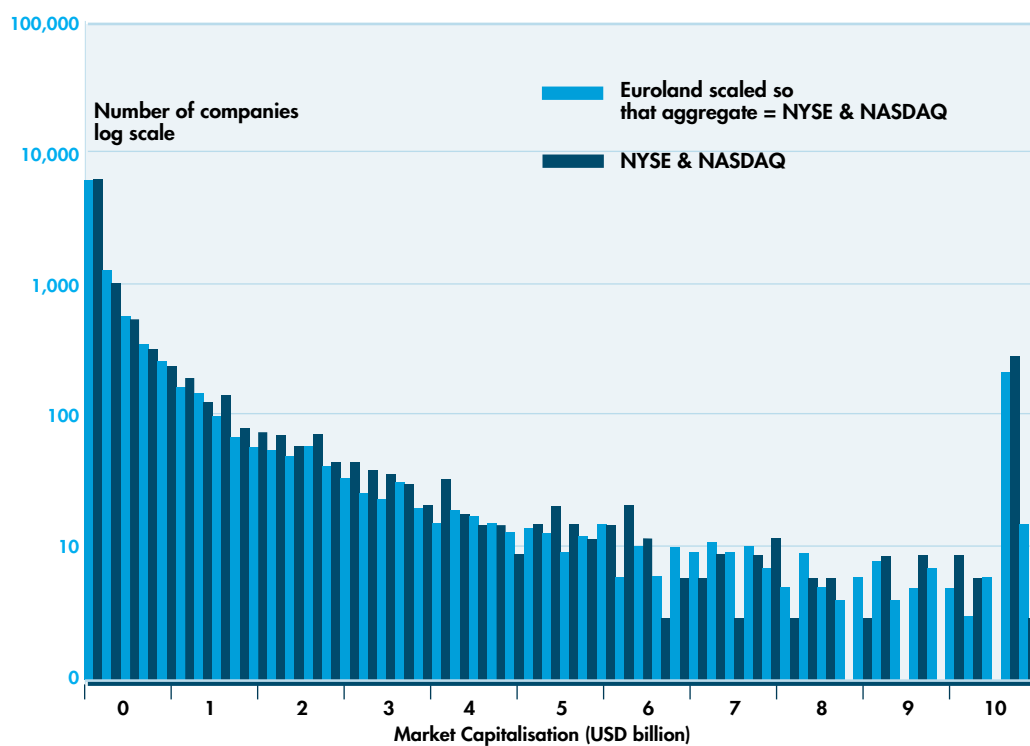
One area in which Euroland financial markets are particularly restricted is equity markets. The number of publicly listed companies and the size of equity markets in Euroland is considerably smaller than in the US. As noted in the introduction, one of the main conclusions of research into the prospects for Euroland financial markets is that equity markets will grow and more companies will go public. A major reason for this expectation is the economies of scale argument above (rather than anything to do with investor behaviour).

It is received wisdom that the smaller equity markets in Europe are a reflection of the difficulty of small to medium sized companies in Europe gaining a listing. One way to test this is to see if the structure of the US equity market is markedly different to the aggregate of Euroland equity markets. If it is true that small and medium sized companies are restricted in their access to equity capital one would find relatively fewer small and medium sized companies listed on Euroland stock exchanges than in the US. Figure 8 shows the number of companies listed on the NYSE and NASDAQ compared with the aggregate of the EMU-11 countries (11). There do not appear to be any marked differences between the two markets from this comparison. Figure 9 looks at the same issue from an alternative perspective. It takes the difference between the number of companies in each band of the first graph and weights this by the market capitalisation of the band. Each bar represents the difference in market capitalisation adjusted so that the aggregate capitalisation is the same in each case. If small and medium sized companies were under-represented in Euroland compared with the US, the bars on the left would be larger than those to the right. In fact there is no systematic pattern between the two.

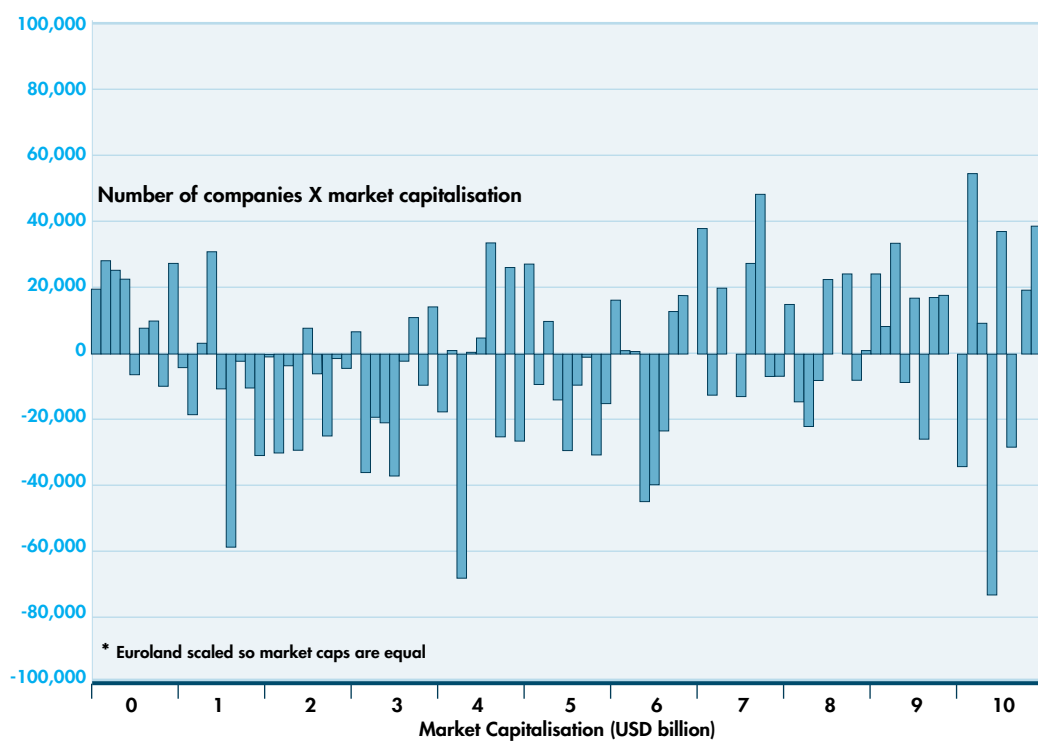
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11) The data for the EMU-11 countries are scaled so that the aggregate number of listed companies is the same as the total for NYSE and NASDAQ. This is because our interest is in the distribution of companies not the absolute number.

**Figure 8.** Number of companies - NYSE & NASDAQ vs. Euroland



**Figure 9.** Difference in number of companies weighted by market capitalisation





***The constraints on the development of equity markets are more than just scale. There are fundamental factors that deter companies from seeking a listing in Euroland.***

This experiment suggests that the “problem” of smaller equity markets in Euroland is not caused by small and medium sized companies being deterred from listing. The distribution of listed companies in Euroland appears similar to that in the US. This research is preliminary but it reinforces the impression from other work that the constraints on the development of equity markets in Euroland are more than a question of scale and that there are fundamental factors which prevent or deter companies from seeking a listing in Euroland.

EMU undoubtedly promises great change for financial markets in Europe. For investors in all classes of assets, the key change is the removal of existing distinctions between national markets. Some of this will be prompted by changes in regulations. Further changes will be prompted by the increased correlations between some national markets. In particular, this will lead to growing credit markets. Ultimately, Euroland financial markets may grow to match those in the US. However, this will take a very long time and there are structural barriers to such growth. Nonetheless, dramatic changes are likely to come. A key aspect is the way that investors will change their behaviour when investing in European financial markets.



# New capital market opportunities in Euroland



**Graham Bishop**

## 1. Introduction

The launch of the euro proved to be extraordinarily smooth - auguring well for its future. If the EU can build on this initial success, then citizens - from anywhere in the world - should come to recognise the euro as a robust 'store of value' for their savings. That should complete the emergence of the euro as a tried and tested alternative to the US dollar and cement its role as a global reserve currency. By then, the political implications of the euro's economic power should be readily visible and global finance will have acquired a second leg. That will shape banking strategies just as much within EMU-land as outside it, because the cost of funds to the European economy will be set in a global market and not within any national segment.

But a "good start" is not sufficient to ensure this outcome and other supporting developments are essential. Chief amongst these is the creation of a world-scale capital market utilising the euro and founded upon European savings flows. Fundamental and enduring forces - political, economic, demographic and technical - are combining to drive a process of historic change in the channelling of Europe's savings. They may flow into marketable securities as the preferred mechanism to extend credit to the European economy (and beyond) - the securitisation process. For this analysis, securitisation is defined in the broadest sense. It means connecting the suppliers of funds directly with the users - via a market for securities, rather than through an intermediary bank. The term is often applied to the specific process of making small loans - perhaps on residential mortgages or even credit cards - into bonds that can be issued on the capital markets and purchased by large investment institutions. More generally, it can include the process of governments transforming their non-marketable debts into highly liquid bonds that command a lower interest rate - and thus cost saving.

EMU is often cited as the driving force for changes in the banking environment and, by itself, it certainly will create change. But it would be a mistake to view EMU as the sole driving force and, perhaps, one whose economic effects may be muted because of the political motivation. Three key driving forces should be considered. Their interaction over the next decade could easily change the face of Europe's banking system - creating opportunities as well as threats:

- European Integration is an obvious "driver". The practical outcome of this political process is the creation of the Single Market - of which the financial services component is especially relevant.
- Demographic trends are now set for the next few decades. Increasing sophistication plus rising retirement savings opens new opportunities to intermediate these savings - but which part of the financial services sector will win the business? An aging electorate may also have different political priorities: namely preserving the purchasing power of their assets. As a side effect, that rising tide of liquid savings will also increase the political influence of the financial markets on public policy.

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*Graham Bishop is Adviser on European Financial Affairs at Salomon Smith Barney in London and reports to the Co-Chief Executives in Europe. Mr. Bishop is also Specialist Adviser to the House of Commons Treasury Committee on EMU, and participates in the European Commission's Strategy Group on Financial Services and its Consultative Group on the Impact of the Introduction of the Euro on Capital Markets.*

Technology is a global driving force that will have a profound impact - whether EMU exists or not. Information Technology (IT), covering both computing and communications, will re-shape the mechanics of securities markets and their ability to offer competition to the banking sector.

At times of great change, it is useful to step back and consider the most basic functions of the market: That is to act as an intermediary between savers and the eventual users of their funds. Simplifying in the extreme, there are two models of an intermediary:

- A deposit-taking bank. The saver makes a deposit, for a particular term, and is certain that these funds are secure. The bank will manage a diversified portfolio of assets - using that deposit. Reflecting the political clout of savers, public regulators will require that the bank's shareholders put up ample capital to buffer losses so that deposits are safe. Obviously, shareholders also want a proper return on this capital. Therefore, the savers' maximum net return is the return on the asset portfolio *less* management expenses *less* shareholders' return.
- The securities market offers a different bargain. The saver pays a fee to engage directly with the user of the funds, bearing the full risk of market movements and credit problems. To achieve an adequate degree of credit diversification, the saver could pay the management expenses of a mutual fund (or other institution).

If the management expenses of the bank equalled those of a mutual fund, then the saver could increase return simply by capturing the bank shareholders' portion of the return provided by the underlying assets. However, this analysis can only be performed if the type of assets available to the bank are also available for purchase in the securities market. But, in Europe today the short answer is: They are not available.

If EMU has the side effect of bringing those assets to the market, then the playing field will tilt a little. If technology also shifts the 'management expenses' goal posts, then we may well be in a new game.

## **2. Europe should learn lessons from the US - but only some**

When analysing the possible development of the European financial system, a number of parallels can be drawn with the US, particularly its banking system. The share of credit extended by it, as a percentage of GDP, over the past twenty years has remained essentially unchanged. But the striking feature of the US financial system is the rise in total bonds outstanding as a percentage of GDP - a measure of the securitisation of the US economy (see Figure 1).

The enormous surge in activity has included agencies, mortgage-backed bonds, corporate bonds, and Yankee (that is, foreign issuer) bonds - the latter reflecting the role of the dollar as a global reserve currency - as well as bonds backed by all sorts of financial assets, including credit cards, and even loans to small companies. In practice, virtually any financial asset which produces a predictable inflow of cash - a 'receivable' - can now be 'securitised'. This means that a bond can be issued, via the capital markets, that gives the lender the right to receive those cash items, or a proportion thereof.

**Figure 1.** Securitisation and bank credit, as a percentage of GDP

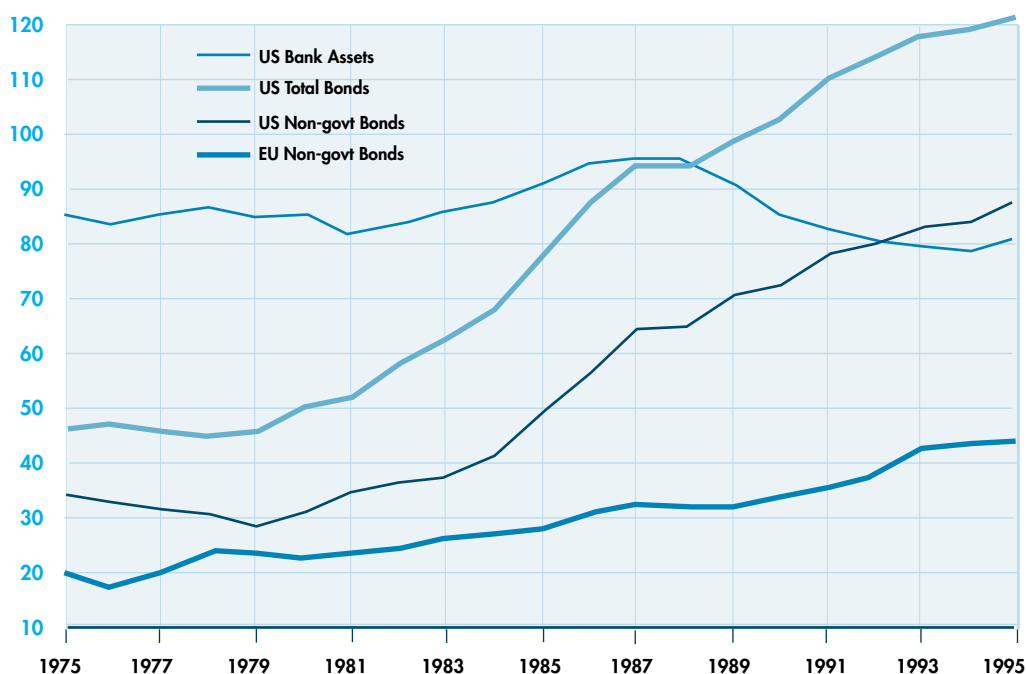


Table 1 shows the build up of these extra components, as well as the agency market that was the raw material for the mortgage bond market. Many of these securities might well have been bank assets, but the high-yield issuers were often trying to escape from onerous debt amortisation provisions or the restrictive covenants that banks would have required.

One significant factor in boosting the US bond market in the mid-1980s was the banking system's capital adequacy problems. In particular, banks like Citibank (now part of Citigroup - the parent of Salomon Smith Barney) decided that the problems of capital inadequacy were so great that they needed to sell off some of the assets on their balance sheet. The chosen mechanism was to securitise them, thereby removing them from the balance sheet whilst retaining customer relationships by servicing the credit cards, etc. That opened the door to new competitors such as speciality credit card companies where economies of scale became a key competitive advantage, or non-banks such as the automobile finance companies, and even mutual funds that invest in bank loans. NationsBank has now securitised a portfolio of loans to small and medium-sized companies - hitherto seen as the last bastion of bank lending.

**The growth of the US bond market has not been driven by the size of the government's deficit, but by the non-Federal government sector.**

This could only happen with the new-found technology, firstly, to do the underlying customer transaction and, secondly, to turn a pool of these into a set of cash flows that can be sold as securities. Europe has the technology and can import these tried and tested techniques, so there are some grounds for regarding the US experience as a leading indicator for Europe.

**Table 1.** US bonds outstanding, USD billion (nominal value)

Year- End	Total Publicly Issued	Governments		Federal Agency <sup>b</sup>			International Bonds <sup>e</sup>			
		Total	Held Outside US Govt <sup>a</sup> .	Total	Mortgage Pass- Throughs	Non-Agency Mortgage Securities <sup>c</sup>	Municipals	Corporate <sup>d</sup>	Foreign Bonds (Yankees)	Eurodollar Bonds <sup>f</sup>
1970	485.4	159.8	105.7	\$77.4	\$0.4	-	131.1	117.1	NA	NA
1975	750.0	205.7	136.6	120.6	17.8	-	224.1	199.6	NA	NA
1976	850.7	257.3	185.6	135.6	28.4	-	239.5	218.3	NA	NA
1977	928.9	298.8	224.4	157.8	49.7	-	236.6	235.7	NA	NA
1978	1,025.2	325.8	245.9	182.5	65.0	-	265.6	251.3	NA	NA
1979	1,176.0	358.1	274.9	235.2	91.1	-	279.7	303.0	NA	NA
1980	1,377.0	407.1	320.2	278.3	114.0	-	288.0	339.8	NA	63.8
1981	1,597.0	475.3	385.3	323.5	129.0	-	347.2	370.7	NA	80.3
1982	1,870.3	569.6	NA	387.2	178.5	-	381.2	418.9	NA	113.4
1983	2,193.7	707.1	NA	455.0	244.9	-	429.0	457.5	NA	145.1
1984	2,626.9	873.0	778.4	529.4	289.0	11.0	477.4	540.2	NA	195.9
1985	3,236.5	1,037.8	915.4	629.9	368.9	24.0	630.6	647.0	NA	267.2
1986	3,860.6	1,192.3	1,067.6	808.2	531.6	16.6	703.7	737.7	51.5	350.6
1987	4,363.0	1,335.2	1,202.3	978.8	670.4	28.5	798.0	779.1	56.0	387.4
1988	4,732.9	1,425.8	1,281.8	1,116.0	745.3	37.3	866.5	804.7	62.0	420.6
1989	5,323.0	1,532.9	1,374.8	1,267.1	869.5	48.3	914.5	997.3	66.3	496.6
1990	5,816.5	1,668.4	1,512.5	1,445.9	1,019.9	61.3	957.3	1,083.9	75.6	524.1
1991	6,466.6	1,881.3	1,716.6	1,577.9	1,156.5	106.4	1,031.7	1,241.5	86.1	541.8
1992	7,062.9	2,096.5	1,918.7	1,734.0	1,272.0	168.6	1,054.0	1,352.5	103.7	553.7
1993	7,657.8	2,274.8	2,074.9	1,907.0	1,356.8	213.9	1,115.1	1,463.3	125.8	557.9
1994	8,232.0	2,422.1	2,183.4	2,199.5	1,472.1	254.7	1,078.6	1,515.0	137.7	624.5
1995	8,845.6	2,546.5	2,326.2	2,405.1	1,570.3	291.6	1,039.9	1,728.7	155.6	678.2
1996	9,583.4	2,682.3	2,446.5	2,634.5	1,711.0	346.9	1,049.6	1,910.0	175.9	784.3

<sup>a</sup> Includes domestic holdings outside of the US Government and US Federal Reserve banks and all foreign holdings.

<sup>b</sup> Includes budgeted and sponsored Federal agencies. <sup>c</sup> Consists of non-Government agency pass-throughs and collateralized mortgage obligations (CMOs); Includes single-family, residential, multi-family and commercial mortgages. <sup>d</sup> Includes straight convertible and floating-rate debt, tax-exempt corporate bonds, medium-term notes (MTNs) and asset-backed securities.

<sup>e</sup> Includes straight, convertible and floating-rate debt. <sup>f</sup> Includes US dollar-denominated bonds issued in Japan. NA Not available.

Note: The non-agency mortgage security series have been revised to reflect a change in source.

Sources: Federal Reserve System Flow of Funds, US Treasury Bulletin, Euromoney Inter-Bond Annual of 1978, International Securities Market Association (ISMA). Moody's Investors Service, IDD Information Services, Orion Royal Bank Ltd., and Salomon Smith Barney Inc.

However, the most interesting aspect for Europe is that the growth of the US bond market was driven by the non-federal government sector - as exemplified by the development of the mortgage-backed securities market. The securitisation of mortgages was fashioned to sponsor home ownership - reflecting the political desire to build a nation. That desire is absent in Europe so the new banking markets here must be based on solutions tailored to the specific mix of attitudes in Europe and there are some parts of the US experience that point in a different direction from that desired in Europe. The political structure of the European Union is designed to achieve "ever closer union" but the Maastricht Treaty explicitly ruled out any sharing of liability for public debt (see Article 104b). As the financing of homes is a matter of vital concern to electors, any formal pan-EU housing finance institution might be put under great pressure to equalise borrowing conditions to such an extent that

**Investors can now extend credit to virtually all sectors of the US economy. This does require investors building the capacity to do detailed investigation of the underlying assets.**

it could become an engine of nation-building. That social and political role was apparent to the US Congress when it founded several agencies for this purpose.

So the creation of quasi-government institutions that, in aggregate, could have obligations greater than those of the collective governments - as is now the case with the three relevant US Agencies and the US Federal Government (see Table 1) - could well be seen as a potential step in the opposite direction to "subsidiarity", which is the EU doctrine of de-centralisation of political power. For perspective, the European Investment Bank has outstanding obligations that are not even 5% of those of the central governments of EU Member States.

Given their potential scale - and the political implications that might flow from that - Europe's desire for closer union seems likely to stop well short of creating government-backed financial institutions designed to give similar access to funding for home ownership throughout the territory of the Union. So it seems most unlikely that public authorities will foster the development of a Mortgage Backed Security (MBS) market within the EU in the way that the Agencies have in the US. Therefore, the European private sector will have to provide the credit support mechanisms, and analysis, to give investors the comfort necessary to invest in this type of market. During the past century or more, the "mortgage banks" in, for example, Germany, Austria, Denmark and Sweden have shown what can be achieved by lending and then collateralising bond issues of the bank itself - the "Pfandbriefe" model - rather than a special purpose vehicle. Typically, this type of bank bond issue has a greater volume outstanding than the central government of that country.

*The coming of the euro does make a difference because the exchange risk barrier disappears from cross-border business.*

Can the "mortgage banks" export this model throughout the EU? Those banks may find it difficult to ensure that there is a sufficiently similar legal basis in each state for taking a mortgage on a property and then putting it into a pan-European collateral pool. The alternative is to continue with a series of fragmented national markets that may not achieve wide enough distribution to ensure the liquidity of EUR 10-20 billion that is necessary to minimise the yield spread versus government bonds. "Jumbo Pfandbriefe" continue to trade at more than 40 basis points over corresponding Bunds - significantly above the spread that would be expected on the basis of their AAA credit rating.

That is the key challenge for a major sector of the banking sector. If the "special-purpose vehicle" model is seen by investors as giving sufficient security - perhaps via over-collateralisation techniques - then mortgage originators may find that a more cost-effective form of funding. The "agency" element of the US experience of the move to securitise residential mortgage credit is unlikely to be a role model for the Eurozone, but the "special-purpose vehicle" may offer stiff competition to the "Pfandbriefe" model.

### **3. Why does the euro make a difference?**

The coming of the euro *does* make a crucial difference because the exchange risk barrier disappears from cross-border business. As a specific consequence for Europe's largest pool of long-term savings - the life insurance industry - currency matching rules within the EU lapsed at the end of 1998.

That is not the end of the process of regulatory change. The European Union is already combing through the remaining obstacles to a genuine 'Single Market' in financial services. The European

Commission published its Communication, "Financial Services: Building a Framework for Action", in October 1998 (1). This does indeed propose a collection of actions that should "eliminate remaining capital market fragmentation to minimise the cost of capital raised on EU markets, [and] make the advantages of open markets available to both users and suppliers of financial services". The European Council Summit in Vienna in December accepted the European Commission's suggestion for a High-Level Group to prioritise the steps needed to achieve that completion. Amongst the key proposals, the Commission has undertaken to:

- improve the cross-border acceptability of prospectuses;
- alleviate the burden of investment restrictions for institutional portfolios;
- clarify the definition of professional users of financial services to ease their access to cross-border services; and,
- ensure that legal provisions on collateral are mutually compatible.

Eventually, some of these provisions should apply beyond the EU, but agreement with say the US authorities on recognition of prospectuses will have to await a corresponding recognition of accounting standards.

**Removing currency matching rules should dramatically extend the range of institutions that can buy new types of security.**

The crucial problem in launching a new market sector is to get the initial critical mass. Investors are reluctant to buy paper that is both unfamiliar in its credit nature and obviously destined to be illiquid. This is where EMU may have a vital influence. Removing the importance of currency matching rules should dramatically extend the range of institutions that can purchase new types of security.

For example, Europe's life insurance companies must match 80% of their assets to the currency of their liabilities. As the vast majority of those liabilities are denominated in national currency, so are most of the assets. Now these institutions can diversify their portfolios, they may look around the Eurozone for other investment opportunities that yield more than government bonds. Insurance companies are key as their total assets match those of pension and mutual funds combined, yet insurance funds have been most affected by the currency matching rules. Asset-backed securities and corporate bonds should loom large on that menu of new opportunities, though it will take some years for that menu to build up. There should be little doubt that this will happen eventually, as companies disintermediate the banking system, avoiding the costs and relative inflexibility of the "covenant burdens" of bank loans, and go directly to the capital markets.

### **Opportunities abound - especially for governments**

Issuers have a wealth of new opportunities - partly triggered by the fall in interest rates throughout the maturity spectrum. The chance to stabilise the riskiness of debt portfolios by lengthening maturity is a particular opportunity for governments. Non-government issuers should experiment with raising credit from a broader investor base and use financial engineering to structure their bonds to reach highly targeted buyers.

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1) The author participated in DG XV's Strategy Review Group that provided background analysis for this process.



The current benchmark US Treasury ten-year is EUR 10 billion. As the US budget is in surplus, that will be the normal size, unless there is an unusual market opportunity to re-open an earlier issue. In Europe, the Spanish government has, in recent months, built up its longer dated bond issue to a size of about EUR 17 billion equivalent. The French government has, as a matter of policy over many years, built up the size of its ten-year fungible bonds - OATs - to about EUR16 billion; the largest German government bond in that maturity segment is about EUR 16 billion, as is the largest Italian bond, though the Italian Treasury plans to increase the issue size. A number of government debt managers are increasing the size of their bond issues with an implicit intention of making them as liquid (because they would be as large) as a US Treasury issue.

Moreover, many states are now looking at bond yields that are the lowest for decades. This seems a golden opportunity to lock in, for as long as possible, the benefits of getting into EMU. These factors point to a surge in long-term bond issuance by governments - irrespective of their indebtedness. Already, this process seems to be getting under way - judged by the examples since 1997 of 30-year bonds from Austria, Belgium, France, Germany, Italy, Netherlands and Spain. This process should expand the maturity choices in the top credit category available to institutional investors. For insurance companies trying to match-fund annuities for an ever-ageing population, this trend should be highly welcome.

### **Non-government bonds in Euroland**

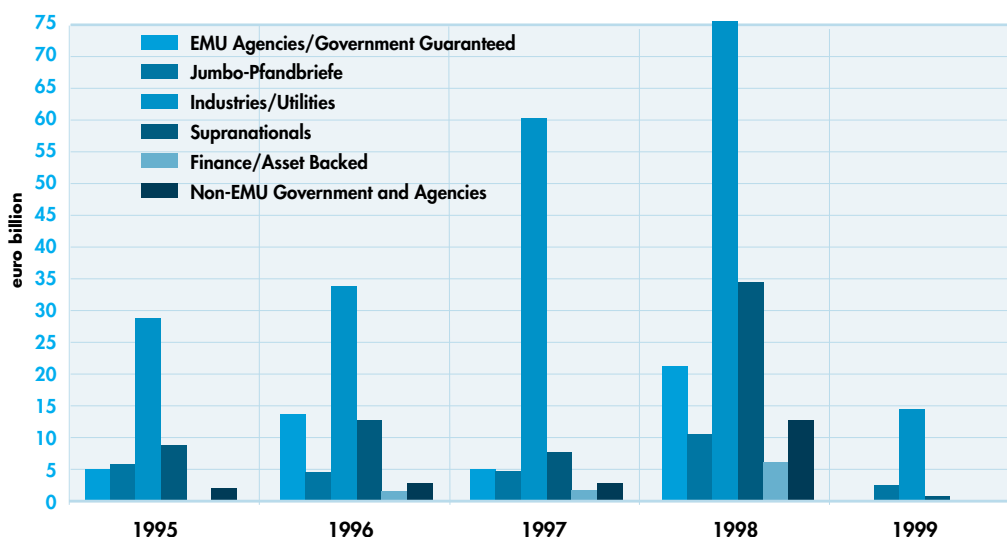
Figure 2 shows that issue volumes in the euro's constituent currencies have continued to grow strongly despite the recent global hiatus. A number of points emerge:

- The "Jumbo Pfandbriefe" sector has grown dramatically and established itself as a major asset class.
- The asset-backed market has shown spectacular growth - but this has been heavily influenced by a number of banks issuing Collateralised Loan Obligations (CLO's) as a mechanism to shift low-yielding corporate loans off their balance sheet to economise on regulatory capital.
- High-yield markets opened last year but have suffered particularly badly from the rush to quality and liquidity.
- The finance subsidiaries of some major companies, e.g. autos, continue to be major borrowers so that they can fund their parents' retail sales. This continues the process of dis-intermediating the banking system.
- Governments and their agencies have been particularly active in the *international* market, quite apart from their domestic markets, as they have sought to initiate "tributary" bonds that convert into euro and become fungible with their domestic issues once EMU begins.

Despite this upsurge in issuance, the US non-government bond markets continue to dwarf their EU counterparts. Salomon Smith Barney introduced the Euro Broad Investment Grade Bond Index (Euro BIG) in May, as a counterpart to our long-established US Broad Investment Grade Index (BIG). These indices set out to provide performance yardsticks for institutional investors and attempt to measure the performance of all bonds that are deemed sufficiently liquid to be traded by institutions. We believe that this criterion is met currently by the minimum size threshold of EUR 500 million

outstanding, well above the USD 100 million threshold in the US. Additionally, bonds must be fixed rate and have at least one year of life remaining.

**Figure 2.** International issuance volume, euro constituent currencies



Source: EMU Government Bond Index, January 1999, Salomon Smith Barney

Modern portfolio management techniques argue for active management so liquidity is a major factor in the choice of investments. Indeed, this is a driving force in the development of government markets. But private sector issuers cannot compete on sheer size and so cannot match liquidity in the secondary market. So there is a risk that investors may shun private sector bonds for that reason alone. One of the major challenges flowing from EMU is to bring liquidity to smaller issues so that institutions will be prepared to invest in smaller sized corporate issues. That would make the bond market an effective alternative source of capital for corporations.

Table 2 compares the characteristics of our Euro BIG and BIG indices while Figure 3 sets out the comparative sizes - split into government and sub-sectors of the non-government component. Salient features include:

- The relative sizes of the two central government sectors - now that all borrowings by European Governments in any euro-constituent currency are included.
- The longer maturity of the US market - whether measured by duration, average life or maturity distribution.
- The minimal size of the low-rated sectors in Europe, reflecting the much higher dependency of European corporations on bank finance and a tradition of less leveraged capital structures.

**Whether European markets catch up their US counterparts seems likely to depend on the non-government sectors.**

Whether European markets catch up with their US counterparts seems likely to depend on the non-government sectors. In the world of EMU, that development will be a balance between the access of new types of issuer to the market whose structure will be determined by the needs of investors.

**Table 2.** Characteristics of "Broad Investment Grade" bonds: EU vs US

	Euro BIG	US BIG
Number of Issues	807	6 940
Market Capitalisation (ECU/euro, bn)	2 815	4 831
Average Modified Duration, yrs	5.24	4.54
Remaining Life, yrs	6.91	8.20
Yield, %	3.47	5.59
Breakdown:		
1-10 Yrs	86.8%	78.4%
10+ Yrs	13.2%	21.6%
AAA Rated	60.0%	78.6%
AA Rated	36.8%	3.9%
A/BBB Rated	1.4%	17.5%
Note: Criterion for inclusion in Index:	ECU/EUR 500m	USD 100m

Source: Salomon Smith Barney Fixed Income Indices, February 1999

### **Who can issue?**

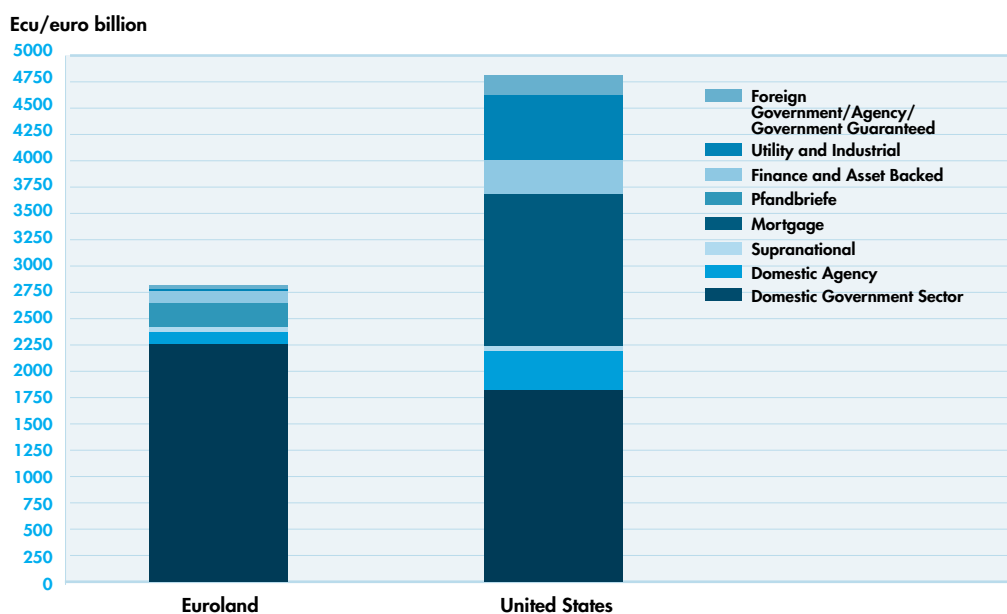
The simplistic, traditional concept of a market consisting largely of major companies issuing long term bonds to a number of investors, such as life insurance companies, is already out-dated and, indeed, such issues will probably only be a fragment of the new market. There are likely to be two additional and key sources. Firstly, pan-European banks with sophisticated administrative and sales systems may be able to offer their products throughout Euroland, giving them a major competitive edge. Secondly, possible new types of issuer are already apparent from the US and UK models. These include:

**Regional governments are another sector of potential issuers.**

- Companies that wish to sell their products on credit are well placed to economise on working capital by selling the right to the customer's payments and the scale of issuance by financial corporations in recent years attests to the potential demand.
- Regional governments are another sector of potential issuers, though the relationship with central government will be a key factor in determining the cost of funds. A straightforward guarantee is one approach, or the region may have the power to raise taxes separately from the central authority. In the last year, a variety of European regions and cities have borrowed in the international markets - ranging from the cities of Stockholm and Vienna, to the regions of Andalucia, Azores, Ile de France, Lazio, Sachsen-Anhalt and Valencia. These issues are not large, but show the willingness of regions to act on their own.
- Infrastructure projects that themselves generate cash flows, the classic example being a toll road or bridge, are another category. Regional governments may wish to stimulate these.

For the banking community in general, a key result of all these trends is that the securities markets can offer a more competitive cost of funds to the user - thus shifting the structure further towards securities.

**Figure 3.** Bond markets - euro vs USD



Source: Salomon Smith Barney Fixed Income Indices, February 1999

#### 4. Stretching for yield? Take credit or maturity risk

Investors will be searching to replace the high nominal yields that they have enjoyed for many years. Some, such as life insurance, may feel impelled to change investment strategy because of the implied guarantees they have given on their liabilities. Yield-seeking investors have a simple choice: Take extra maturity risk (with liquid, longer dated government bonds) or take credit risk with a wide variety of non-government issuers.

Bond yields have fallen to remarkably low levels. For investors in formerly high-yielding bond markets, such as Italy, the problem is particularly acute. Yields are down from 13% in 1995 to about 4% today. For investors such as pension and life insurance funds, the problem of low interest rates is likely to be significant. Indeed, the greater the depth of any deflationary period that leads to a long period of low bond yields, the greater the difficulty in meeting the expectations of the underlying beneficiaries.

Many European insurance companies have to contend with the problem of guaranteed interest rates on their life insurance and annuity contracts. Moreover, some companies - especially in France - have to offer surrender values that are hardly penal. The current level of interest rates should mean that any new yield-enhancements should be attractive.

With a net return that appears so unattractive, the investment managers may have little option but to take greater risk. At this stage of low confidence, that may amount to nothing more than lengthening maturity in the government market. In the German Government market, lengthening from 5 to 10 years improves yield by 14% but going to 30 years gives a 44% increase - from 3.2% to 4.7%. In the US dollar markets, the 5 to 30 year pick-up is only 12%.

***Monetary Union is likely to present investors with a new set of trade-offs between maturity and credit risk.***

The alternative strategy might be to take extra credit risk - the incentive is clear. The increment in yield is relatively minor within the government sector - unless maturity is extended substantially. But taking credit risk can produce a 20% gain in yield without increasing maturity - based on current indications of new-issue yields. That is a powerful incentive to lenders to take the credit risk directly themselves rather than invest in capital-certain but lower-yielding bank deposits.

Monetary Union is likely to present investors with a new set of trade-offs between maturity and credit risk. Their response will determine whether EMU also opens up new funding opportunities for issuers - whether governments, corporations or consumers (using their credit cards) - as the low level of bond yields may prompt a re-assessment of investment patterns in search of higher yields. That demand should eventually encourage the process of securitisation - a process that could transform the competitive landscape between banks and securities markets.



# European capital markets: Competition between systems



**Colin Mayer**

## 1. Introduction

There is an active global debate on corporate governance. A few years ago, there was serious concern about whether US companies would be able to compete against the powerful corporate groupings supported by closely involved banks in the Far East. Now, following the collapse of the East Asian economies, and in particular Japan, "shareholder value" oriented companies, operating in the stock market-dominated financial system of the US, are increasingly seen to be enjoying a competitive advantage over their foreign rivals. The corporate and financial systems of the Far East are currently believed to have resulted in serious misallocation of resources, while US companies and institutions have backed high tech, fast growth industries.

In Europe, the main contrast is between UK and Continental European financial markets. Until recently, there was considerable concern that UK companies were disadvantaged by a pre-occupation with short-term returns for shareholders while Continental European companies could enjoy longer term support from their banks and corporate allies. Now, the prevailing view is that Continental systems will have to adapt to market-oriented conditions and that lack of transparency, illiquidity of shares and poorly functioning financial markets have impeded the growth and restructuring of European industry. This is most clearly reflected in the immature state of the European venture capital industry. While the UK and US financial systems were until recently regarded as being seriously deficient in promoting corporate activity, they are now viewed as being in the vanguard of corporate development.

This article will argue that this debate will bear crucially on the way in which financial markets will develop in Europe. It begins in Section 2 by summarising the pronounced differences that exist in the structure of financial systems, corporate sectors and legal systems across Europe. In Section 3, it will consider the implications of these differences for the performance and activities of European industries. Section 4 will consider the pressures for change and the way in which they are affecting integration of and competition between financial systems, corporate structures and legal systems. Section 5 will discuss the implications of these developments for policy and the roles that different financial institutions will play in the newly emerging European system.

## 2. Differences between systems

Figure 1 shows the size of stock markets and banking systems in three European countries. It records the ratio of market capitalisation to GDP averaged over the period 1982 to 1991. In the UK the ratio was 76% while in France and Germany it was approximately 20%. The average for OECD countries as a whole was 30%. In Japan it was 85% and in the USA 56%. Stock markets in the UK, USA and Japan were appreciably larger over this period than in most OECD countries. On the

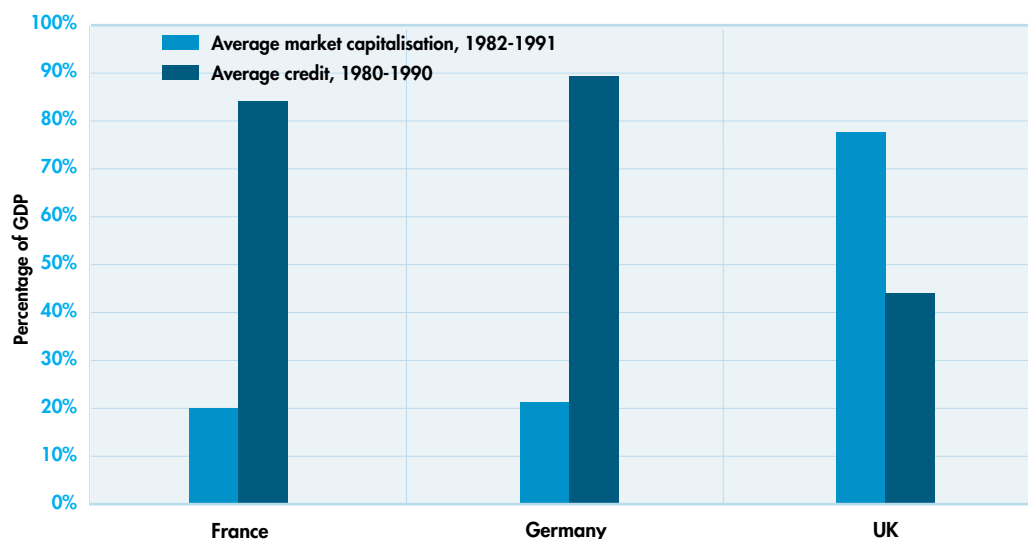
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*I am grateful to Tom Berglund, Christopher Hurst and Luigi Spaventa for comments on this paper and to Esra Erdem for research assistance in its preparation.*

*Colin Mayer is Peter Moores Professor of Management Studies at the University of Oxford. He has a professorial fellowship at Wadham College and is deputy director of research at the Saïd Business School in Oxford.*

other hand, bank lending during the 1980s was significantly higher in France and Germany than in the UK. The ratio of credit to GDP averaged around 80% in France and Germany, whereas it was approximately 40% in the UK. The figure for Japan was 102% while in the US it was 69%.

**Figure 1.** Size of stock markets and bank lending



Source: IFC Emerging Stock Market Factbook

The distinction between market- and bank-based systems does not only concern the size of markets but also the relationship between financial institutions and firms. Financial institutions are viewed as having "arms-length" relations with firms in the UK and US but close relations in many Continental European and Far Eastern economies. There are several ways in which this can be measured but one that is frequently discussed is bank ownership of corporate equity. In the UK, the proportion of corporate equity owned by banks averaged 2% over the period 1980 to 1990. In the US, the figure was close to 0%. In France, it was over 6% and in Germany over 13%. The equivalent figure in Japan was 23%.

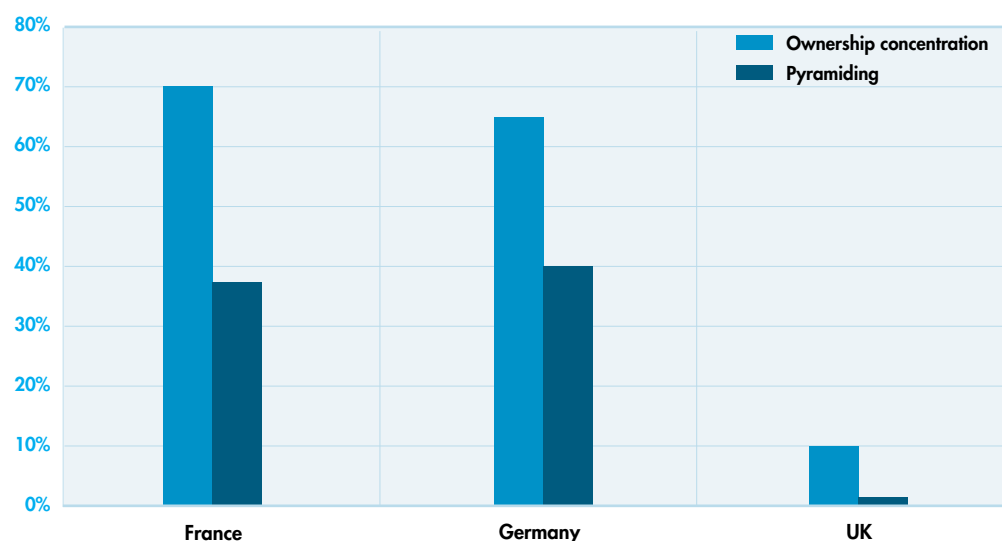
There are, therefore, large stock markets in the UK and US and relatively high levels of bank lending on the Continent and in Japan. There are closer relations between financial institutions and firms on the Continent and in Japan, as reflected in higher levels of bank ownership of corporate equity than in the UK and US.

While there are appreciable differences in financial systems across countries, there are still more striking variations in the ownership of corporate sectors. Figure 2 reports data on ownership concentration in France Germany and the UK, measured by the proportion of the 20 largest firms in each country with a single shareholder owning more than 10% of shares. It shows that in almost 70% of the largest companies in France and Germany, there is a single shareholder owning more than 10% of shares. In the UK, the equivalent figure is 10%. In the US, it is around 20% and in Japan, 50%. Concentration of ownership is therefore appreciably higher on the Continent and in Japan than it is in the UK and US. Families and other companies hold many of these large share blocks. Inter-corporate holdings are commonplace on the Continent but rare in the UK and US.



Furthermore, inter-corporate holdings frequently take the form of pyramids. Figure 2 also shows that around 40% of the largest 20 companies in France and Germany are held in pyramids, whereas in the UK there are virtually no pyramid holdings. Pyramids allow shareholders at the top of the pyramid to exert control disproportionate to the size of their share holdings by bringing in outside equity lower down in the pyramid.

**Figure 2.** Ownership concentration and pyramiding of the 20 largest firms



Source: La Porta *et al.*, (1998).

**The UK and the US have large stock markets in which ownership is dispersed amongst many investors. Elsewhere there is more bank lending and bank ownership of equity. Ownership is appreciably more concentrated, frequently with pyramid structures.**

To summarise, the UK and US have large stock markets in which ownership is dispersed amongst a large number of frequently institutional investors. There is little bank ownership of corporate equity and few inter-corporate holdings. Stock markets are much smaller in most other countries. There is more bank lending and more bank ownership of corporate equity. Ownership is appreciably more concentrated than it is in the UK and US, frequently in the form of pyramid structures.

### 3. Implications of differences for performance

Over the last few years, a literature has emerged which has looked at the influence of financial development on economic growth. A strong relation between the size of financial systems, as measured for example by bank credit and stock market capitalisation to GDP ratios, and economic growth has been found across a large number of countries. There therefore appears to be a clear association between financial and economic development (1).

A second strand of literature focuses on differences in developed countries' financial systems. The debate over financial systems dates back to the turn of the century when comparisons were drawn between the success of the German banking system in supporting German manufacturing industry with the apparent failure of the UK financial system to do likewise. Similar contrasts have been drawn between the Japanese and US financial systems. In a much cited analysis of industrial groups

1) See, for example, King and Levine (1993a, b, c), Levine (1997), Levine and Zervos (1998) and Rajan and Zingales (1998).

**The debate over financial systems dates back to the turn of the century and the relative success of the German banking system in supporting German manufacturing industry.**

in Japan, Hoshi *et al.*, (1990) argue that members of groups encounter fewer financial constraints during periods of financial distress than other firms. But this view has been challenged by Weinstein and Yafeh (1998) who find that "even prior to the liberalisation of financial markets in Japan, main bank clients did not exhibit high profitability or grow faster than their industry peers, even though their superior access to capital resources was evident in their production techniques.... The low growth rates of main bank clients and the relatively high interest they have been paying on their bank loans suggest that the banks could use their monopoly power both to squeeze their clients' profits through interest payments, and to inhibit their growth through conservative investment policies" (p. 671). In other words, Japanese banks have used their close relationships to exploit monopoly power and impose their conservative judgements on companies.

The role of German banks in German industry has also been questioned. Edwards and Fischer (1994, p. 240) find that "the commonly-held view of the merits of the German system of finance for investment, in terms of the supply of external finance to firms and corporate control, receives no support from the analysis of the available evidence". Edwards and Ogilvie (1996) go on to argue that, not only is the current role of German universal banking overstated, it probably never was as significant as suggested, even at its zenith at the turn of the century: "The picture which emerges is not consistent with the claim that German universal banks exerted substantial control over industrial companies and provided significant amounts of finance. Although there were some cases of this, these were the exceptions to the general rule, which was for companies to finance themselves internally to very great extent" (p. 441).

More recently the comparative systems debate has moved on to corporate governance and control. The dispersed nature of corporate ownership in the UK and US allows markets for corporate control to operate in a way in which concentrated ownership in most other countries prevents. The UK and US are therefore distinguished from most other economies in having active markets in corporate control. These are associated with the disciplining of bad management and are supposed to allow the replacement of poor by superior management. However, the evidence in support of this proposition is limited. "Using a number of different benchmarks", Franks and Mayer (1996, p. 164) "find little evidence that hostile take-overs are motivated by poor performance prior to bids. We therefore reject the view that hostile take-overs perform a disciplinary role".

In place of tender offers, countries with concentrated ownership have markets in share blocks. Franks and Mayer (1998a), for example, report "a high incidence of control changes through sales of large share stakes" (p. 1) in Germany. In addition, there is a more direct association of ownership with board representation than in the UK and US: Supervisory board "representation goes hand in hand with ownership. Where the major shareholder is another company, the shareholder appoints the chairman of the board in more than three quarters of the sample; in addition, about one quarter of all remaining members of the board are appointed by the largest shareholder" (p. 10). The German corporate system might therefore be expected to display more active corporate governance than exists in the UK or US. However, in an examination of board turnover and performance in different types of German firms, Franks and Mayer conclude that there is "little relation between concentration of ownership and the disciplining of management of poorly performing firms and little relation between the type of concentrated owner and board turnover. The pronounced influence which might have been expected from the very high levels of concentration

*of ownership in Germany and the distinctive forms in which shares are held through banks and pyramids is not in evidence" (p. 28).*

While there is a strong relation between financial and economic development, the relation between types of financial and corporate systems in developed countries and economic performance is unclear. Recently it has been suggested that financial and corporate systems may have more relevance to the composition rather than the overall level of economic activity in developed countries (see Carlin and Mayer (1999a, b). There are several possible reasons for this. The first relates to monitoring by investors. Stock markets provide a mechanism of aggregating together the diverse views of a large number of investors about future performance of firms and investments. This is particularly relevant to high technology investments where divergences of views amongst investors are justified by uncertainty about the likely success of new technologies. In contrast, more traditional activities benefit from the economies of scale in monitoring quality of management and investments that financial intermediaries can provide. Allen (1993) therefore argues that different types of financial systems will be suited to different types of activities. This raises questions of the form whether Oracle, Microsoft and Sun would have flourished under bank oriented financial systems and, conversely, whether the huge level of manufacturing investment observed in the Far East, in particular in Korea, could have been sustained in the absence of large banking systems.

The literature on corporate governance has pointed to the trade-off between the control benefits of concentration of ownership and the potential conflicts that arise between minority and majority shareholders. Shleifer and Vishny (1986) argue that concentrations of ownership overcome free-rider problems of corporate control that afflict dispersed ownership markets. However, Shleifer and Vishny (1997) point to the potential abuses that concentrations can encourage. Franks and Mayer (1998b) suggest that concentrated owners are able to provide greater degrees of commitment to stakeholders, such as employees and suppliers, than dispersed anonymous owners. They can therefore encourage stakeholders to make more firm specific investments in, for example, training and dedicated capital expenditures. On the other hand, the anonymity of market ownership provides companies with greater flexibility in implementing policies without being deflected by special pleading and bargaining of interested parties. Concentrated ownership would therefore be expected where activities require firm specific investments by several parties, whereas dispersed ownership will be observed in activities that require flexibility in implementing and changing policy. For example, could the massive restructuring of AEG over a period of 10 years through the 1970s and 1980s with the payment of little or no dividend have been achieved with dispersed shareholders? On the other hand, the restructuring of both the German steel and tyre industries has been seriously impeded by reliance on negotiated mergers and the absence of a market for corporate control.

***There may be a close association between different financial and corporate structures and the nature of commercial and industrial activities that are undertaken in different systems.***

Monitoring, control and commitment considerations therefore suggest that different types of financial systems and governance arrangements are best designed to support different types of activities. They have comparative advantages in promoting certain types of activities but not absolute advantage over all. There is some evidence in support of this. Carlin and Mayer (1999a) examine the extent to which interactions of country structures (2) relate to the growth rates of 27 industries in 14 countries over the period 1970 to 1995. They find that the interaction effects play

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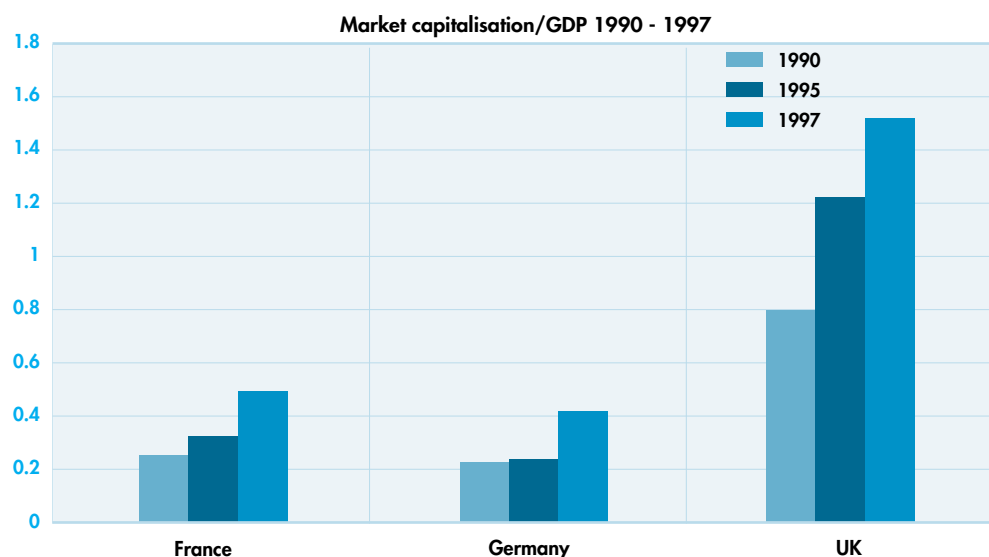
2) *That is the nature of their financial and corporate systems, industry characteristics, their dependence on external finance and inputs of skilled labour.*

an important role in explaining differences in growth rates across industries and countries. The implication of this is that there may be a close association between different financial and corporate structures and the nature of commercial and industrial activities that are undertaken in different countries. This has important consequences for the way in which financial systems are likely to evolve in response to the internationalisation and integration of markets.

#### 4. Pressures for change

Figure 3 reports the size of stock markets as a proportion of GDP in France, Germany and the UK in 1990, 1995 and 1997. The size of markets has increased appreciably in all three countries. In large part, this reflects share price gains that occurred in most markets during the 1990s. However, as Figure 4 records, it is not entirely due to that. Initial Public Offerings (IPOs) nearly doubled in France between 1995 and 1997 from 26 to 49. They went up by a factor of more than 3 over the same period in Germany and they increased by around 30% in the UK.

**Figure 3.** Pressures for change - Size of markets



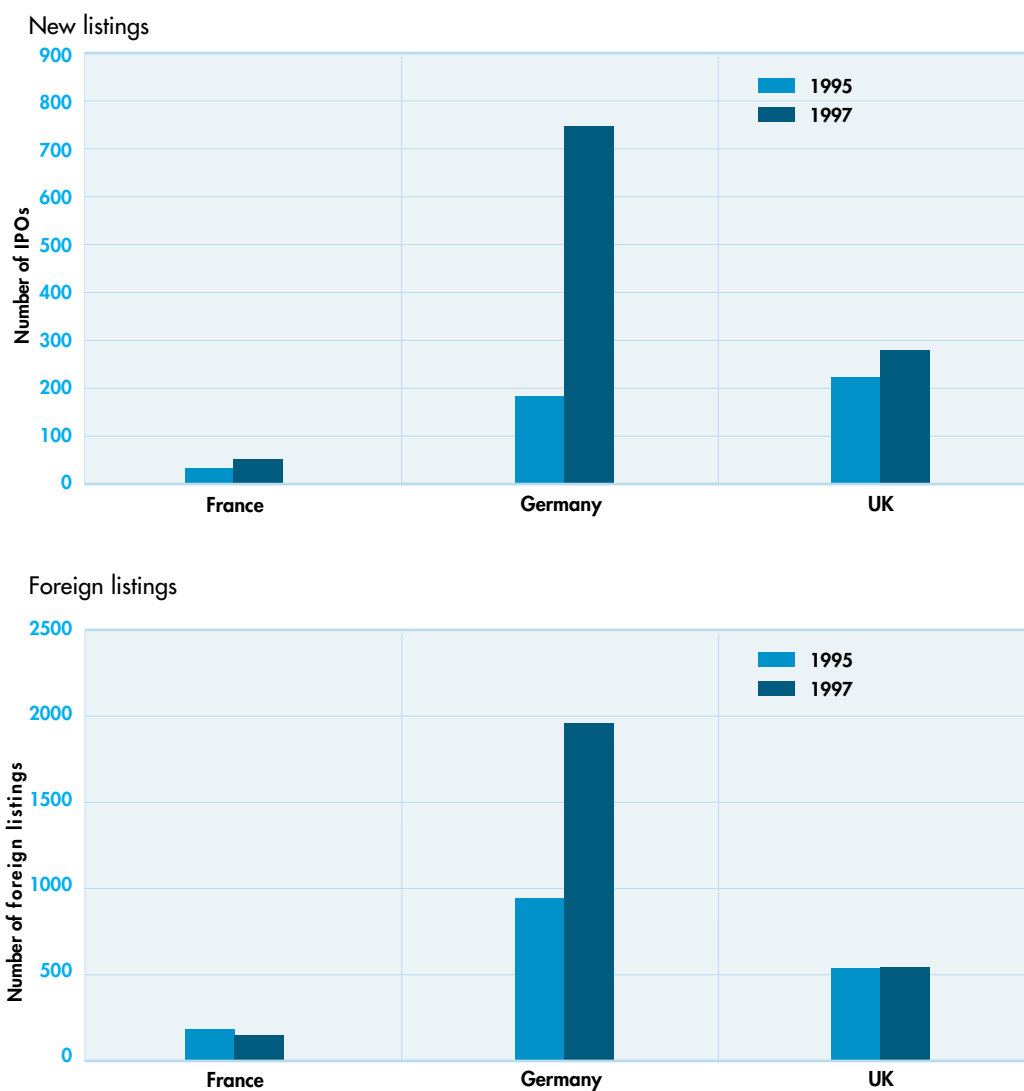
Source: European Stock Exchange Statistics

Many of these new listings are associated with foreign firms. Figure 4 also shows the number of foreign listings on the French, German and UK stock markets in 1995 and 1997. In the UK, there are around 520 foreign listings. In Germany, foreign listings have more than doubled from 940 to nearly 2000 companies.

**Greater international mobility of corporations is giving rise to competition between countries in incorporation law.**

In summary, stock markets are growing not only because of rising share prices but also because of new listings, in particular across borders. These developments have significant implications for structures of markets and corporations discussed in Section 2. Firstly, greater international mobility of corporations is giving rise to competition between countries in incorporation. In the United States, competition for incorporation between states has been a dominant influence on corporate law. Unlike bankruptcy law, corporate law is formulated at the level of individual states. The states therefore compete amongst themselves to attract firms to incorporate within their jurisdiction.

**Figure 4.** Listings on European stock markets



Source: Fédération internationale des bourses de valeurs

In Europe, cross-border mobility of companies regarding country of incorporation has been limited primarily to large multinational corporations. But now with the integration of financial and product markets, and the emergence of a common currency, similar mobility will begin to be observed.

Secondly, competition between stock exchanges is intensifying. New markets are emerging, some specialising in particular types of securities, such as high tech, high growth or speculative investments. Alliances are being formed between markets, such as between Frankfurt and London, and both Paris and Frankfurt are pressing to attract business away from London. Geographical location will diminish in significance as a determinant of where companies choose to list and firms will increasingly list their securities on more than one market. These tendencies are already reflected in the growth of cross-border listings to which reference was made above.

Thirdly, minority shareholders are becoming increasingly vocal. In Germany they have successfully pressed for increased disclosure of information and questioned low dividend distributions. The desire on the part of exchanges to enhance liquidity of markets will intensify pressure in this direction.

Fourthly, there have been repeated attempts on the part of the European Commission to harmonise governance, information disclosure, investor protection and take-over rules. To date, these have met with limited success in particular in relation to governance and take-overs but there will be continuing attempts to secure agreement as part of the creation of the Single Market.

All these factors clearly raise fundamental questions about whether the differences between financial and corporate systems described in Section 2 can persist. If companies can choose their legal system of incorporation and market for listing and if both investors and regulators are attempting to secure harmonisation of corporate law and investor protection then there are strong market and political forces pushing towards convergence. Just as competition between firms can create back-to-back rivalry with firms supplying identical products to consumers, so competition between systems may give rise to the emergence of global uniformity.

*If systems have comparative advantages in the promotion of different types of activities, then instead of convergence, different systems will be able to specialise.*

But these are not the only factors at work. As noted in the previous section, differences across systems are deep-rooted. They are linked to fundamental features regarding countries' industrial structures. If, as suggested in the previous section, systems have comparative advantages in the promotion of different types of activities then financial and corporate systems will be closely linked to their industrial composition. Instead of there being pressure for convergence, different systems will be able to specialise in the promotion of different types of activities. Some will be suited to small-scale service industries, some to high growth, high tech firms, some to large manufacturing firms and others to large R&D activities. The requirements of firms for access to markets as against bank finance and to large long-term as against dispersed shareholders vary appreciably depending on the nature of their activities.

What this suggests is that far from there being an inevitable process of convergence, the integration of financial and product markets will give rise to enhanced opportunities for specialisation and differentiation. Given the fundamental variety of needs of firms for different types of finance and corporate control, internationalisation will offer greater opportunity for countries to specialise in the provision of financial services for particular types of firms and for companies to move freely between different legal and financial systems. However, cultural and language barriers will restrict mobility of European firms in relation to their North American counterparts for several years to come. To the extent that bank-firm relations require geographical proximity then complementarity between financial systems and corporate activities will reinforce the fragmentation of European markets.

## **5. Policy implications**

This paper has painted two possible scenarios for the development of financial markets and corporate systems in Europe. The first is for a steady process of convergence towards market-based systems with greater accountability, disclosure and transparency. The second is a persistence and intensification of systemic differences with companies shopping around for appropriate financial and legal arrangements.

The most likely outcome is a mixture of the two. In some areas, most notably securities markets, there are strong pressures for convergence and integration. Liquidity benefits encourage centralisation of market activities in a small number of locations. But elsewhere, in terms of corporate structures and relations between financial systems, there are benefits to diversity. There will be a continuing need for some banks to have close relations with small growing firms. There will be a need elsewhere for venture capital partnerships to be able to secure large amounts of funding from financial institutions and take firms to liquid stock markets. In some markets, there will be benefits to complex webs of interconnected holdings with large blocks of shares held in pyramids and holding companies. Other markets will benefit from dispersed shareholdings and governance by financial institutions. There will therefore be a role for a diverse range of financial institutions with the potential for greater degrees of specialisation in some areas at the same time as there are pressures for convergence elsewhere.

This diversity will be of considerable benefit to corporations. Instead of being tied to one particular type of financial and legal system, established for cultural, historical as well as commercial reasons, they will be able to move freely around. Notwithstanding the barriers created by culture and language, competition will encourage the emergence of the most suitable forms of arrangements. At the moment we simply do not know what is the most appropriate structure of corporate and financial systems. As noted above, the most likely answer is that it depends on the industrial structure of countries. But if indeed there is a dominant arrangement then it will emerge from competition between systems.

A crucial influence on the process will be the response of the regulatory authorities. As noted above, there is a strong tendency on the part of authorities, and in particular the European Commission, to press for harmonisation. At first sight harmonisation appears to be a necessary precondition for the successful operation of financial markets. After all level playing field considerations would appear to argue for equal access to ownership of companies through acquisition. Absence of harmonisation creates fears of runs to the bottom with national authorities being forced to impose lowest common denominator systems in the process of trying to encourage companies to incorporate and list within their jurisdiction. But in regard to corporate law in the United States, this has not been the experience. On the contrary, there have been considerable benefits to corporations being able to select across a diverse range of systems. This has been most noticeable in relation to the degree of protection that the different states offer to incumbent management. Some have banned hostile bids, some make protection through such anti-take-over devices as poison pills commonplace, others have liberal systems of acquisition that provide little protection to management. Those companies that benefit from the discipline that markets for take-overs impose can select relatively liberal systems whereas those that wish to protect the firms' stakeholders against threats of take-overs can choose to incorporate elsewhere. Competition avoids excessive regulatory tendencies that centralised systems encourage and provides for diversity in arrangements.

***Corporate and financial regulation should promote competition between systems by establishing a framework within which diversity and experimentation can be encouraged.***

Corporate and financial regulation should therefore be enabling rather than restrictive. It should promote competition between systems by establishing the framework within which diversity and experimentation can be encouraged. The Commission should not be attempting to pick winners. The Anglo-American system might look to be today's winner, but tomorrow's might be quite different.

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# Comments on the future of EU capital markets

Luigi Spaventa, Discussant

The process that so many people are envisaging for EU capital markets may be summarised approximately as follows:

- The single currency will eliminate currency risk.
- This will encourage a diversification by investors based upon other risk considerations.
- This will lead to a tremendous growth in capital markets.
- In turn this will stimulate the EU economy because of the well-documented link between financial development and economic growth.

While not dismissing this logic, let me advance some doubts about the speed with which this may happen.

*While there may well be an evolution towards more market-based financing over time, we are not about to see a sudden change as companies restructure their balance sheets.*

Let us start by considering supply. Are we really going to see in Europe a large increase in the number of companies seeking access to markets either making initial public offerings (IPOs) or issuing securitised debt? Here we should distinguish between cross-border offerings by companies that are already listed somewhere, and previously unlisted companies. As shown by Colin Mayer's data for 1995-97, the former category, cross-border listings by already quoted companies, has been around for some years. Indeed, it is a phenomenon that is likely to diminish exactly because of EMU and the unification of financial markets. For example, the alliance between London and Frankfurt means that there will be a de-listing of German shares in London together with a de-listing of English shares in Frankfurt. However, this has very little effect on the overall size of the combined stock markets.

More importantly, it is not easy to find compelling reasons why the supply of listed stocks (or even of non-governmental bonds) should increase sizeably in Euroland merely because we have the single currency. Industry structure is important here. Consider the case of many countries where the economy is made up of relatively few very large companies and a large mass of smaller enterprises. This structure is not going to be changed by EMU. Now, the large corporations already have access to international capital markets. Smaller companies, on the other hand, will be discouraged from IPOs by other factors. Consider the case of countries like Italy. Listing and issuing securities involves disclosure, and there are fairly intuitive reasons why small and medium sized enterprises may not wish to open their books to competitors or to public scrutiny in general.

This means that while there may well be an evolution towards more market-based financing over time, we are not about to see a sudden change as companies restructure their balance sheets to take on board new (for them) forms of external finance.

Let me come to the demand-side. The argument is that the elimination of currency risk means that investors will pursue credit risks on a broader scale. Thus Martin argues that according to market

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*Luigi Spaventa is President of Consob, the Italian regulatory agency for the securities market. He is on leave from the University of Rome, "La Sapienza", where he is Professor of Economics. He was previously Chairman of the Board of Monte Pachi di Siena (1997-98), Minister for the Budget (1993-94), and a Member of Parliament for seven years.*

surveys there will be a shift from currency to sector diversification. In general, this forecast is not confirmed by simulations made by using international CAPM models (as in Beltratti and Dumas) (1): the latter show that the elimination of currency risk would produce only minor modifications in the optimal portfolio composition.

In particular, to be justified a "sectoral" approach would imply that there is a high cross-country correlation of firms belonging to the same sector. However, the evidence shows that sectors have been closer substitutes than have countries. So, at least in the past, this means that countries have offered more scope for diversification than sectors. This is probably because shocks affect firms of a given sector differently in each country. Will this correlation pattern change rapidly under EMU? Given micro and institutional structural differences it is quite likely that country specific sectoral shocks will persist for some time, also as a result of the differential effects of a common policy reaction to symmetric macro-shocks.

**Regulatory competition between jurisdictions could severely weaken investor protection.**

A more convincing argument for an increase in cross-border flows is that the single currency will lower the home-market investor bias which is still very strong in Europe. Indeed, Graham Bishop has noted that a major group of investors - life insurance companies - have been prohibited from investing in instruments denominated in foreign currencies. If this happens, simulations show that diversification will tend to support larger markets, and Germany and France will be net recipients of funds. There will however, remain obstacles to complete diversification such as the persistence of tax and regulatory differences, together with other unknown factors in the international diversification puzzle.

This leads me to a last comment on the extent to which harmonisation within the EU is desirable. Colin Mayer is not convinced that regulatory harmonisation is a necessary precondition for the successful operation of financial markets. He refers to the difference across the States in the USA and argues that "there have been considerable benefits to corporations being able to select across a diverse range of systems". Competition between jurisdictions can, in his view, avoid excessive regulatory tendencies.

However, regulatory competition between jurisdictions in the financial sector could severely weaken investor protection as companies and intermediaries would naturally choose those jurisdictions with the most lax rule of conduct, or with permissive regulations with regard to price manipulation, etc. In this context we should remember that EU harmonisation is much more advanced in the banking sector than it is with securities markets, where co-operation is often of a voluntary nature. Imagine the case when European exchanges reach the stage where they provide a unified platform on which 300 EU blue chips are traded - the concept of home regulation will be almost impossible to apply.

We currently have an extremely fragmented situation, and one where more, rather than less, financial harmonisation is likely to be needed. So while agreeing that regulators should be "enabling" rather than "restrictive", I believe Colin Mayer's analysis may be more relevant for corporate regulation than for financial regulation.

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1) See A. Beltratti, "The EURO; its effects on expected returns and asset allocation", and B. Dumas, "The effects of EMU on capital allocation: An equilibrium approach". Both papers were presented at the conference, Euro and Asset Management, held at the Università Bocconi, Milan, on October 2, 1998.

# The structure of financial systems and macroeconomic instability



**Daniel Gros**



**Karel Lannoo**

## 1. Introduction

With the successful launch of the euro, the previously national interbank bank markets have been integrated at once in a unified euro interbank market, outstanding public debt has been redenominated in euro, trading conventions harmonised, and all EMU stock markets have started quoting in euro. This does not, however, bring Euroland at once to a US-style capital market, since it remains profoundly different from the US in at least two aspects:

- Regional differences: The terms and conditions under which enterprises finance investment and the role of intermediaries still vary considerably from country to country in the EU. This is due to deeply-rooted structural differences in legal systems, development of markets and institutions, and the role of the state.
- The importance of banks: Bank credit plays a much more important role than market-based forms of financing of investments by enterprises in the EU. Disintermediation, and institutionalisation of savings in pension and investment funds is much less developed than in the US.

These differences have acquired a special importance because financial markets are subject to important shocks at present. In this paper we focus on how the structure of the financial system influences the way in which financial market volatility impinges on the real economy. In a nutshell, a bank-based system usually absorbs high frequency shocks better than a market-based system; however, a bank-based system has other problems, especially in the area of supervision, where the framework for EMU has not yet been well defined. These two points are vividly reflected in the different responses of the US and European monetary authorities to the market developments induced by the Russian debt moratorium of August 1998. Just trying to imagine how the European supervisory and monetary authorities would have reacted to something like the LTCM collapse in the EU is a good way to see the importance of these two points.

## 2. US versus European systems

Monetary union creates deep, liquid and uniform money and bond markets, and increases competition between market operators. It has been widely assumed that this would contribute to securitisation and disintermediation, which has, so far, been little developed in Europe. But it is not this one-off change which will bring us at once to a US-style capital market.

The difference between the US and the continental European system is deeply rooted, and cannot only be explained solely by the lack of liquidity in the European market. Comparing the size of bank, bond and equity markets in the US and the EU, it is striking to note that to a very developed banking market in the EU stands a bond and equity market which is much less developed. The

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*Daniel Gros is Deputy Director and Senior Research Fellow at the Centre for European Policy Studies (CEPS), Brussels. Previously, he has held positions at the IMF and the European Commission, and visiting professorships at the Catholic University of Louvain and the University of Frankfurt. Karel Lannoo is Senior Research Fellow at CEPS where he directs the EU Business Policies and Strategies Unit, grouping a team of researchers working on Single Market issues.*

opposite is the case in the US (see Table 1). This asymmetry between both markets results largely from regulatory differences, the universal banking system in Europe and the segmentation of the US financial system in the 1933 Glass-Steagall Act, which separated commercial from investment banking. Although the US regime is still considered as a handicap, preventing US banks from exploiting economies of scale and scope available to foreign banks not subject to the separation, the segmentation of the US financial industry stimulated tough competition between intermediaries. It provided the environment in which capital market financing, specialisation and innovation emerged, creating the most competitive industry worldwide. According to Steinherr (1998, pp. 29 and 39-42), "in no other industry has the United States been as resolutely superior as in the financial industry. ...All significant innovations have come out of the US financial system".

**Table 1.** Bonds outstanding, total stock market capitalisation and bank assets

	Bond markets, ECU billion, 1997	% GDP	Equity markets, ECU billion, 1997	%GDP	Commercial bank assets, ECU billion, 1996	% GDP
<b>EU 11</b>	6174	109.3	2707	47.9	11583	212.3
<b>EU 15</b>	7903	111.6	4946	69.9	13265	195.6
<b>US</b>	12430	206.4	9619	159.7	3585	62.5

Source: BIS, FESE, OECD; US stock market data refer to NYSE and NASDAQ

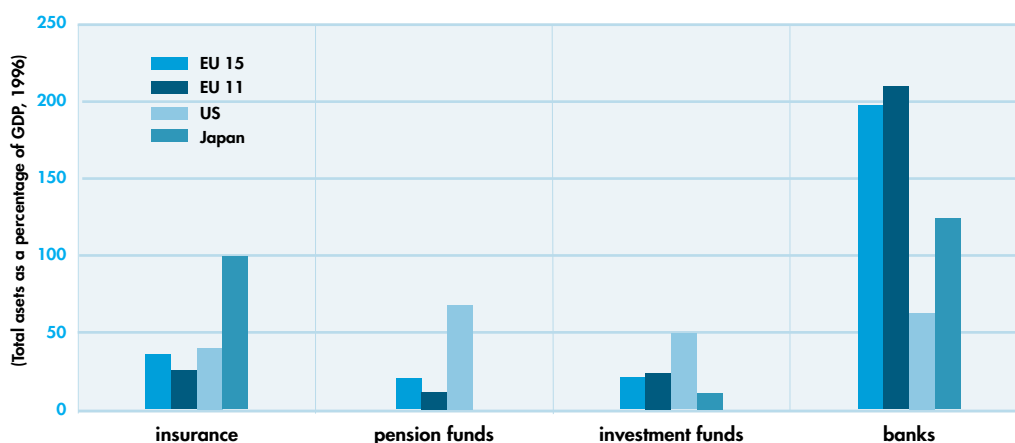
The competitive process between commercial banks, investment banks and brokers in the US stimulated a process of disintermediation and securitisation. Caps on short-term bank deposits led to the emergence of higher yielding money market mutual funds. Banks responded by transforming liabilities in negotiable certificates of deposits, on which interest could be paid without restriction. In order to get a share of the profitable loan market, investment banks stimulated corporations in securitising their loans. As a result, balance sheets of banks became disintermediated and securitised, and with this disappeared relationship banking. The growth of a deep and liquid money and capital market had deprived relationship of its implicit insurance value, and made valuations more important. The key principle of transparency, that underlies US financial, securities and accounting law, emerged.

In continental Europe, the universal banking system has remained dominant, and was taken as the model in the EU's financial market liberalisation under the Single Market programme. There was no incentive for banks to securitise debt, and capital markets remained underdeveloped. Furthermore, the regulatory framework for direct issues on capital markets left much to be desired, and differs from one country to another. For example, corporate bonds were until recently discouraged in Germany through very strict emission criteria, with, for example, the obligation to issue only in domestic currency on the local market, and unfavourable tax treatment. Governments wished to keep close control of the local debt securities market to ease public finance.

These differences in the role of financial intermediaries are reflected in the financing structure of the economy. The share of liabilities of non-financial companies owed to banks differ widely, going from 33% in the US, 50% in the UK, to about 80% in most continental European countries.

Another outcome of the segmentation of the US financial system is the strength of institutional investors. Pension and investment funds are much more important players in the US than in the EU (see Figure 1). This is, however, not only related to the regulatory framework for financial markets, but even more to the reach of the welfare state and the design of social security systems. Although "institutionalised" saving in investment funds has also started to grow rapidly in Europe, it is, unlike the US, largely intermediated by banks (1).

**Figure 1.** Importance of financial intermediaries in the EU, US and Japan



Source: CEA, EFRP, FEFSI and OECD.

Taken together, the elements of a more market-based system exist in the EU, though they are spread over different countries, and on an aggregate basis they are still small compared to the US market segment. For example, the following markets are well developed:

- pension funds in the UK, Netherlands and Ireland;
- investment funds in France, Spain and Luxembourg;
- mortgage bonds in Germany, Denmark and Sweden;
- corporate bonds in France and the UK.

**The strength of the bank system will have a dampening effect on the development of a more market-based system.**

It is, therefore, difficult to say how the manner in which a more market-based system will emerge in Europe. The strength of the bank system will have a dampening effect on the development of a more market-based system. Also many elements in the regulatory framework will need to be adapted. Issuing bonds directly on the market requires a different attitude than getting a loan from the bank. It requires more transparency, market-based accounting standards, rating services, elements that will not emerge overnight. This means a rapid converge to a US system is unlikely.

### 3. Bank-based, market-based financial systems, and their macroeconomic implications

As mentioned, differences in the structure of financial markets are not only important for the allocation of savings, but can also have macroeconomic implications if financial shocks are important. The

1) In continental Europe, banks have a share of between 50% and 80% of the mutual fund market, whereas in the US, this is only 8%, see ECB (1999, p. 17) and Walter (1998, pp. 17-18).

unexpected Russian debt moratorium of 1998 is a good example. It triggered large movements in asset prices and has widely been interpreted as a reminder to investors that risk might be more important than assumed beforehand. This event, which can be viewed as a generalised increase in the perception of risk by savers, has quite different consequences in the two different financial systems.

***In a market-based system an increase in the perception of the riskiness of corporate debt leads to an immediate increase in credit spreads. In a bank-based system, there should not be such an immediate impact.***

In a market-based system, an increase in the perception of the riskiness of corporate debt leads to an immediate increase in credit spreads, i.e., the difference in the rates paid by more risky borrowers. At an unchanged rate for riskless debt this would amount to an immediate increase in the level of interest rate faced by most corporate borrowers.

If the increase in risk aversion is very strong, corporations that formerly used this market might refuse to issue new debt because the projects they have do not yield a high enough return. To the extent that investors also perceive that they are less able to discriminate between good and bad quality borrowers than before, the usual adverse selection (or 'lemons') problem would also worsen, risk premia would increase, and, in the extreme, as shown by Stiglitz and Weiss (1981), new issues would stop. This seems to have happened briefly in the US during the autumn of 1998.

If these problems can be overcome issuance activity should continue, but at a lower volume and yields would remain higher. This is again what has happened in the US. Credit spreads settled down at a much higher level than before the Russian crisis broke out, but not unprecedented by historical standards. The long upswing in the US economy has covered the fact that 'credit crunches' have been a regular feature, and have in many cases preceded recessions. Concerns about a credit crunch are thus not new to the US (see for example OECD, 1990).

In a bank-based system, by contrast, the same exogenous increase in the perception of risk should not have such an immediate impact. Loans are on the books of banks, and not marked to market on a daily basis. Retail depositors will not withdraw their deposits, since they are hardly aware of the situation, and protected by deposit insurance. The situation is thus different for both savers and the intermediaries.

If the financial shock is large enough that the general economic outlook worsens, banks should also become more prudent in their lending. But here again there is a difference to a market-based system since banks have more information about their corporate customers and will thus be better placed to solve the 'lemons problem' mentioned above. Moreover, in relationship banking the implicit contract that binds firms into long-run partnerships implies that banks should not react immediately to temporary shocks. For all these reasons a sudden financial shock should have much less of an immediate effect in a bank-based financial system.

Nonetheless, a bank-based system could be seriously affected by a financial shock if it substantially impairs the capital of banks. Minimum ratios of total capital to risk-weighted assets were harmonised in the Basle 1988 Capital Accord so as to allow banks to ride out temporary shocks. However, if a bank lost so much that it no longer satisfies the rules on minimum capital ratios, it would be forced to cut back lending or raise new capital. As the latter is typically impossible during financial turmoil, cutting back on credit could become unavoidable in the face of serious losses.



In an even more extreme scenario, a bank whose capital falls too far could have an incentive to gamble for resurrection by taking on very risky loans, with obvious dangers of insolvency if the gamble does not pay off. Such problems should not be left to accumulate until they become unmanageable - as seems to have been the case in Japan - and it remains critical that a reliable bank supervisory system is in place.

#### **4. The supervisory framework under EMU**

*The current supervisory framework in Europe has serious weaknesses.*

In this context, the current supervisory framework in Europe has serious weaknesses. For example, consider the approach to crisis management. Under the present framework both the European Central Bank (ECB) and the relevant National Central Bank (NCB) can act as lenders of last resort, by lending at the overnight lending window against eligible assets. But during a financial crisis a situation may arise which requires more than just mechanically discounting eligible assets. What can be done in such a situation?

In theory, the ECB is free to do what it wants, as long as it respects the no bail-out principle: Insolvent banking institutions cannot be rescued. Several alternatives are available to the ECB's Governing Council to cope with a banking crisis: It can instruct national central banks to engage in bilateral operations with specific counterparts; it can extend the list of eligible assets; it can engage in open market operations to inject liquidity in the system, etc. In practice, however, each of these interventions is governed by a complex decision-making process. Two issues can be distinguished.

Firstly, the ECB is unlikely to command adequate information to be able to discriminate between solvent and illiquid institutions. This information is possessed by national supervisors - often the NCB. Unfortunately, national supervisors do not have the right incentives to communicate this information truthfully. When a problem arises, any regulator has a natural incentive to hide it because a problem bank is partially also a reflection of failure on the part of the regulator. The insolvent bank and the regulator thus have a joint incentive to hide the insolvency, in the hope that it will go away if external circumstances improve. In the case of EMU, these incentives are strengthened by an additional redistributive motive: To the extent that an insolvent bank is treated like an illiquid one, the cost of the insolvency is partly shifted onto the rest of the union. Thus, for both reasons, NCBs have a systematic incentive to overestimate the soundness of illiquid institutions under their jurisdiction. Since everyone is aware of these incentives, the relevant bodies of the ECB will not believe the assessments by NCBs, even when they are truthful, or at least they will discount them by some extent. Thus, although the relevant information is available inside the central banking system, it is quite possible that this information will not be fully brought to bear on the decisions concerning lender of last resort activities.

This incentive problem may be aggravated by a second issue. Even with full information, the timing of ECB decisions could be lengthy and the procedure complex. A liquidity crisis requires timely and swift reactions by the authorities, but this may be impossible under current procedures. For instance, to extend the list of eligible assets, a national central bank must request permission from writing to the ECB; to authorise bilateral operations, the Governing Council of the ECB must approve them by a qualified majority.

*Increased competition in the euro-zone could highlight bank fragility.*

In sum, the European System of Central Banks may be severely constrained in acting as a lender of last resort, once the function requires going beyond the routine procedure of discounting eligible assets. Admittedly, such extreme circumstances happen very rarely, but institutional design must carefully take into account even extreme and rare events. The incentive problems preventing a truthful and trustworthy exchange of information may be very acute at a time of crisis. These problems should be removed, most likely through greater centralised bank supervision at the European level (See Wihlborg, this volume, for a more detailed discussion of this issue).

### **5. An example of the risks facing European banking**

Could European banks face a shock large enough to affect lending behaviour? On the surface, problems in the banking sector in Europe have been limited. However, increased banking competition in the euro-zone could highlight bank fragility. The profitability of EU banks, measured as profit before tax as a percentage of total assets, stands at about 0.50% for the period from 1994 to 1996, as compared to 1.75% for the US commercial banks (OECD, 1998). Some countries are doing much better than the EU average, such as British and Dutch banks, but in others, such as France, the situation is problematic, with a return on assets of only 0.2% in 1996. A concentration wave in the financial sector will not immediately change this situation: It is not by merging two weak institutions that a strong one will emerge, rather, on the contrary, it could exacerbate the "too-big-to-fail" problem.

On top of this general weakness, the exposure of European banks to emerging markets could provide a potential example of an extreme financial shock. By the end of 1997, total lending of European banks to emerging markets was more than three times higher than that of North American banks. The aggregate exposure of European banks to Asia, Latin America and Eastern Europe stood at over EUR 400 billion at the end of 1997, compared to about EUR 125 billion for North American banks (US and Canada). Moreover, lending of European banks to these regions increased strongly over the last 3 years, and also after the first signs of the emerging market crisis became apparent in July 1997.

Table 2 shows that exposure was mainly concentrated with German and French banks. German bank lending in these regions stood at EUR 240 billion, which is large, even in relation to German GDP (over 12%). However, the more appropriate scale variable is capital (here defined as own funds) because this is the base to absorb losses. On this account German banks are in a delicate position because their total exposure to emerging markets amounts to over 160% of their own funds. The next in line would be the French banks, which have also an exposure of over 100% of their own funds. The Spanish and Italian banks, by contrast, seem to have been more conservative in that their exposure is much smaller. The exposure of the Italian banks is the lowest, close to only 30% of own funds. That of the Spanish banks is somewhat higher, close to 50% of own funds, but this exposure is concentrated in Latin America.

It is clear that the total at risk for European banks is huge compared to their capital base (2). A generalised emerging market collapse could thus have wiped out the European banking system. But even the actual loss which European banks have incurred raises important questions about risk

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*2) For comparison, European banks have own funds of about EUR 600 billion, US (commercial) banks have about EUR 295 billion and Japanese banks only EUR 170 billion.*

**The losses that European banks have made on emerging markets raise important questions about risk management.**

management. The best way to gauge the losses that European banks might incur in emerging-market lending, is to use the value of bonds for which market prices exist. The available indices of emerging market debt have fallen by about 30% during the summer of 1998 and then recovered strongly to about 10-15% below par. This implies that if one were to mark the loan portfolio of European banks to market, the total expected loss would have at one point been as high as EUR 140 billion and should now be around EUR 45-70 billion (3).

**Table 2.** European bank lending to emerging markets, EUR billion at end-1997

	FRANCE	GERMANY	ITALY	SPAIN
Offshore Banking Centres	56	119	14	10
Asia	39	44	4	2
Eastern Europe	10	45	5	1
Latin America	23	33	11	17
<b>Total</b>	127	241	34	30
Bank Own Funds	119	150	125	67
<b>Total/Own Funds</b>	107%	161%	27%	44%
<b>Total/GDP</b>	10%	13%	3%	6%

Source: BIS.

Thus, the expected losses on a mark-to-market basis could still amount to a considerable fraction of the capital base of European banks. While this might not make them insolvent, losses of this magnitude are certainly large enough to lead banks to restrict the availability of credit at home. Any such reaction would, of course, depend on their overall capital strength and the health of the remaining 90% of their lending operations.

## 6. Conclusions

Euroland differs importantly from the US financial market in two respects: it remains largely regional and banks are much more important for the financing of investment than in the US. In previous research, we noted that the forces that keep capital markets separated along national lines in Europe are rather strong, and are unlikely to be affected directly by the introduction of the euro (Lannoo and Gros, 1998). In the long run, however, it is likely that Euroland will move towards the US model as the greater integration of financial markets inter-acts with the demand for securitisation. This process would accelerate if the ECB gradually takes on a more important role in affecting the shape of financial markets.

3) This is obviously only a rough estimate. Most bonds are sovereign issues, whereas in some countries banks have lent to the private sector. Lending to banks has generally been guaranteed (ex post) by local governments, but lending to local enterprises (e.g. massively in Indonesia) has in general not been covered. The reference to the emerging market bonds can thus generate only a lower limit of the expected losses. Moreover, the available emerging market bond indices are heavily skewed towards Latin American issues and might thus not reflect adequately the losses in Asia. Additional losses could arise from proprietary trading and off balance-sheet exposure, but it is widely believed that the exposure in Europe from these two sources is limited, and any losses would have to appear quickly - perhaps immediately on quarterly accounts. This is different for the US where it is estimated that off balance sheet is as important as on balance-sheet exposure.

**Bank-based systems require a strong supervisory system. A shock might not have any impact in the short run, but systemic problems might accumulate as the experience of Japan demonstrates.**

Whatever the outcome, it is not appropriate to ask whether a bank-based or a market-based financial system is better. The fact that a bank-based system can cushion the economy against the fallout from financial shocks does not imply that it is superior. If the central bank is alert to this problem and reacts quickly, as the Federal Reserve did in late 1998, the short term excess reaction of a market-based system can be corrected at a minimal cost. Bank-based systems do this automatically, but they have other problems in that they require a strong supervisory system. A financial shock might not have any impact in the short run, but systemic problems might accumulate within the system as the experience of Japan demonstrates. This underscores the importance for Euroland to have a system of supervision that is adequate to contain this danger.

Thus, the system which is more conducive to macroeconomic stability depends on the quality of its institutions. In 1998, Europe was in the final transitory phase just before EMU when the responsibility for monetary policy was not well defined. Formally national central banks were still responsible and economic conditions differed importantly between the core and the periphery of the euro-11. However, fixing of the conversion rates in advance meant that *de facto* EMU had already started. Under these circumstances it would have been more difficult for monetary policy in Europe to react as quickly as in the US. Moreover, Alan Greenspan had accumulated such a prestige that he could cut interest rates without creating expectations of inflation.

Thus, both Europe and the US might have been lucky in 1998. Europe was in the transition to EMU and would have found it difficult to react quickly, but it had a financial system that did not require quick action. The US had a system that required immediate action, but it also had a central bank that was well poised to do so.

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# Supervision of banks after EMU



**Clas Wihlborg**

## 1. Introduction

More than 100 episodes of bank insolvencies have been documented by Caprio and Klingebiel (1996) for the period from 1980 to 1995 - and this does not include the Asian crisis. About 75 percent of these were classified as major insolvencies with potential systemic implications. The overwhelming majority occurred in developing or transition countries but eleven major episodes were recorded for industrialised countries including the Scandinavian crises in the late 1980s (Norway) and the early 1990s (Finland and Sweden), the Savings and Loans crisis in the USA during the late 1980s, the Crédit Lyonnais case in 1994-95, and Japan in the 1990s. These are the most recent episodes of stress where large losses led to insolvencies.

The transfer payments from governments in the wake of these crises are often very large. The costs of the Savings and Loans clean up in the USA has been estimated at 3.2 percent of GDP. This figure is actually low even by industrialised country standards. In the Finnish, Norwegian and Swedish crises, the transfers to banks amounted to 8.1 percent, 3.6 percent and 4.1 percent of GDP, respectively. In developing countries the costs have been between 10 and 20 percent of GDP in many cases. The two most expensive cases were Argentina and Chile in the early 1980s. In both countries, the transfers associated with the banking crises exceeded 40 percent of GDP (Caprio and Klingebiel, 1996). These transfer costs do not include the potentially more serious effects of banking crises on output and employment. Thus, an important objective of supervision and regulation of financial institutions is to prevent the occurrence of crises that burden the tax-payers, while providing incentives and conditions for efficiency in the provision of financial services.

The paper is organised as follows. The next section contains a review of banking supervision. The view taken here is broad, and the discussion will include the role of the safety net for financial institutions in general. Section 3 turns to the EU institutional framework. The creation of a new, almost Europe-wide, central bank raises the prospect of conflicts between centralised monetary policy-making, and decentralised - to the national level - responsibility for regulation and supervision. These potential conflicts and some solutions are discussed. In Section 4, proposals for reform of the supervisory and regulatory regimes in the EU are reviewed. In particular, it is argued that the efforts of supervisory agencies should focus on insolvency procedures. In brief, reforms should contribute to more frequent failures of insolvent financial institutions without creating systemic risk, and fewer failures of non-financial firms caused by crisis in the financial sector.

## 2. Elements of, and reasons for, supervision

Supervision generally includes licensing and the continuous monitoring of banks' financial conditions and operations. These supervisory activities are intertwined with the regulatory framework for a "safe

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*I am grateful to Chris Hurst for comments on an earlier draft. Remaining confusion is my own.*

*Clas Wihlborg is Felix Neubergh Professor of Banking and Financial Economics at Göteborg University, Sweden. He has also held posts at New York University, the University of Southern California, the Claremont Graduate School and the Wharton School. He is a member of the Royal Swedish Academy of Engineering Sciences, and the European Shadow Financial Regulatory Committee.*

and sound" financial system. One reason for the special supervision of financial institutions is that the detection of crime may require special expertise, though this is not discussed here.

**One bank's failure may lead to "contagion" and runs on healthy banks. This argument has spread from banks to other large financial institutions.**

Another major reason for singling out the financial sector for supervision is that disruptions in this sector are considered to be particularly severe for the economy as a whole. Do failures of financial institutions have consequences that make them different from other firms? The conventional argument is that there is systemic risk in banking. One bank's failure may lead to "contagion" through the payment system and runs on healthy banks. The contagion argument applies especially to banks, and it becomes particularly relevant when the sector becomes concentrated. The "too-big-to-fail" argument is usually accepted, although there is disagreement about what is meant by "too big." It applies to non-financial firms, as well, although they do not seem to require special supervision.

However, the contagion argument has spread from banks to other large financial institutions. Last year's episode in the US with Long-Term Capital Management, a hedge fund, indicates the concern of the authorities with all kinds of financial institutions if they are sufficiently large. These developments may be seen as a result of technological changes that make money less special as a financial asset. Liquidity may be provided by various forms of "near - money" and the range of such instruments has expanded by electronic means.

The battery of regulatory and supervisory measures aiming at reducing the risk of contagion and bank-runs include the "lender of last resort" (LOLR) role of the central bank, deposit insurance schemes, and implicit guarantees of the liabilities of financial institutions. A LOLR is expected to provide liquidity to solvent banks should the need arise. Insurance and guarantee schemes should reduce the risk of contagion through runs on healthy banks.

A further argument for special supervision of banks is based on moral hazard, meaning that explicit and implicit guarantees of banks' liabilities induce excessive risk-taking. The supervisory authority can influence risk-taking behaviour by direct regulation of banks' assets, indirectly through capital requirements, or by means of supervision of internal procedures for risk evaluation. These various elements of supervision and prudential regulation are closely tied to the activities of the LOLR, and insurance activities cannot be discussed without linking all the elements of the "safety net" for the financial system. In fact, the argument that banks and other financial institutions are in any way special is very much strengthened by the existence of the safety net.

In fact, as the following Box shows, concern with the stability of the financial system may have led to greater instability in economic activity. A major challenge for regulation and supervision is, therefore, to credibly remove the protection of financial institutions, while retaining an adequate level of protection against contagion.

### **3. The division of regulatory and supervisory responsibility under EMU**

The Maastricht Treaty specifies that the European Central Bank (ECB) is responsible for monetary policy within EMU. Financial institutions are regulated and supervised at the national level as specified by the relevant EU Directives (1). Each national authority is responsible for domestic and international

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1) See European Commission (1992a).



activities of the banks that it licenses, with mutual recognition within the EU of licenses. In order to prevent competition among national authorities leading to a relaxation of prudential requirements, the harmonization of capital requirements and deposit insurance schemes have also been agreed.

### **"Stop-Go" banking**

The current supervisory regime means that the financial system in Europe is crisis-prone. It is also a "Stop-Go" regime, as it tends to contribute to an over-expansion of credit in expansionary periods and an excessive credit crunch in times of crisis.

The implicit guarantee of most European banks is the cause of the "Go" periods. During such periods banks supply financing at an excessive rate without sufficient consideration of risk. The dynamics of competition when banks' liabilities are guaranteed tend to favour volume and lenders do not ask penetrating questions about borrowers. A bank is unable to increase its profitability by demonstrating that it is a superior credit and risk evaluator.

Risk evaluation will rely on predictions that are strongly influenced by recent experiences. The longer the time goes without a crisis, the less likely it is that dramatic downside events are considered. If banks behave as outlined, without a strong risk-evaluation culture, they would nevertheless tend to be different and prone to failure to different degrees. Bail-outs of different kinds imply, however, that the relatively weak institutions do not fail and exit from the scene. As Kane (1998) puts it "small problems" are allowed to "fester" with the result that the whole system becomes more vulnerable to a large macroeconomic shock. Such shocks will, therefore, tend to become systemic to a higher degree than they would be without explicit and implicit guarantees.

The "Stop" phase for banking occurs when a macro-shock of unusual magnitude causes substantial system-wide credit losses. If the losses are large enough, a number of banks will no longer satisfy capital requirements. At this stage, it is crucial how banks try to restore their capital base. There are two possible models for the "Stop" phase. One is observed in the Asian crisis, where regulatory authorities practice forbearance with banks that are burdened with a large share of non-performing loans. Banks in turn allow non-performing firms to continue operations with the result that the available credit supply remains tied up and unavailable to healthy firms. The second model for the "Stop" phase is characterised by an excessive failure rate among firms that face temporary liquidity problems, or that would still be viable after debt restructuring. This model is exemplified with the Swedish experience in the early 1990s. Thousands of firms were forced into bankruptcy "unnecessarily" when some banks suddenly reduced the value of collateral by 50 percent and recalled loans. There are currently a large number of court cases, where banks are accused of unilaterally having broken credit promises or contracts, thereby throwing employees in viable firms with insufficient liquidity into unemployment.

LOLR responsibilities for handling the liquidity problems of individual banks are also assigned to national central banks (insolvent banks would be expected to be closed down). Bilateral co-operative agreements between national central banks would resolve the division of responsibility when, for example, the insolvency of one large multi-national institution creates liquidity problems for banks under different jurisdictions.

Unfortunately, this division of responsibility among regulatory and supervisory authorities under EMU lacks credibility for several reasons. One reason is that there is uncertainty about crisis procedures in individual countries. For example, authorities in one country could be relatively more inclined to bail-out insolvent banks under its jurisdiction, and this would distort competition. Regulators are often "captured" by domestic interest groups, including the industry they are to regulate and supervise. The degree to which this happens varies from country to country, but there is certainly enough suspicion of biases in favour of domestic institutions within the EU to undermine the principle of mutual recognition. Large public sector ownership of banks creates further ambiguity over what will actually be done in crisis situations.

Central banks and national supervisory authorities tend to consider such ambiguity as reducing moral hazard, because they avoid promising to bail-out institutions. However, when financial institutions approach "too-big-to-fail" status and have substantial international activities, the ambiguity may actually contribute to moral hazard as noted by Prati and Schinasi (1998). The lack of commitment either to bail-out or not to bail-out becomes interpreted as an implicit bail-out guarantee. Since a bank failure may be associated with the stigma of incompetence for supervisory authorities, there exists also an incentive to provide LOLR-support to insolvent banks.

A second and related reason why the division of responsibility lacks credibility is the regime for deposit insurance in the EU. The deposit insurance directive states that deposits up to at least EUR 20 000 must be insured (European Commission, 1992b) (2). There are substantial differences among countries, with many countries near the minimum, but with France and Italy providing much greater coverage. This partial deposit insurance is a protection device for the relatively small depositor. In other words, the risk of contagious bank runs remains. With the increasing pan-European activities of financial institutions, insolvency of one partially insured bank could cause runs on banks and financial institutions in other countries. Thus, the supervisory authorities in each country must be concerned about the health and riskiness of foreign financial institutions.

An additional reason why the formal division of responsibility lacks credibility is that LOLR activities of a national central bank affect EMU-wide monetary conditions. The ECB is charged with responsibility for monetary policy; however, a large LOLR intervention by one national central bank would increase the EMU wide money supply and perhaps induce sterilisation operations by the ECB, leading to an increase in interest rates. Thus, the involvement of the ECB in large LOLR operations is almost inevitable.

Given these sources of potential conflicts of interest among national authorities, and between national authorities and the ECB, the real question is whether the existing ambiguity is "constructive", or whether a more transparent regime for supervision and crisis management should be set up.

The behaviour of national authorities in recent European crises illustrate that the level of implicit guarantee for depositors, lenders, and even shareholders in banks could be high. The Swedish

**Recent European crises illustrate that the level of implicit guarantees, even for shareholders, could be high.**

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2) Deposit insurance in each country is intended to cover domestic deposits as well as deposits in foreign branches after the year 2000. Until then, deposit insurance is issued in each country for deposits in local banks, whether the bank is domestic or foreign.

**The ECB should be charged with assuring that all financial institutions are under the domain of one supervisory authority.**

banking crisis, for example, occurred under a system of no formal guarantees and no deposit insurance. Nevertheless, pre-crisis expectations regarding protection of depositors and other liability holders were that the level of protection would be high. A high-quality bank could not lower its cost of funds by demonstrating relatively low risk, and the rating differences between banks were also negligible. The markets proved correct, as the crisis was "solved" by the issuance of a blanket guarantee for all liabilities of Swedish banks. One can assume that a major reason for this guarantee was to prevent Swedish banks having to pay more for funds than competing foreign banks. In the end, Swedish shareholders were bailed out as well by the liability guarantee, although the ex ante expectations of the market about this was less sure. Share prices for banks first tumbled, but only to rebound after the issuance of the guarantee. The Norwegian approach to crisis resolution was to nationalise the insolvent banks, thereby guaranteeing liabilities, but not shareholders. The French authorities' transfers to cover the enormous losses in the state-owned *Crédit Lyonnais* are also well known. The implicit guarantee in the EU certainly extends fully to liabilities and partially to shareholders in most countries, even if there is some variation from country to country with respect to the bail-out of shareholders.

The removal of the non-constructive ambiguity about supervision and crisis management has two necessary elements. First, a credible division of responsibility among national central banks, national supervisory authorities, and the ECB must be specified. Second, and as discussed in the next section, a transparent and credible regime for dealing with financial institutions in liquidity and/or solvency crises must also be created.

Any proposal that is going to be both transparent and credible will entail some compromise with respect to the principles of subsidiarity (as exemplified by mutual recognition and home-country responsibility). Lannoo (1998) makes the case for a stronger role for the ECB in European banking supervision, and for co-ordination of activities among national supervisory agencies. One reason for abandoning the pure delegation to national authorities is that there is a risk when financial institutions become increasingly internationalised, that some financial activities may fall between the cracks of the supervisory network. For this reason, both Lannoo and the European Shadow Financial Regulatory Committee (ESFRC, 1998b) (3) propose that the ECB should be charged with the responsibility of assuring that all financial institutions and activities are under the domain of one supervisory authority.

Mayes and Vesala (1998) argue that thorough on-going cupertino among supervisors would help overcome the information problem regarding international activities facing home-country supervisors, in small countries in particular. However, they consider such co-operation potentially inadequate unless an EU-level body is given an expanded role, and information disclosure is improved. A "disclosure regime" with penalties in place to ensure prompt and correct disclosure as in New Zealand is suggested. The disclosure would include a range of quantitative data on exposure, asset quality, directors' interests, and capital adequacy, as well as more quantitative data regarding prudential behaviour.

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3) *The European Shadow Financial Regulatory Committee (ESFRC) was formed in 1998 to serve as an independent commentator on European regulation of and legislation for the financial services industry. Information about activities, statements, and members can be obtained from the committee's chairman Harald Benink, Maastricht University, Limburg Institute of Finance, P.O. Box 616, 6200 MD Maastricht, The Netherlands. E-mail: [h.benink@berfin.unimaas.nl](mailto:h.benink@berfin.unimaas.nl)*

Information availability for national supervisors is a major concern for the ESFRC as well. It has argued for the creation of a "European Observatory of Systemic Risk" (ESFRC, 1998b). The Observatory, which need not be part of the ECB, would be able to obtain information from national authorities, but not able to supplant their decision-making power. The main role for the ECB would be to act as a "clearing-house" for co-ordination, with provisions for the allocation of responsibilities in crises. The only direct involvement of the ECB in crises would be for LOLR operations, since it would have to approve national LOLR intervention for the monetary policy implications mentioned before (4).

The above proposal presumes that home country control with mutual recognition are principles that should be retained, although modified. It also presumes that appropriate rules for dealing with insolvency are in place, and it is to these that we now turn.

#### **4. Dealing with problem banks**

##### ***Principles***

We start with a number of principles for dealing with problem banks. They are formulated under the assumption that if it were not for the possibility of serious contagion effects, an unregulated, competitive financial system would be preferred:

1. **Regulation should enhance rather than replace market incentives.** Capital adequacy rules may be seen in this light, since they ensure that shareholders risk their capital.
2. To the extent possible, **regulation should be "enabling" rather than mandatory.** This means that regulation should, in general, not impose exact procedures for credit allocation. This would only be compatible with the first principle in the unlikely event that the regulator knows what the competitive outcome would be. Wihlborg (1997) discusses the distinction between enabling and mandatory law, and argues that enabling law contributes to a dynamically more efficient financial system, since organisations and contractual relations develop over time to resolve market imperfections. Unfortunately, if the contagion problem is to be addressed, it is impossible to make law and regulations entirely enabling; nevertheless, mandatory regulation should be confined to the minimum.
3. **The regulatory framework must be based on political reality if it is to be credible.** For example, a regime without explicit deposit insurance may lack credibility, because the political reality in times of crises is that some or all liability holders will be bailed out. Economists may argue that no deposit insurance is preferable, because the fears of contagion are exaggerated. Political authorities are rarely willing to experiment and subject this proposition to a test. Thus, if deposit insurance is not made explicit, credibility requires the regulatory framework to address the contagion problem by other means.
4. **Insolvent financial institutions should be allowed to fail.** For the banking sector, the LOLR should help banks survive liquidity crises. The LOLR should not contribute to the bailing out of insolvent banks. However, there is a substantial information problem to determine whether a

*If it were not for the possibility of contagion, an unregulated financial system would be preferred.*

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4) It should also be noted that banks' international involvement extend beyond EMU and the EU. Thus, coordination and cooperation beyond the EU is necessary. It is likely that an EU-wide body like the "Observatory" would be in a better position to coordinate internationally.

bank's distress is due to insolvency or illiquidity. Supervisory authorities are likely to err on the side of a bail-out, and so apply excessive forbearance towards insolvent banks.

**5. Financial institutions should be induced to provide liquidity to illiquid, but not insolvent, firms.**

They should also contribute to the restructuring and reorganisation of firms when this is wealth maximising. The behaviour of banks is particularly important, since they are senior debt-holders, and are likely to take the lead in the restructuring of distressed firms (Boot and Thakor, 1997).

**Proposals**

*Economists may argue that the fears of contagion are exaggerated. Political authorities are rarely willing to test this.*

Free banking advocates (e. g. Dowd 1989) argue that contagion is no more of a problem for banks than for other firms, and that specific regulation of banks is unnecessary. One important reason is that if non-intervention were credible then banks would organise themselves in such a way that the risk of bank-runs would be minimised. For example, it is likely that the credit and payment functions of banks would be separated to a much greater degree than they are today. Payment services and the provision of liquidity would be offered by "narrow" banks, holding safe assets for the most part. The argument that the risk of contagion is overstated has also been made by economists that are not free banking advocates. Kaufman and Kroszner (1997), for example, refer to the pre-Federal Reserve era as evidence that the failure rate of banks without insurance would most likely be lower than it is now. They argue that the incidence of losses would be greater if the capital is very low, and that the macroeconomic effects of bank-failures would not be strong if only insolvent banks were allowed to fail.

Along these lines, New Zealand has the requirement that banks disclose information making their risk taking transparent, but has no government run system for protection of liability holders. Any insurance scheme is left to private market participants. If this system remains credible, it will be interesting to see whether financial institutions emerge that specialise in liquidity provision with a minimal presence in the credit market (i.e., narrow banks).

Even if a "hands-off" approach is potentially the most efficient one, it is not transferable to Europe at the present time. The reason is that such a non-interventionist approach to dealing with problem banks is not credible in most EU countries (5). It clearly breaks the principle on political reality set out above (Principle 3).

Petri and Fry (1998) and Calomiris (1998) have devised different schemes for the "privatisation" of banking supervision. The first authors suggest that banks insure each other and that they thereby are given incentives to evaluate each other. Calomiris suggests that banks issue a certain amount of subordinated debt only to other banks. This would provide incentives for mutual risk evaluation. The pricing of marketable debt would make it possible to price deposit insurance according to risk. These proposals are potentially very interesting. However, there remains the question of whether non-intervention by authorities in a bank crisis is really credible under this scheme. This proposal may also fall foul of the political reality test.

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5) One intermediate approach could be to regulate the creation of narrow banks, and apply the government safety net only to these narrow banks. However, this proposal may well be out-dated, as liquidity is provided by a variety of instruments (see Eliasson and Wihlborg, 1998), and contagion is possible through a number of channels.

In the USA, a different approach, that of "**structured early intervention**", has been adopted. A fall of a bank's capital ratio below certain levels triggers increasingly severe restrictions on its activities and possible intervention by the Federal Reserve. For example, at a 12 percent ratio a bank comes under increased scrutiny by supervisors and certain operations become non-permissible. As the capital ratio falls further, restrictions on activities become increasingly severe, and at four percent a bank could be forced to seek a merger partner or be closed down. The advantage of this scheme is that it restores the buffer role of the required capital. The likelihood that banks recall loans to viable firms in a crisis for the sake of improving the capital ratio, as discussed in the box, is thereby reduced.

**The proposed insolvency procedures includes a set of capital ratios that trigger early intervention, a mechanism for the completion of settlements, and marking-to-market accounting practices.**

Along these lines, the European Shadow Financial Regulatory Committee has proposed insolvency procedures that minimise the probability of contagion through bank runs and settlement systems. These procedures should make deposit insurance unnecessary and a no bail out policy credible (ESFRC, 1998a). They would include a set of capital ratios that trigger early intervention, and a ratio that forces the bank into receivership. At this ratio, managers and shareholders would have to relinquish control to a court-appointed trustee with the task to unwind the bank and sell its assets. In addition, the procedures would include priority rules for creditors based on liquidity considerations. Depositors' funds would be at risk only in the very rare instance when a large sudden shock has wiped out all capital, rendering any early intervention impossible. Even then, the depositors would lose only a fraction of their deposits. The probability and magnitude of these losses should be small enough that bank runs are prevented.

The ESFRC proposal has two further legs. One is that a mechanism for the completion of settlements should be created in order to avoid contagion through the settlement system. Such a mechanism could be a voluntary arrangement among banks to cover the interbank liabilities of a failing bank according to certain rules. In most cases when the bank is taken over by a trustee, the bank would still have capital left. Therefore, it should be able to borrow against assets to settle non-completed transactions.

The third leg of the ESFRC proposal suggests "marking-to-market" accounting practices. Since loans are not traded, proxies for market values must be used. Such proxies include consideration of probability of non-payment, and recovery rates in case of non-payment (6). Marking-to-market would increase the variability of the value of assets, and induce banks to target higher capital ratios (to reduce the likelihood of hitting a trigger ratio that would restrict activities). There is evidence from Denmark of this effect (see Bernard *et al.*, 1996, and Möller and Nielsen, 1995).

The ESFRC proposals are consistent with the principle of enhancing market incentives. To illustrate this point, consider how banks would behave if there were no guarantees and no priority rules for creditors in law. In order to be competitive when offering payment services and in order to attract deposits with varying degrees of liquidity, a bank would have to specify in its charter a certain priority rule for creditors. The bank offering the highest priority to the most liquid liabilities would be most attractive for depositors who want high liquidity. Similarly, without any government involvement, banks would be likely to agree on procedures for handling settlement risk (7).

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6) With this information one can calculate the Value-at-Risk of the loan book. A number of software packages, such as CreditMetrics, are now available for this purpose.

7) In the Herstatt bank case in 1974 (a bank that had suffered large losses on foreign exchange positions) such procedures were agreed upon among the banks owed funds.

The ESFRC scheme would make it possible to credibly state that insolvent banks will be allowed to fail and be liquidated, because a bank's insolvency would not create systemic risk except in the rarest of circumstances. Depositors and other creditors would, nevertheless, face some risk inducing them to demand information from, for example, rating-firms about the quality of bank portfolios. Banks would also find it in their interest to signal customers in different ways about the quality of their assets.

## **5. Conclusions**

Two issues have been discussed in this paper. One issue is how to design a regime for the allocation of supervisory and regulatory responsibility among national central banks, supervisory authorities and the ECB. The second issue is how to deal with problem banks without inducing moral hazard. Credibility has been emphasised in the discussion of both issues. If credibility is lacking with respect to the allocation of supervisory and regulatory responsibility, ambiguity contributes to the possibility of a crisis not being detected before the systemic implications become severe. Ambiguity with respect to procedures for dealing with problem banks implies that governments are likely to bail out banks in distress and, therefore, to provide an implicit guarantee to bank creditors.

*The principles of home country control and mutual recognition must be modified within EMU.*

The internationalisation of financial institutions and technological developments have already created a need for international co-operation in supervision of financial institutions. EMU will contribute further to internationalisation, and especially to cross-border activities in Europe. Supervisors on the national level will find it increasingly difficult to remain informed about the exposure of banks to risk. For this reason it has been proposed that the principles of home country control and mutual recognition must be modified within the EU. Following the European Shadow Financial Regulatory Committee, an expanded role for the European Central Bank has been suggested. This role would include veto power over lender of last resort operations of national central banks, and the active co-ordination of activities of national supervisory authorities.

The proposal put forward to deal with problem banks also follows the ESFRC. In order to credibly abandon high levels of deposit insurance and bail-out guarantees, solvency procedures for banks should be specified in such a way that the risk of contagion of one bank's failure is minimal, while incentives to evaluate bank exposures remain.

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# On the road to wonderland? Bank restructuring after EMU

"Now here you see, it takes all the running  
you can do just to stay in the same place.

If you want to get somewhere else, you  
must run at least twice as fast as that!"

Lewis Carroll, *Through the looking glass*.



**Christopher Hurst**



**Eric Perée**



**Mireille Fischbach**

## 1. Introduction

Throughout the industrialised world the banking sector has embarked on a programme of restructuring and consolidation. In Japan the severity of the banking crisis has recently forced both the banking sector and the authorities to recognise deep-rooted problems and to take decisive action. In North America, the banking landscape is also undergoing major changes. Segmentation of activities enshrined in the Glass-Steagall act is being reduced and most restrictions to interstate banking consolidation have been abolished. Similar developments also characterise the European banking scene. However, as long as European countries maintained their monetary sovereignty, the scope for cross-border banking consolidation was limited. The introduction of the euro may, therefore, usher a period of restructuring and consolidation in Europe.

This paper discusses the restructuring of the banking sector in Europe and how it is affected by EMU. In order to identify the fundamental forces shaping the restructuring process, the next section looks back at the evolution of the banking industry over the last twenty years and how EMU interacts with these forces. Section 3 then focuses on the role of banks, their interaction with the capital markets and some idiosyncrasies of the European banking sector. Section 4 reviews the overall financial performance of banks to diagnose the potential strengths and weaknesses of European banks. Section 5 then turns to the discussion of the recent experience of consolidation and restructuring of the banking system on both sides of the Atlantic Ocean, while Section 6 attempts to map out the likely restructuring of the European banking industry in the coming years.

Throughout the paper, we take a global view of the banking sector. We do not attempt to discuss the situation in the individual countries of Euroland, and even less of developments in the various market segments.

## 2. Changing landscape leading to EMU

In the thirty-year period between the end of World War II and the mid-1970s countries of the OECD zone recorded rapid growth and their economic structure underwent profound changes. However, the overall organisation of the banking industry remained broadly unchanged. The major features characterising the sector rested on the following principles. First, the authorities were more concerned by the stability of the financial system than by its efficiency and competitive behaviour; they imposed heavy regulation on banks. Second, the provision of financial services was segmented and the various types of banking institutions each had their own privileged fields of

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*Christopher Hurst, Eric Perée, and Mireille Fischbach are respectively, Division Chief, Deputy Division Chief, and Research Assistant, in the Chief Economist's Department of the EIB.*

operations. Third, banks operated in an environment where many interest rates, on both the asset and liability sides of the balance sheet, were regulated. In several countries there were also quantitative restrictions on the operations that banks could undertake. Fourth, bank operations were conducted within clear national boundaries, and cross border banking activities were undeveloped.

Strains in this organisation progressively built up and became visible by the mid-1970s. A rapid period of change in the financial sector followed. Deteriorating macroeconomic performance, rising inflation and interest rates undermined the competitive balance between banks and attracted competition from non-bank enterprises. On the asset side, the banking industry lost market power over many of its large borrowers, who could choose among alternative sources of finance. On the liability side, banks evolved from a protected position in which they could access deposits at regulated below-market interest rates, towards a setting in which they had to pay competitive prices to raise funds (Berger, Kashyap and Scalise, 1995). Behind the above changes to financial architecture, demographic trends, the accumulation of wealth, rapid developments in computing and information technology played an essential role. Technology had a deeply enabling role, as it made possible a dramatic reduction in the cost of processing routine transactions, and a widening of both the variety of products on offer and the distribution channels to end-users.

In addition to these changes, a more subtle transformation has taken place, and the basic role of banking has changed. Traditionally banks have been viewed as financial intermediaries playing the middleman between savers and borrowers, and providing a solution to high transaction costs and information and monitoring problems. While this role of banks remains valid nowadays (indeed this is still the business of most small and middle-sized banks), the business of larger banks has widened to become facilitators of risk transfer (see Allen and Santomero, 1998).

**While the traditional intermediation role of banks remains valid, the business of larger banks has widened to become facilitators of risk transfer.**

Finally, a further major change in the banking landscape has been the dramatic growth of international activities. This has taken the form of cross-border finance, together with the establishment of banking offshoots in other countries. Naturally, the expansion of cross-border banking activities has prompted the development of international co-operation/co-ordination for the supervision and monitoring of banks, and the establishment of commonly accepted rules. The Basle Committee for Banking Supervision has played a decisive role in this respect through the establishment of industry standards of good management.

The European banking scene has broadly followed the pattern of evolution observed in other industrialised countries. However, the integration process in the European Union has meant that the pressures to co-ordinate have been greater. Over the years, activities in the financial sphere have been subject to a number of European Directives. For the banking sector, the most important has been the Second Banking Directive, part of the Single Market Programme. It introduced the concept of the "single passport" and the recognition of "home country control". In plain English it means that banks recognised and approved in their home country could freely offer banking services across the European Union, and that the supervisory function was allocated to the home country supervisor. In addition, the Second Banking Directive also endorsed universal banking as the EU

banking model (1). While in theory the Directive allowed an integrated banking market in the EU, practice has not lived up to expectations, especially in the retail and small business sector (see European Commission, 1997).

As long as countries continued to enjoy monetary sovereignty, the currency factor hampered integration of the banking market. While it is true that expansion beyond the national borders in other EU markets would normally provide a better geographic diversification of risks and make banks less sensitive to region- or country-specific shocks, currency segmentation exposed banks to additional financial risks unless they also matched assets with liabilities of the same currency, or engaged in expensive hedging.

*The introduction of the euro removes one big roadblock to integration, and the consequences are likely to be wide ranging.*

Thus, the introduction of the euro removes one big roadblock to integration, and the consequences are likely to be wide-ranging. On the one hand, it diminishes the need to maintain banking relationships in several countries and opens the way for corporations to consolidate their operations on fewer institutions. In the same spirit, it also permits banks to aim for retail customers in a range of countries without having to support currency risk. Indeed, it also improves the price transparency in the provision of financial services, and takes away the informational and funding "edge" enjoyed by local banks with respect to domestic monetary policy.

### **3. Comparisons between financial systems**

The global impact of banking depends on the relative size of the banking industry. In this respect, it is worthwhile to look at some indicators of the size of the banking and financial industry in Euroland relative to other regions.

Table 1 presents some aggregate indicators on the structure of financial markets in Euroland, the UK, the US and Japan. To eliminate differences resulting from the size of the economy, all figures are presented as ratios to GDP. Funds from savers to investors can be channelled either through the banking sector or through the capital market (bonds or shares). The first line of Table 1 provides the relative size of the sum of bank assets, equity market capitalisation and the bond market. While there are some differences, the ratio for all zones is in the range from 300 percent to 375 percent (2) and suggests that the aggregate level of financial development is similar in all countries. The following two lines split total financial assets between the banking sector and the capital market. Here some sharp differences emerge. Euroland stands at one end of the spectrum, as the banking sector accounts for over 50 percent of financial intermediation. At the other end is the US, where the banking sector represents only about one-fifth of the total. The UK and Japan are somewhere in between these two extremes.

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1) Other Directives have harmonised the definition of a credit institution, the definition of own funds, solvency ratios and large exposures.

2) Note that this indicator is influenced by the level of share prices. The other elements (bonds and banking assets) are recorded at nominal value.

**Table 1.** International comparison of financial architecture

	Euroland	UK	USA	Japan
Total (% GDP)	291%	376%	377%	303%
of which: Banks	54%	32%	20%	38%
Markets	46%	68%	80%	62%
of which: Stocks	33%	75%	48%	45%
Bonds	67%	25%	52%	55%

Note: Figures for the banking sector are net of interbank claims

Sources: OECD Financial accounts, OECD Banking profitability, EU European Economy, IFC Emerging stock market factbook, BIS International banking and financial market developments, IMF IFS

The differences between Euroland and the US do not stop here, however. Within the capital market, the relative weights of the bond and the equity markets are markedly different. Indeed, in the US, the bond and stock market are about the same size, while in Euroland the bond market accounts for about two-thirds of the capital market. Furthermore, the bond market in Euroland is much more skewed towards high quality borrowers than in the US.

Broad indicators such as the ones presented above are relatively crude, and one should recognise that the roles of the capital market and banks are not necessarily antagonistic. In the US a significant share of large banks' off-balance sheet activities ultimately support the capital market. For example, back-up lines of credit and derivatives are linked to capital market transactions. According to Gertler (1995), this represented about 30 percent of the balance sheet of the US banking sector in the early 1990s.

The differences between the US and Euroland result not only from history, but also from policy action taken by the authorities. In Anglophone countries, the development of the capital market has been supported with tax breaks for the constitution of pension assets, and, in the US, guarantees offered to support the development of the mortgage market. Similarly, in the US, the Glass-Steagall act segmented the market for financial services and induced competition for commercial banking activities from non-banks. On the other hand, in Continental Europe the universal banking model has tended to concentrate most financial activities within the banking sector. Indeed, in Euroland banks engage in a host of financial activities that are provided by different organisations in the US (i.e., mutual funds, asset management, investment banking).

#### 4. Bank performance in Euroland

Before assessing the potential effects of EMU on European banks, it is useful to examine how well banks have coped over the last decade or so with the changes outlined in Section 2. With this aim, we look at the evolution of a range of conventional balance sheet and profit and loss ratios for Euroland, as well as for British and North American banks. The raw statistical data are taken from the OECD Banking Profitability Statistics (3). It is clear that aggregate banking ratios hide the diversity that exists across countries and individual institutions, and that they are a relatively coarse

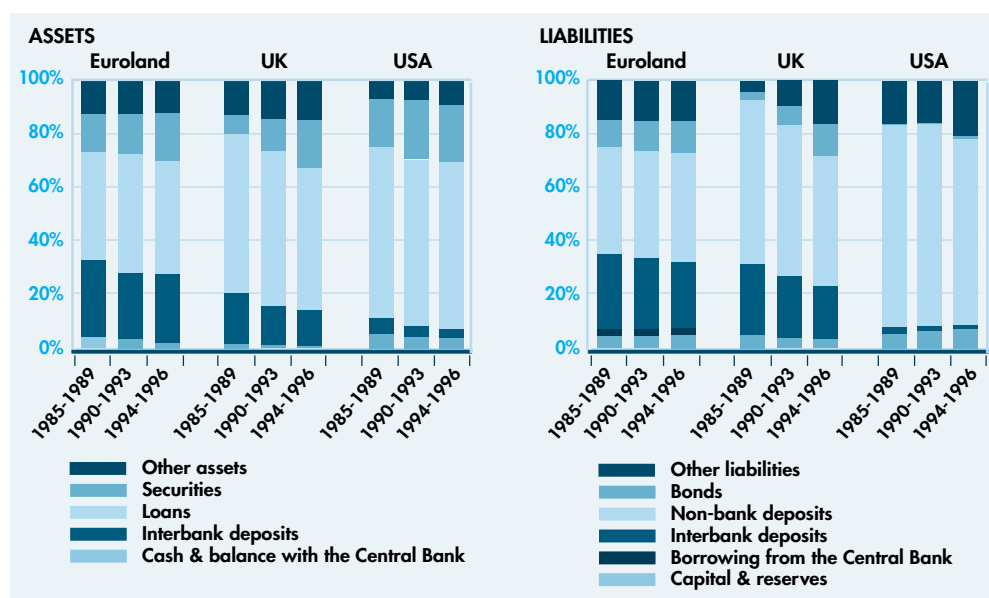
3) Before 1995, the OECD did not report any statistics for banks operating in Ireland. Hence, when we refer to Euroland banks it actually excludes Ireland. Furthermore, we only consider commercial banks in this section. The term "banks" is used loosely to describe this group of institutions.

**The differences in financial markets between the US and Euroland result not only from history, but also from policy action taken by the authorities.**

way to gauge the health of the banking sector. Despite these limitations, such ratios do provide some insight into the state of the banking sector in Euroland.

We proceed by analysing the evolution of the main determinants of the profitability of Euroland banks, moving from income, to operating costs and provisioning. To the extent that the typical balance sheet structure of banks in the three regions differ, some distortions to the ratios is likely to result. Hence, a useful starting point is to look at the structure of balance sheets. This is given in Figure 1.

**Figure 1.** Balance sheet structure of commercial banks



*The breakdown of assets is quite different. In Euroland more than a quarter were made of interbank deposits, while in the US they represented only 3 percent.*

Consider first the asset side of the balance sheet. In all regions there has been a marked increase in the proportion of total assets invested in securities. By the mid-1990s securities represent about one-fifth of total assets. There is also the similarity between regions, in that the sum of loans and interbank deposits are about 70 percent of total assets; however, the breakdown between loans and interbank deposits is quite different. In Euroland more than a quarter of assets were made of interbank deposits, while in the UK and the US, they represented only 11 percent and 3 percent, respectively. As a consequence, loans represent a much larger share of total assets in both the UK (60 percent) and the US (66 percent) than in Euroland (where they account for barely 45 percent of total assets).

On the liability side, similar disparities exist. US commercial banks fund their operations almost exclusively with deposits from non-banks (representing more than 70 percent of liabilities), while in Euroland these deposits are only 40 percent of the total. British banks fall somewhere in between. Funding from the interbank and the capital markets, is negligible in the US. By contrast, Euroland banks funding from the same sources accounts for about a third of their liabilities.

#### 4.1 Structure of income

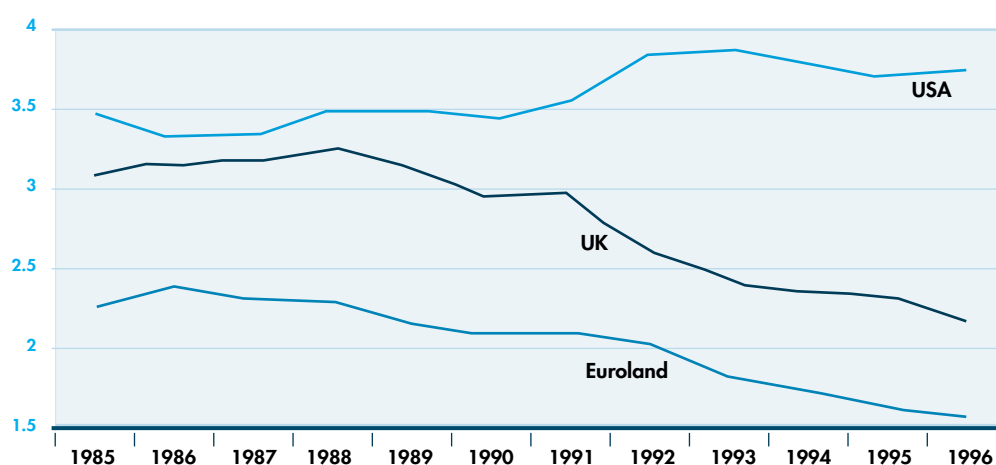
The income from banking operations is usually split in two groups. The first comprises the net interest income from financial intermediation. The second represents the income earned from the alternative

services provided by banks (i.e., fees and commissions earned from transaction services or off-balance sheet activities) and from own-account investment (i.e., proprietary trading activities). In most industrial countries, interest income generally accounts for 60 percent to 75 percent of total income.

**The interest margins of both Euroland and the UK trended downwards. There is no evidence of a similar trend in the US.**

Figure 2 depicts the evolution of net interest margins (i.e., net interest income divided by total assets) for the three regions from 1985 to 1996. Throughout the period, net interest margins in Euroland were significantly lower than in both the UK and the US. By the end of the period, the net interest margin in Euroland was a paltry 1.5 percent of assets, compared with 2.25 percent in the UK and 3.5 percent in the US. Though the margins of both Euroland and the UK trended downwards for most of the period, there is no evidence of a similar trend in the US.

**Figure 2.** Net interest margins, percent of assets



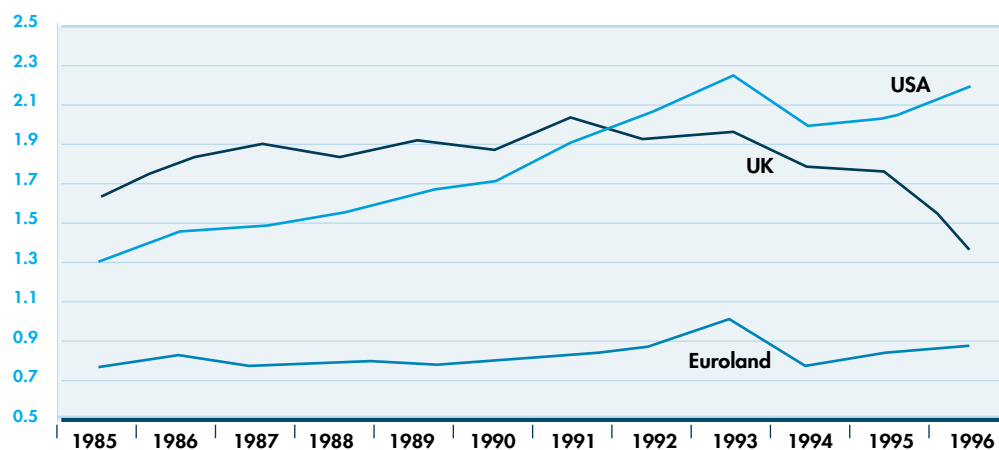
Such striking differences naturally raise the question of how they come about. We have seen that interbank operations are a significant share of the activities of Euroland banks. The margin on this business is very small, and this much reduces the overall average. However, that is not all. The low level of development of the capital market in Europe also means that a large share of lending goes to high quality corporate borrowers, and hence attracts lower margins. Public sector lending is also more important in Continental Europe, and this is another low-risk, low-return business (4). Finally, falling inflation and nominal interest rates in Europe could have removed one source of support for the margin.

Income is also generated by fees and own-account trading. Figure 3 depicts the evolution of non-interest margin in the three regions. Here again major differences emerge. In Euroland there has been no significant change, and the margin hovers between 0.7 percent and 1 percent during the whole period. Conversely, in the US, non-interest margins increased steadily until 1993, and then stabilised at a high level of around 2.25 percent. In the UK, non-interest margins are also significantly higher than in Euroland, though British margins have fallen significantly in the mid-1990s.

4) Consider the following simple illustration. The interest margin is 3.75 percent of assets for American banks. Euroland banks charge the same margin for small and medium enterprises and retail customers, but these loans represent only 30 percent of the balance sheet (compared to 70% in the US). The difference is made up by interbank and high quality corporate loans carrying a margin of, say, 25 basis points. The average net interest margin from these assumptions falls to only 1.75 percent for Euroland banks. While this is just a simple example, it is close to the actual figures observed in the mid-1990s.



**Figure 3.** Non-interest margin, percent of assets

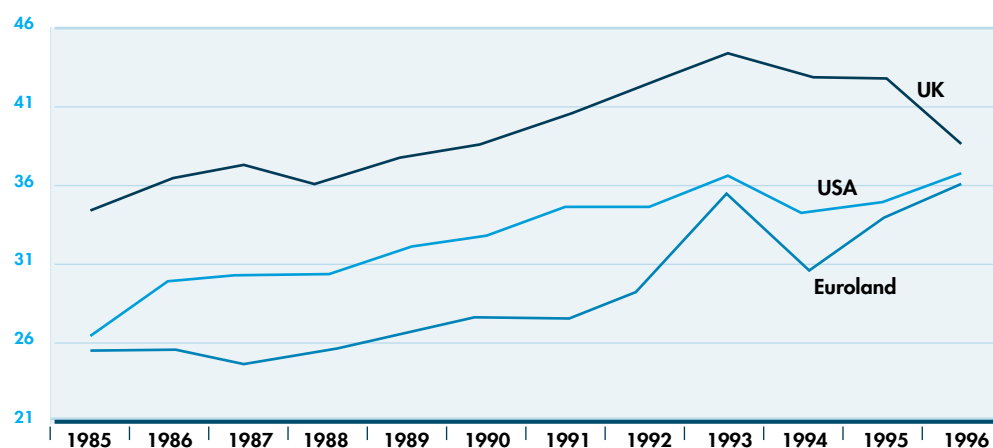


Since the mid-1980s, bond market investments have generated robust performance as interest rates and inflation fell. However, the large investments in bond portfolios by Euroland banks have failed to exert a significant positive impact on their income.

*The share of gross income from the non-interest sources has increased for Euroland banks, but this is essentially driven by the sharp contraction of the interest margin.*

At this stage, it is useful to contrast the evolution presented in Figure 3 with another yardstick that is often used when discussing the evolution of non-interest income: the share of total income derived from sources other than interest payments. This is presented in Figure 4. Seen in this way, one gets quite a different picture. The share of gross income derived from the non-interest margin has increased markedly both for American and Euroland banks, and ended up at about 40 percent of total income in all three regions. At first sight this suggests that there has been a dramatic adjustment of business away from traditional intermediation in favour of fee-based activities. However, this conclusion does not stand a closer inspection. While it is correct that American banks have been successful in expanding their fee-related operations, in Europe the increase seen in Figure 4 has little to do with the growth of this business. It is essentially driven by the sharp contraction of the interest margin over the same period.

**Figure 4.** Share of non-interest income in total income, percentage

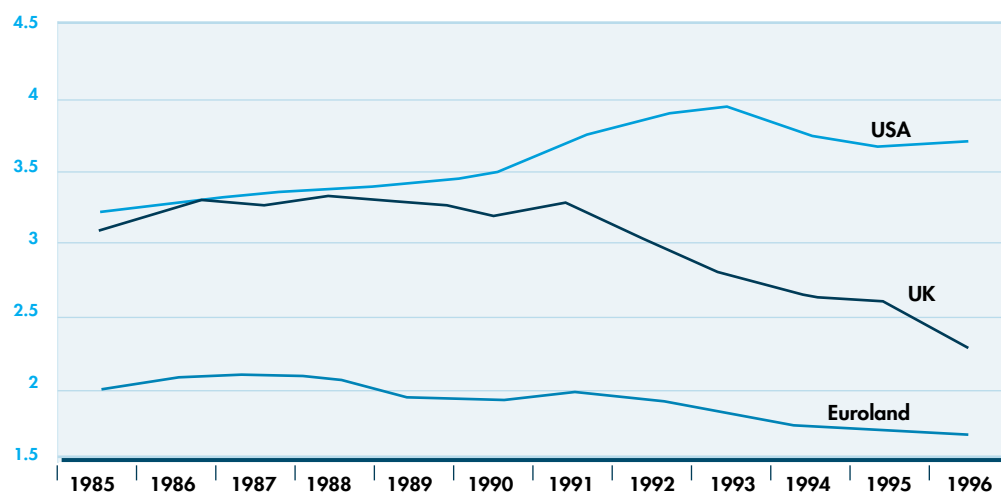


On the whole, the above evidence suggests that, when compared to American commercial banks, European banks have much lower margins. The interest margin has followed a downward trend since the mid-1980s, while the non-interest margin has been stagnant. Total gross income for Euroland banks in the mid-1990s was only about 2.5 percent of assets, compared with about 6 percent in the US and 4 percent in the UK. However, the balance sheet structure of Euroland and American banks is markedly different and this explains some of the gap, though how much is due to this is difficult to quantify.

## 4.2 Costs

Naturally, the profitability of banks is not only driven by revenue generation, but also by costs. Figure 5 depicts the evolution of total operating costs to total assets over the period. Operating costs of American banks rose steadily until 1993, and then stabilised at around 3.75 percent of assets. In both the UK and Euroland, operating costs have followed a different path. Relatively stable until the beginning of the 1990s, they have trended down. By the mid-1990s, Euroland bank costs were equivalent to about 1.75 percent of assets. In the UK, cost reductions have been much sharper, falling, by a full percentage point in a period of five years, to around 2.25 percent. As with the margin, these ratios are influenced by the structure of the balance sheet. In particular, interbank lending is not only low-margin, but also low cost, business.

**Figure 5.** Operating costs, percent of assets

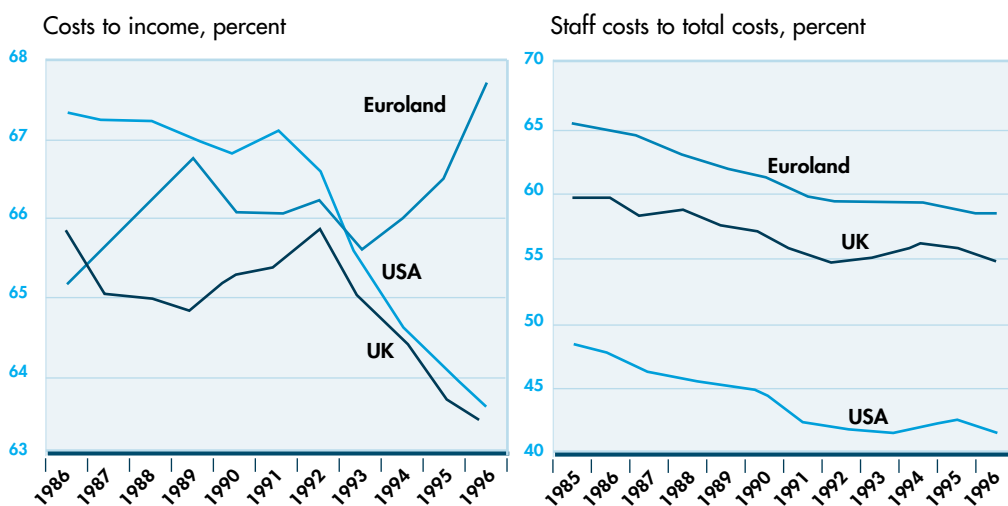


**The relative cost improvement in Continental Europe is essentially driven by balance sheet growth rather than cost-cutting.**

The decreasing cost ratio in Europe must also be seen in the context of the evolution of assets. In Euroland, costs have grown by 3.5 percent per year since 1985 while assets were expanding at double that rate. There is a somewhat similar evolution in the UK. Thus, the relative improvement in Europe is essentially driven by balance sheet growth rather than cost cutting.

An alternative way to look at the cost of banks is to compare it to gross income. Now, Euroland banks appear in a much less favourable light. Indeed, as depicted on the left-hand side of Figure 6, the cost base of Euroland banks has deteriorated significantly, i.e., operating costs fell less rapidly than operating margins. By contrast, in both the US and the UK, the fraction of gross income eaten away by operating costs has fallen markedly since the turn of the decade.

**Figure 6.** Operating costs



Note: three-year moving average

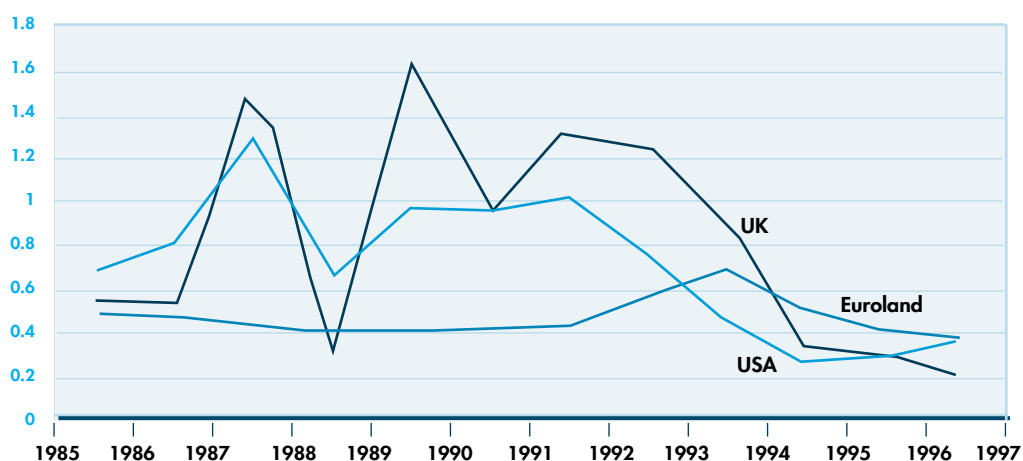
The right-hand panel of Figure 6 depicts the evolution of the share of operating costs absorbed by staff. The dominant feature is that the ratio of personnel costs to total costs has fallen by between 5 and 7 percentage points in each region, although there has been essentially no improvement in the UK and the US since 1992. Despite the similarity in the broad downwards trend, the Euroland staff cost ratio remains about one-half above that of the US.

### 4.3 Provisions

Since banking activities are risky, looking at gross income and operating cost provides only a partial view of their profitability. One of the missing elements is the cost of provisioning. Figure 7 presents the evolution of net provisions over the last 12 years. The evolution of provisioning over time is heavily influenced by the business cycle and the rate of provisioning depends on the average credit quality of the asset base. The business cycle effect is clearly visible in 1991-92 in the US and the UK, when these economies were in recession. In Euroland, a similar hump can be seen in 1993-94.

While the provisioning rates for all three zones have converged from 1994, the average rate of provisioning in Euroland over the whole period is much lower than in the UK and the US. Over the decade, Euroland banks have had to make annual provisions equivalent to about 0.45 percent of assets, while in the US and the UK the average rate of provisioning was nearly twice as large. The reason for this difference is to be found in the balance sheet structures discussed before.

**Figure 7.** Net provisions, percent of assets



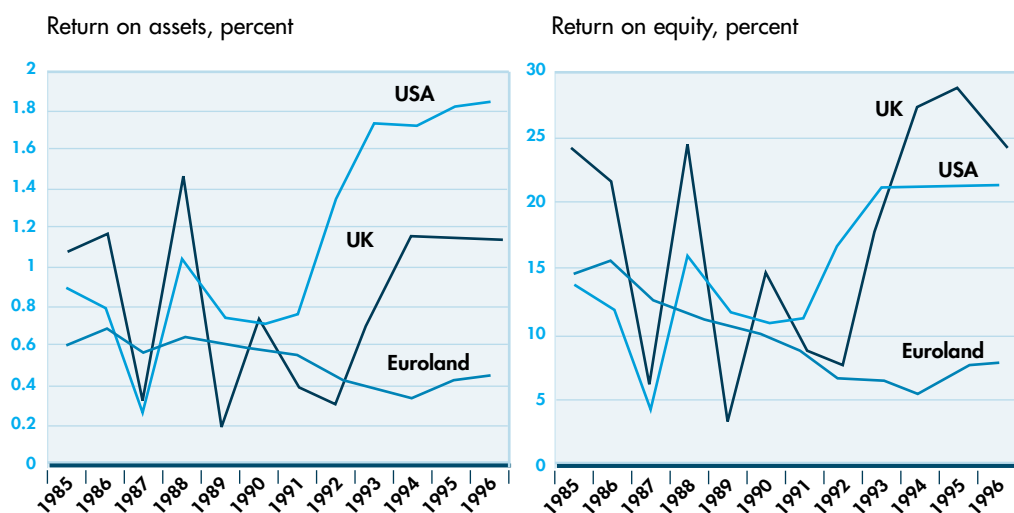
#### 4.4 Profitability

*The return on assets have followed sharply different paths since the beginning of the 1990s with a dramatic increase in the profitability of British and American banks.*

Having looked at the various components of income and costs, how do these elements come together in terms of overall profitability? Figure 8 presents the evolution of pre-tax profitability relative to both assets and equity (5).

Consider first the return on assets (ROA). Two striking features emerge. On the one hand, ROA is much less volatile in Euroland than in both the UK and the US. On the other hand, ROA in Euroland and in Anglophone countries has followed sharply different paths since the beginning of the 1990s. While the business cycle probably plays some role in the dramatic increase in the profitability of British and

**Figure 8.** Profitability



5) Using after-tax profit instead of pre-tax profit would not lead to any significant changes in the global evolution as the actual average tax rate (at between 35 percent to 45 percent of pre-tax profit) has not changed substantially over time, and is similar across the three regions.

American banks in the 1990s, their average profit rate over the whole sample period (0.82 percent and 1.15 percent) is noticeably higher than that achieved by Euroland banks (0.57 percent).

With the introduction of the Basle capital ratios for broad classes of credit risk, the capital that banks must maintain depends on the riskiness of their assets. Indeed, measured on a nominal basis the (shareholders') equity to asset ratio of Euroland banks (5.5 percent from 1992 to 1996) is markedly lower than for American banks (8.2 percent over the same period). Thus, the comparison on a ROA basis might lead to a distorted picture since the lower average risk of the balance sheet allows Euroland banks to operate with a higher leverage. However, using the return on equity (ROE) as the yardstick for profitability does not change the basic thrust of the conclusions (see the right-hand panel of Figure 8). While Euroland banks' profitability recovered slightly with the economic rebound in 1995, the performance of both UK and US banks after 1992 is significantly higher than during the previous ten years. However, it should be remembered that this has been supported by an extraordinarily positive domestic environment, especially in the US, and such performance may not be sustainable in the medium-term.

#### 4.5 The overall check-up

From the comparison of Euroland commercial banks to their British and American peers, the following overall diagnosis emerges:

- Euroland banks generate a relatively low gross revenue stream and have higher costs.
- Despite higher leverage, due to their better average asset quality, the return on shareholder funds in Euroland in the 1990s is much lower than for banks in Anglophone countries.

**For the sector as a whole, wastage due to poor management is over one-third of gross profits.**

The view that costs are not well-managed in many European banks is supported by other empirical work carried out by the Chief Economist's Department of the EIB and also reported in this volume (see Wagenvoort and Schure). This work has shown that there are substantial managerial inefficiencies in European banks. Most other studies have also found that there are large potential gains from improving management skills in controlling costs - average X-inefficiency in the sector is of the order of 15 to 20 percent (6). Another way to look at this is that, for the sector as a whole, "wastage" due to poor management is over one-third of gross profits. Many studies show similar management shortfalls in the US, and substantial possibilities to reduce costs in that country as well.

While there are many factors that could potentially explain the poor performance of Euroland banks, it is extremely difficult to quantify them with any precision (7). However, several broad classes of causes can be distinguished:

- Euroland banks may have inadequate product mixes and pricing strategies for corporate clients, together with a lack of understanding of cross-subsides between product lines and customers.
- In addition, the cost structure of European banks appears both too high and too inflexible. We have seen that the costs of Euroland banks are considerably more skewed towards labour than in the US. Low labour flexibility then results in a more rigid cost base.

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6) X-inefficiency is the difference in costs between a particular firm and a firm producing exactly the same outputs but operating at the industry's best practice.

7) See also European Central Bank (1999), Danthine et al., (1999) and White (1998).

- Low profitability could also be the result of a distorted competitive environment. Even if commercial banks were driven purely by profit motives, their profitability would not be immune to the behaviour of competitors that do not consider profits as a decisive target. In several European countries, a large share of the banking market has been captured by mutual banks and/or public sector banks (see Wagenvoort and Schure, for more details of the structure of the banking sector in different European countries). For example, these institutions are responsible for as much as three-quarters of German bank assets.

Consistent low profitability in any industry is usually associated with excess capacity. While on the basis of a range of indicators there is reason to suspect that Euroland could be over-banked, it is difficult to pinpoint a precise measure of excess capacity. Indeed, within the universal banking model adopted in Europe, physical measures of over-banking, such as the number of branches or staff, cannot capture the fact that there are possibilities for extending the range of products that the branch network can sell.

## **5. Restructuring and consolidation**

### **5.1 Getting into shape**

It is clear that poorly performing banks will need to look seriously at ways to improve in the more competitive post-EMU environment. There are two alternative and complementary ways to do this. In the first approach, banks can transform themselves from the inside by altering the way they operate. This could be seen as a bank moving autonomously toward best practice. The other approach relies on the market for corporate control to bring about the necessary changes. Here, improvements come from the transfer of management skills from better-run institutions.

Let us consider the first approach, and assume that European bank managers wish to boost profitability (as measured by the return on equity). How could this be achieved? The naïve recommendation would be to focus on the profitable operations and to discontinue unprofitable business. However, putting this into practise is a real challenge. There are four factors determining the profitability of operations: the capital required, the cost of producing the service, the price charged for the service and the potential cross-(dis)economies of producing and selling the services. Typically, banks provide a bundle of financial services and look at profitability on the basis of the complete relationship with a given customer, rather than on disaggregated business lines. Thus, for the sake of maintaining a banking relationship, banks may accept to underprice some services as a "loss-leader" for other operations. The problem arises when a lack of understanding of cross-subsidies, or over optimistic expectations, mean that these loss-leaders actually lead to nothing but losses.

*The development of the capital market provides a competitive threat. But it also offers ways for banks to manage their balance sheets.*

Irrespective of whether such cross-subsidisation has been a necessary evil in the past, a cross-subsidy between lending and fee-business may no longer be required in the future. Indeed, with the development of the capital market and advances in securitisation techniques, it becomes easier for banks to sell some of their loans in the form of securities to the capital market. In this way, a bank can maintain a relationship with a customer without tying-up capital in unprofitable lending. In this respect, the development of the capital market provides both a competitive threat and opportunities for banks. On the one hand, banks will be faced with disintermediation as investors and savers side-step them. On the other hand, it offers ways for banks themselves to manage their balance sheets.

Naturally, the way securitisation will develop in Europe also depends on the evolution of the capital requirements of banks. Currently, there is no difference between lending to large creditworthy corporations and to small enterprises. Should, in the future, the capital required to back lending to the corporate sector be more finely differentiated, then the argument for selling loans to the capital market might weaken. But the underlying logic will be preserved - banks should sell to the capital market those parts of the loan book that private investors are willing to refinance at lower returns than bank shareholders require. Should securitisation take-off on a grand scale, then a substantial reduction of the balance sheet of the banking sector would follow (8). In turn this would free up some capital for other more profitable purposes.

The second route to improving performance is by replacing management. In this context, it should be recalled that the industrial structure of the banking sector deeply influences the transformation process. The market for banking services is segmented, and some segments are subject to acute inertia. It is a well-known fact that for both small and medium enterprises and retail customers, banking relationships tend to be long-term. Transferring business to a new bank implies large search and switching costs. Likewise, in lending to SMEs, banks accumulate private information that tend to lock small companies into a captive relationship. Another feature of the banking sector is that entry of new banks and exit of existing banks are relatively uncommon. This is because high sunk costs, coupled with customer inertia, discourage the emergence of new banking firms, and make it extremely costly for well-managed banks to drive their weaker competitors out of the market. This means that the main vehicle for restructuring the sector is through the merger of existing institutions. To use the words of Vives (1990, p. 20): "*merger looks better than predation*".

## **5.2 The possible benefits of mergers and acquisitions (M&A)**

Mergers between banks are subject to regulatory scrutiny and are often friendly deals rather than hostile take-overs. However, they can still yield substantial efficiency gains. Benefits can come about in a number of ways. For example, the merged institution may be able to reduce costs through the consolidation of back office operations, or the closing of branches when networks overlap.

Does a bigger size in itself lead to lower average costs? The jury is still out on this question. Most studies of the US data have found that there were only economies of scale for very small banks (say, assets of less than EUR 250 million). However, a few other studies of the US and of Europe have found economies of scale to larger sizes (9). Associated with this result, it is argued that larger banks are needed now to afford "lumpy" investments in IT. However, Wagenvoort and Schure find the traditional result of rapidly exhausted economies of scale (they disappear when assets reach EUR 600 million). It is noteworthy that, in nearly all studies, average costs remain constant once the initial zone of economies of scale are exhausted. In the absence of additional evidence, we prefer to remain sceptical about either the additional benefits or additional costs of a large size.

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8) According to estimates by McCauley and White (1997), about a third of the corporate loan book in Europe could move to the capital market.

9) One much quoted study by Berger and Udell (1997) with US data from the early 1990s (rather the 1980s data used in most of the literature) found economies of scale up to USD 25 billion of assets.

One advantage of a merger could be that the better diversification of assets and liabilities reduces the cost of risk management, and this is one justification for increased cross-border banking in Euroland. The stabilisation of returns from diversification means that the probability of bankruptcy is reduced and that risky but profitable business can be increased without additional capital being necessary.

Some studies find that US acquisitions do lead to greater risk diversification (e.g., Craig and Santos, 1997, and Hughes, Lang, Mester and Moon, 1998). However, the data reveal that the acquiring institution tends to change the composition of the target bank's assets so that the resulting integrated organisation becomes a larger version of itself (Craig and Santos, 1996). Banks do not appear to have the strategic goal of developing diversified asset structures when they enter into M&A deals, and risk management is one of the least cited reasons by management for a merger. Any benefits that do occur would appear to be a by-product, rather than the driving force behind acquisitions.

Take-overs may also allow banks to increase their market power. Some studies have shown that mergers which increase market concentration subsequently lead to lower deposit rates for depositors (see Prager and Hannan, 1998, and Simmons and Stavins, 1998). Clearly, the persistence of this phenomenon is linked to weak competition in retail markets, as discussed above.

*Economies of scale and scope, risk diversification, and anti-competitive goals provide the incentives for some mergers. Nonetheless, a reduction in management inefficiency would seem to be the most important factor for success.*

Perceptions regarding economies of scale and scope, risk diversification, and anti-competitive goals certainly do provide the incentive for some mergers. Nonetheless, a reduction in the high average X-inefficiency would seem to be the most important factor for success when looking at the sector as a whole. One survey of a number of bank consultants and stock analysts found the consensus view that the most significant cost savings could have been accomplished without a merger (Rhoades, 1998). Improvements to performance come through the transfer of management skills rather than technical issues per se.

### **5.3 The experience with bank mergers in the US**

Over the last decade the US has experienced a banking merger-wave, with the number of banks dropping by about 30 percent. There have also been a growing number of very large mergers, a phenomenon, which was practically unseen before the 1980s. Mega-deals involving more than USD 100 billion of assets are also increasingly taking place (e.g., 1998 saw the merger of Citicorp and Travellers, Bank America with NationsBank, BancOne with First Chicago, and North West with Wells Fargo).

The US experience can give some insights into what could happen in Europe. Geographical limitations to branch networks have only recently been fully removed in the US, and that country is also moving from a group of regional banking markets into a national continent-wide market. The process of deregulation began in the 1980s as a number of US States reduced the barriers to out-of-state banks operating in their jurisdiction, and culminated in the passage of federal interstate banking regulation in 1994 (Berger, Kashyap and Scalise, 1995). One study (Brook, Hendershott and Lee, 1998) has found that US bank share prices reacted favourably to the 1994 legislation (i.e., the Riegle-Neal Interstate Banking and Branching Efficiency Act) and that its enactment could have generated of the order of USD 85 billion of shareholder value. A conclusion from this is that geographical restrictions had allowed inefficient banks to survive in the past.



**A curious fact about all the US merger activity is that analysts are unable to find consistent improvement to performance in the merged companies.**

However, a curious fact about all the US merger activity is that analysts are unable to find consistent improvements to performance in the merged companies (10). These gains are usually examined with "event" studies, that try to identify the impact of a merger on financial ratios of profitability and operating costs, or with stock price movements.

The overall lack of any net gain to shareholders of merger activity could be explained by the fact that managers are pursuing objectives that are not related to shareholder value. Managers could be trying to maintain an easy life, either through maintaining a dominant position in their local markets, or by making their institutions sufficiently large that they are difficult to swallow by prospective acquirers. Or they may simply be maximising their prestige, salary and perks, since these are often related to size.

Some insights into recent mergers can come from looking at the effective price paid to purchase a customer account. This increased from an average of a little over USD 1 000 in 1993, to some USD 2 500 in 1997. To generate a rate of return of 10 percent with this latter price would imply an average annual profit of over USD 400 per customer. Current average profits are about USD 150 per customer (*The Banker*, pp. 68-69, January 1999). Obviously this is an overly simple calculation, but it does show that recent mergers may only make sense if there is a tremendous growth in profits.

Management objectives that are unrelated to shareholder value certainly explain some mergers, but given the volume of M&A activity, it is hardly credible that all managers in the sector are either incompetent, or so systematically hoodwinking shareholders. One explanation for the results can be found in the technical difficulties with quantifying the affects of an acquisition. For example, in order to have "clean" data for the empirical analysis, merger studies often exclude those banks that have been involved in multiple mergers over the relevant time period. Some US banks have been very active in acquiring other banks (11), and it is exactly these banks that are likely to be most efficient at managing a merger. Indeed, De Young (1997) finds efficiency gains are concentrated among those banks that are frequent acquirers. There may, therefore, be an important selection bias that affects the results.

As regards those studies that analyse financial ratios, the accounting data used is based upon historic costs and this may give an inaccurate economic picture. Financial ratios may also be misleading indicators since they do not control for changes to product mix, essentially assuming that all assets are equally costly to produce. Changes to input prices are not accounted for, and there are often short-term transition costs, possibly lasting a few years, before the full gains of a merger appear. As we have seen in Section 3, interpreting changes to financial ratios can be a tricky business (12).

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10) There are a very large number of studies in this area. See, for example, Berger, Demsetz and Strahan (1998), Berger, Hunter and Timme (1993), Calomiris and Karceski (1998), and Pilloff and Santomero (1997), for literature reviews.

11) For example, BancOne and Norwest Corp each absorbed of the order of 100 banks from 1980 to 1994 (Rhoades, 1996, provides further details).

12) Rather than looking at ratios, a few studies estimate cost functions and use these functions to estimate the relative efficiency of firms before and after merger (see, for example, Berger and Humphrey, 1992, and Peristana, 1997). This also allows the impact of economies of scale (when the target is very small) to be disentangled. Even with this more sophisticated approach, the results remain the same - no clear improvements in post-merger performance can be identified.

**The efficiency of the stock market is also important for the restructuring of banks themselves.**

Studies with stock market data avoid these measurement problems by using the value creation (or destruction) that the market believes will arise from the merger. Since the approach is based only on changes to market expectations, these may be effected by the leakage of news that a merger is planned. Even if there is no leakage of information, it may be that the market recognises better the chances of a bank being a target than it does the probability of it being a bidder. Thus, target firm stock prices are bid-up well in advance of a merger, though the stock price of acquiring banks are not bid down. Yet another factor is the possible signalling regarding management views on the value of company stock. Since most bids have been stock financed, the announcement of a bid could send a signal that the management considers that its stock is overvalued. This means that undervalued companies would refrain from bidding for other companies. Thus, the efficiency of the stock market is also important for the restructuring of banks themselves.

#### **5.4 Mergers and acquisitions in Europe**

If M&A activity in the US banking sector has such unclear results, what has happened in Europe? In total there has been much less activity in Europe, and the volume of mergers, at some USD 90 billion from 1985 to 1997 (see Walter, this volume), is only about one-third of that in the US - even though bank assets are more than twice as large in Europe. However, EU banks have also invested in insurance companies and securities firms (some USD 30 billion from 1985-97) to an extent much greater than that seen in the US.

Competitive pressures seem to be first driving EU banks to diversify rather than to merge with other banks. This is one consequence of the universal banking model. Such behaviour would be particularly striking if there are strong economies of scale, since it would imply even greater economies of scope through the cross-selling of products. This is at odds with most studies of scope economies, which find that changing product mix has only a minor impact on average costs (13). One of the few detailed studies of mergers between banks in the EU is that of Vander Venet (1996), who looks at approximately 500 take-overs from 1988 to 1993. The results vary depending upon the type of take-over. Some seem driven by size maximisation goals (this is seen in Vander Venet's sample for the domestic full acquisition of a small bank by a large bank), while others were able to reduce costs including the merger of back office activities and the closure of over-lapping branches (seen with domestic mergers of equal partners).

Since the methodologies used have their limitations, the most we can conclude is that some good acquisitions are offset by a significant number of ill-advised acquisitions due to empire building and the like. Without looking in detail at each transaction, the measurement problems discussed above mean that it is difficult to identify how many fall in each category. Certainly, many mergers do not lead to efficiency gains and the restructuring of the sector may be a relatively slow process.

#### **6. A look through the European looking glass**

Much of discussion on bank strategy post-EMU focuses on investment banking. It is argued that very large amounts of capital are needed to underwrite deals on international markets, and that as a

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13) For example, Lang and Welzel (1998) find diseconomies in German universal banks producing loans and investment-oriented services in the same institution. Berger, Demsetz and Strahan (1988) provide a literature review of this issue.

result only mega-banks will flourish. However, this is only a relevant issue for those few banks with truly global aspirations. The core business of the vast majority of European banks will remain traditional commercial banking - taking deposits and making loans. Increasing competition from the capital markets may mean that this will not be growth business, but commercial banking is not about to disappear. Perhaps retail banking does not have the aura associated with international investment banking, but the example of Lloyds-TSB in the UK shows that it can be every bit as exciting for shareholders (14).

At least for medium term, the underlying economics of the traditional market segment will remain a dominant influence in the restructuring of the sector as a whole. A merger wave may still happen, though perhaps not driven by investment banking or other fee-related activities.

### 6.1 The logic for a merger wave in commercial banking

As we have seen, the key factor for a successful merger appears to be the ability to improve the management of poorly performing banks, though there is also scope for some specific banks to lower costs through integrating activities. Given the lack of clear empirical results, discussing how this is best achieved is extremely difficult. The most one can do is make some common sense observations:

- Improvements are most likely to be achieved when a small inefficient bank is absorbed by a larger efficient one. This simply means that there are sufficient resources available to transfer the better management culture.
- Maintaining a separate identity for the acquired institution (e.g., boards, operating departments, etc.) is likely to reduce the benefits.
- A strong cost control ethic by the acquirer is obviously critical. The ability to manage the integration of data processing systems has also been important in the past; however, these activities may be increasingly out-sourced in the future.

There is likely to be no shortage of candidates fitting these requirements, and consolidation can go on until the integrated organisations get too unwieldy to manage. As we have noted before, there is very little evidence of either economies or diseconomies of scale in banking (at least beyond some minimum size). The fact that average costs for efficient banks are independent of size means that there can be considerable consolidation of the bank sector, even in an extremely competitive environment (15).

**Europe should see a merger wave much as has occurred in the US. It is the way in which management will be improved, and any excess capacity removed from the system.**

One conclusion is that Europe should see a merger wave much as has occurred in the US. This has nothing to do with economies of scale or scope. It is simply the way in which management can be improved, and any excess capacity will be removed from the system. Of course, this statement begs the question as to why such a merger wave is not already in full swing.

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14) Lloyds-TSB is Europe's largest bank by market capitalisation at more than EUR 70 billion. It has focussed primarily on the UK retail market (just 9 percent of profits come from international banking, and only 19 percent of profits are due to British wholesale banking). The company has achieved a return on equity of approximately 30 percent.

15) In a simple neoclassical model this process could go on until there is only one firm - the bank with the lowest average costs. More sophisticated modelling of industry structure takes into account the sunk costs of market entry and product differentiation. Using such a model, Danthine et al., (1999, Box 4.1) predict that: "In Euroland there will be only room for a limited number of players, likely to be smaller than the sum of all players in the separated markets".

## 6.2 Barriers to restructuring in Europe

Clearly, the problems seen in the US relating to empire building, or management inability to effectively implement merger plans, are likely to be every bit as present in the EU. Indeed, there are also additional factors in the EU, which may further delay restructuring. As mentioned in Section 4, the level of public ownership of banks is high in Europe. In so far as the state as owner is satisfied with a declining performance, then managers may face little pressure to restructure. And the restructuring that does take place may be influenced by non-economic motives (maintaining national champions, etc) - a statement which is sometimes re-phrased in stronger words: "*banks that are not accountable, and even worse, operate as the playground for government appointed cronies, are unlikely to follow value maximising strategies. Growth then becomes a managerial entrenchment strategy*" (Boot, 1999 p. 612).

However, EMU may prompt increased rigour in policing anti-competitive practices. While the architecture of the banking sector was only a matter for national authorities, the introduction of the euro will lead to a closer inspection of distortions to competition. Behaviour that was acceptable or tolerated within national markets might no longer be acceptable when the effects are felt beyond borders. It is not surprising that the competition directorate of the EU Commission is currently dealing with several cases of alleged unfair practices. In any case, privatisation, which is on-going, will change the picture.

Second, in some countries there are a large number of co-operative savings banks. Given their small size, it is likely that there are economies of scale within this sub-sector. Our analysis (see Wagenvoort and Schure, this volume) would also suggest that commercial banks can operate at lower cost than co-operative institutions (16). However, savings banks already have invested in shared resources, such as systems for data processing, credit scoring, and credit cards, etc. This has been most notable in Germany, through the German Savings Bank Association. It is likely that co-operative solutions of this type will be pursued further before any more drastic restructuring, such as demutualisation, takes place. This means that one important feature of the US experience - the mopping-up of smaller banks into larger organisations - is less likely in Europe in the medium term.

Third, one of the main ways of lowering costs is through the reduction of staff. In Section 4 we mentioned European labour rigidities as one explanation of the high operating costs in the sector. These rigidities will represent a barrier to the rate at which labour shedding can take place. For this reason, mergers that involve over-lapping branch networks may have the particular benefit in Europe that the closing of branches provide managers with the justification for reducing redundant labour. However, when privatisation is achieved through a trade sale the government could look for guarantees regarding future employment, thus limiting management freedom.

These factors will present formidable barriers to the restructuring process, with the braking effect varying widely between countries. For some countries, there may be a surge in mergers, while in others the change may be more subdued.

**EMU should provide an important catalyst for competition on banking markets. However, not all factors may be positive in the short term.**

## 6.3 A slow development for the Single Market?

What about cross-border investments, and the creation of the Single Market? We have argued that EMU should provide an important catalyst for competition in banking markets. However, not all factors may

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16) A result also found by Lang and Welzel, 1996, in a study of German co-operative banks. It may be that co-operative banks offer different services from commercial banks and that this is not taken into account by the analysis. However, any differences between cooperatively-owned banks and joint-stock banks is certainly being eroded over time.

be positive in the short term. Greater price transparency could lead to more competition, but if banks still benefit from a dominant position in their home markets and are able to extract some monopoly profits, they may not wish to expose this via more competitive pricing policies in other regions.

Moreover, as a recent review of the Single Market has shown, there remain important tax and legal differences within the EU (see European Commission, 1997). These are complemented by linguistic and cultural barriers. As a result, cross-border activity has been limited. For example, the European Central Bank (1999, Table 5.1b) reports that the foreign ownership of bank assets in 1997 was well below 10 percent in most EU countries. Exceptions are Luxembourg, Ireland and the UK, where there are major international banking centres. As closing down over-lapping branches may be the first step to get the restructuring process going, then the focus is likely to be on home markets.

**Banks will exploit M&A possibilities in national markets before going cross-border. Exceptions could be banks with a large market share in their own countries, and that see limited prospects nationally.**

A further issue influencing cross-border transactions is the way in which they will be financed. In the US, stock deals (i.e., equity holdings in the target bank are simply swapped for a stake in the merged entity) are more common than cash acquisitions of banks. The possible implications for the share price of both acquirers and target banks were mentioned in the last section. These "paper" transactions may be more complex in Europe due to national tax issues and the lack of a pan-European stock market. There is, thus, a link between the integration of banking markets and the integration of stock markets. If cash transactions are more important for cross-border deals, then the acquirer must either use retained earnings or issue new equity on the domestic market. The level of "free" cashflow will be determined by profitability, while the ease of issuing new stock will depend upon a bank's reputation in managing mergers.

The US merger wave has increased the relative importance of the top banks (the share of total nation-wide assets held by the 8 largest banks increased from just under one-quarter in 1987 to over one-third in 1997) (17), but at the same time the list of which are the top banks has been shaken up. Given the financing issues above, it is not difficult to see that there could be a similar situation in Europe, as a group of successful banks gain steadily in profitability and reputation, and accelerate ahead of the pack in bank mergers.

Our overall conclusion is that most banks will exploit M&A possibilities in national markets before going cross-border. Exceptions could be those banks that have a large market share in their own countries, and that see limited prospects nationally (due to concentration in the banking sector, public ownership of competitors, etc). Nordic and Dutch banks could fall in this latter category (18). A few European banks with global aspirations may simply go cross-border as the most rapid route to achieve a mega-size. This may equally involve investment outside Europe, with the US as a clear target market.

EMU may mean that European capital markets integrate rapidly. It will also bring very different rules of the game for banks as competition intensifies. As a result, consolidation of the banking sector will be seen throughout Europe. This being said, the transition to a Single Market for banking may well be a very slow process.

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17) See Berger, Demsetz and Strahan, 1998, Table 1. The top-ten banks in the US in terms of merger activity acquired on average 5 banks each per year from 1980-94. The average size of the acquired bank was USD 350 million (Rhoades, 1996).  
18) In 1997, the top five banks accounted for 90 percent of the assets of the Swedish banking sector, 79 percent in the Netherlands, and 78 percent in Finland (European Central Bank, 1999).

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# Who are Europe's efficient bankers?



**Rien Wagenvoort**



**Paul Schure**

## 1. Introduction

On the first of January 1993, the Second Banking Directive (1989) of the European Union and a number of the other EU Directives (1) related to the financial service industry were implemented. This heralded a new episode of deregulation, standardised minimum capital requirements and changes in supervision rules and deposit-guarantee schemes. The *single passport* and *mutual recognition* have cleared the road for cross-border banking, while the introduction of the single currency on the first of January 1999 took away one of the last obstacles for a competitive and integrated banking market. The general belief among bankers and academics is that competition has significantly increased in this changing European banking environment. Indeed, the numerous cases of recent mergers and acquisitions in the financial world would indicate that bankers and insurers are trying to reshape their businesses into more profitable and lean (cost efficient) institutions in order to face national and global competitive pressures. Traditional income streams such as interest margins have dried up, whereas new sources of revenues such as brokerage services, investment banking products, risk management and portfolio management have become more and more important. Besides major changes in the regulatory environment, the banking industry will be further modernised by the implementation of new computer technologies.

Given the broad picture sketched above, one may ask whether the performance of European credit institutions over the five years following the implementation of the Second Banking Directive has improved. In this paper we evaluate the performance of banks in this period by looking at cost efficiency, i.e. whether banks minimise the cost incurred per unit of assets. In particular, we analyse how production costs depend on scale economies, managerial efficiency, technological progress and the legal status of the institutions. For this purpose, we estimate a cost frontier of the minimum costs to produce a certain mix and level of outputs given the prices of inputs.

Our results reveal that costs are unnecessarily high in more than 80% of the cases, i.e. more than 1600 credit institutions out of 1974 banks are not located on the cost frontier. The most important reason for inefficiencies in European banking is managerial inability to control costs, so-called X-inefficiency. The average level of X-inefficiency, computed for the European banking sector as a whole by taking into account the relative size of both its inefficient and efficient institutions, still exceeded 16% in 1997 (2). Although in some countries such as the UK and the Netherlands, cost

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*This paper is a condensed version of a paper entitled "Economies of Scale and Efficiency in European Banking: New Evidence", Economic and Financial Reports, 99/01, EIB. See inside back cover for details on ordering economic publications. Rien Wagenvoort is an economist at the Chief Economist's Department. Paul Schure is at the European University Institute, Florence, and visited the EIB during this research.*

1) Namely, the Money Laundering Directive, the Own Funds Directive, the Solvency Ratio Directive, the Consolidated Supervision Directive, and the directive on Deposit-Guarantee Schemes. The Large Exposures Directive, the Capital Adequacy Directive and the Investment Services Directive came into force in 1994, 1995 and 1996 respectively. See, among others, Molyneux et al., (1996).

2) The weighted average of the X-inefficiency measure is equal to 20% in 1997 if only the X-inefficient banks are taken into consideration.

reductions were rapidly achieved, bankers in Austria, France, Germany and Luxembourg did not improve their performance. As size economies are exhausted at a balance sheet total of 600 million euro, we do not find major gains from economies of scale for the overall European banking industry. These empirical findings are in accordance with earlier studies (3) on US financial institutions but contradict recent results on the scale efficiency of both American and European financial institutions (4).

The paper is organised as follows: We start with introducing various cost efficiency measures and we will argue why other performance indicators such as financial ratios are less informative about production efficiency. In section 3 we enlarge upon the cost frontier methodology by explaining the adopted *intermediation* approach. Section 4 contains a brief description of the banking sector while our results regarding the cost efficiency of European banks are discussed in Section 5. Finally, section 6 concludes.

## 2. The cost frontier methodology

**Our aim is to find those banks which provide the highest level of financial services given their resources.**

We look at banks from a production point of view. Our aim is to distinguish among a pool of credit institutions those banks, which provide the highest level of financial services (outputs) given their available resources (inputs). Therefore, we need to assess which banks in our sample have the best production technology and which ones fully exploit their production capacity. From the duality theorem in microeconomics it follows that the technology of a firm can be described by the parameters of a cost function. An example of such a so-called cost frontier is shown in Figure 1 by the solid line. At the point where the line is flat the costs per unit of assets are minimised and thus production is optimised.

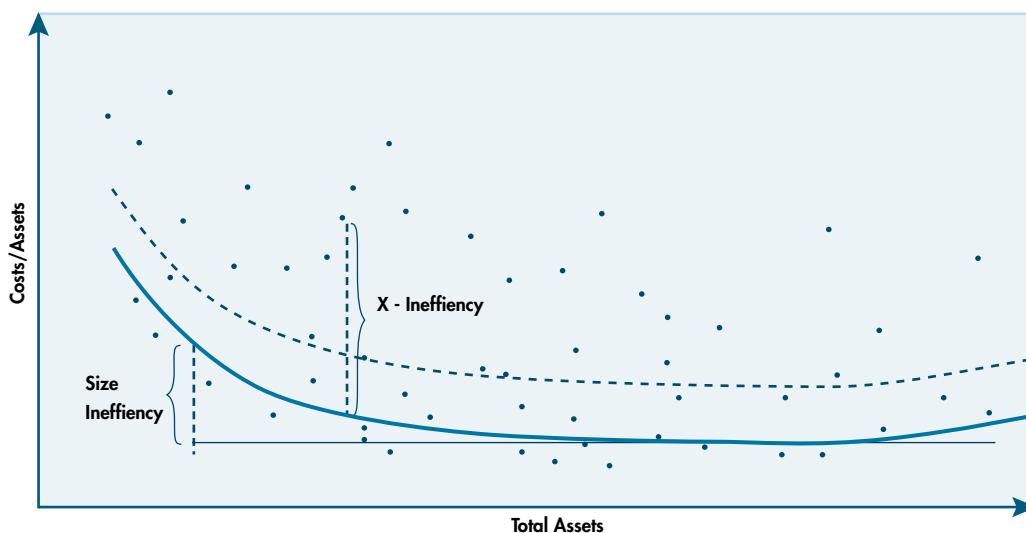
When assessing efficiency one can be interested in *X-efficiency* -i.e. whether banks use their available inputs efficiently, *scale efficiency* -i.e. whether banks produce the right amount of outputs, and *scope efficiency* - i.e. whether banks choose an optimal combination of outputs. Two of these different concepts are illustrated in Figure 1. We note first that relatively small deviations from the cost frontier, indicated by the dots closely above and below the solid line, may arise due to random effects beyond the control of the banks' management (bad and good luck). Large deviations above, however, indicate managerial incompetence to control costs. Our data suggest that this X-inefficiency may be caused by wasting of resources (e.g. a bank uses old-fashioned technology, has too many offices and too many people on the pay-roll etc.) but may also stem from unprofitable purchase of these resources. Firms which are located close to the cost frontier, i.e. X-efficient companies, are still not optimally performing from a production point of view if a reduction in the costs per unit of assets can be achieved by either increasing or decreasing the volume of production. The downward sloping part of the cost frontier at the left indicates increasing returns to scale. On the contrary, the rising part to the right reflects decreasing size economies. The vertical distance between the minimum of the cost function (where the average costs are minimised) and an arbitrary location of a bank on the cost frontier reveals to which extent the average costs of this particular bank can be reduced by changing its size. In other words, it provides a measure of its scale inefficiency.

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3) See, for instance, Berger and Humphrey (1987), McAllister and McManus (1993) and the review article of Berger and Humphrey (1997).

4) See Hughes and Mester (1998) on the US and Altunbas and Molyneux (1996) for Europe.

**Figure 1.** Various efficiency measures which can be derived from the cost frontier



Note: There are different curves for different types of banks, or the frontier can move due to technical change and the like over time.

Note that the efficiency measures introduced so far are defined with respect to a benchmark group of relatively efficient financial institutions. Evidently, these X-efficient banks themselves may lower their average costs over time, at any output level, when structural changes in the banking environment occur. As mentioned, there are numerous examples in recent European banking history of such changes (deregulation, the introduction of the single currency, technological innovation, etc.). In Figure 1, these phenomena are represented by a downward shift in the cost frontier (compare the solid and the dashed lines). On the other hand, there are also other reasons that can be brought up to explain shifts in the frontier. When comparing the cost functions of different types of financial institutions it may be that average costs differ for a particular level of total assets. Banks of different types may operate at different costs per unit of assets, due, for instance, to their legal status, their ownership structure, their capital requirements etc., but also because they deliver financial products of different nature and quality. Related to this argument is the fact that a bank may reduce its costs, given its amount of total assets, by choosing an optimal mix of outputs.

Our specific model, presented in Box 1, is not suitable to measure these economies of scope since a restricted set of technological possibilities has to be chosen. Therefore, we refrain from predicting what will be the economic gains of *universal banking*. In recent efficiency studies, however, only small increasing economies of scope were detected (5). Although this result may possibly have arisen due to the application of inappropriate models and methods rather than the absence of economic returns from diversifying the output portfolio, it remains a puzzle for researchers in the field. This paper addresses especially X-efficiency, scale efficiency, technological innovation and dispersion of costs among different types of financial institutions.

5) See Berger, Hunter and Timme (1993), Berger and Humphrey (1997), Berger and Mester (1997), and Berger, Demsetz and Strahan (1998) for comprehensive surveys of empirical findings regarding the existence of scale and scope economies and X-efficiency of financial institutions.

Cost minimisation does not necessarily lead to profit and revenue maximisation in economies that can be characterised by oligopolistic markets, asymmetric information and risk-averse individuals. In response to this argument, some recent articles (6) consider, besides the traditional cost function, also the profit and revenue frontiers and derive from these functions X-efficiency measures. Although these studies give useful insights in the differences in profitability of banks, a serious problem with these approaches is that market power may obscure the efficiency (in terms of productivity) results (7). The same critique applies to other simple performance measures such as balance sheet ratios (8). Moreover, these ratios may also depend on the tax regime, loan loss provision schemes, historic accounting and the like. In this study we only focus on cost minimisation, and leave profit or revenue maximisation aside.

### 3. Defining the inputs and outputs of a credit institution

Bank total costs are defined as the sum of interest expenses, total operating expenses and commission expenses as reported in the annual income statement. Total operating expenses include labour costs, depreciation of fixed assets, marketing costs, while commission expenses include fees paid to other financial institutions.

*It is rather straightforward to define the total costs of a bank. Distinguishing between outputs and inputs is far more complicated.*

Although it is rather straightforward to define the total costs of a bank, distinguishing between its outputs and inputs is far more complicated. We view a bank as a *producer of services* such as screening projects, monitoring borrowers, enforcing contracts, portfolio selection, hedging risks, providing brokerage services, keeping deposits and other claims liquid, providing repayment insurance, etc. By defining services as the banks' output implies that we adopt what Berger and Humphrey (1992) call the *value-added approach* in defining a bank's production or what is traditionally called the *intermediation approach* (9). All services which are needed to generate the value-added are defined as inputs.

The cost frontier relates total costs to output and the prices of inputs. In this study, three input prices, for each country and each year, have been defined: the price of loanable funds, the price of labour and the price of buildings (10). The *price of funds* is obtained by taking a weighted average of the average 3-month interbank rate and the deposit rate (11). The *price of labour* represents the average wage rate in the banking sector in each country (12). The *price of buildings* is created by taking an appropriate price index for newly delivered buildings and correcting it for the relative price levels in each country. A detailed description of the data sources and the computation of the price indices are given in Schure and Wagenvoort (1999).

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6) See, among others, Berger and Mester (1997), and Rogers (1998).

7) An interesting related topic is whether high market concentration or high market shares is a result of better performance or whether it reflects monopoly power. This question is especially relevant for public policy considerations such as anti-trust actions. In this study we do not test this so-called structure-conduct-performance relationship (see, among many others, Berger (1995), Goldberg and Rai (1996) and Maudos (1998)).

8) Examples of such financial indicators, often reported in annual accounting reports, are: the return on equity, the cash flow ratio, the cost to income ratio, the dividend payout, etc..

9) See Sealey and Lindley (1977).

10) The reader could correctly point out that banks purchase more than these three inputs. Our assumption here is not so much that the bank faces only three prices, but that a linear combination of these can sufficiently well approximate the prices that the bank might face.

11) This data is obtained from Datastream International and IFS, respectively. The weights are determined by the amount of deposit funding as part of total funding (total assets) of each bank.

12) The data needed to construct an index for the price of labour is taken from Bankscope (Bureau van Dijk, Brussels) and the OECD.

**We view a bank as a producer of services - the Value-Added approach. However, measuring the services produced by a bank is a problem in itself.**

Our data set allows for a more general definition of X-efficiency than obtained in the usual studies of this type. In traditional cost studies, X-inefficiencies may appear due to wasting of resources. However, differences in performance cannot be caused by inefficient acquisition of the inputs, since every bank is assigned a different input price vector, usually based on the actual cost incurred. For example, the price of labour is defined as the bank's expenses on labour divided by its number of employees. Choosing input prices in this way means that they will differ for each bank in the sample. It is thus implicitly assumed that banks pay the "right" amount for their inputs which may differ in quality. By contrast, in our study we adopt the idea that differences in efficiency stem from both the wasting of resources and because managers acquire these resources inefficiently. In particular, input prices are, as far as possible, constructed from general price indices (for buildings, financial services, wages etc.) instead of the actual expenses of a bank. In our case, input prices are equal for different banks in the same country and the same year.

McAllister and McManus (1993) argue that the traditional way of choosing input prices may bring about the economies of scale puzzle (13) since larger firms have better risk diversification opportunities and thus lower cost of funding than small firms. These so-called *financial* scale economies will also be revealed by our approach. If larger banks pay less than our constructed average price of funds, and thus have lower interest costs, then these banks will have lower average costs than small banks and this will eventually show up in our measure of economies of scale. In most recent cost studies this effect would remain undiscovered.

Measuring the service production of a bank is a problem in itself. How are, for example, the services offered to account holders quantified? Ideally one would like to have data on the number of transactions processed, the number of account statements sent to customers and the like. Unfortunately these data are not available. And for other outputs, such as the 'amount' of contract enforcement and the 'amount' of risk hedged, the problems get even worse. In the value-added approach these problems are by-passed by assuming that the amount of services produced are proportional to various variables on the balance sheet and the profit and loss account. Variables which imply service production are then used as proxies for the amount of services produced and plugged into the statistical model. As an example, loans are considered to be an output because when offering loans, services are supplied, such as screening the projects, monitoring borrowers, enforcing contracts, and diversifying risks. Another output could be deposits, as deposits imply services such as processing of transactions, production of account statements, etc. It is less clear that other assets such as government bonds, treasury bills, cash balances and the like are "production" as normally purchasing government bonds does not, for instance, imply much screening effort or contract enforcement. Some of these assets provide liquidity and thus, besides having some output characteristics, are an input in the form of loanable funds, though this is not considered here.

We have defined five output variables using Bankscope data (Bureau van Dijk, Brussels): customer deposits, loans, equity investments, off-balance sheet items, and other services. *Customer deposits* comprise demand, savings and time deposits. The variable *loans* consist of the total EUR value of

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13) Empirical studies on US banks in the 1980s and early 1990s do not find large scale economies.

lending to borrowers to whom substantial financial services are supplied (14). *Equity investments* are obtained by adding up the book value of participations and shares in companies with related business and shares in other non-financial affiliates (15). Here we have to remark that in many cases this latter output can be substantially under-valued since its book value, as taken from Bankscope, is usually determined on the basis of historic costs instead of its market value. However, this does not necessarily pose as a problem in measuring financial services as long as banks use similar accounting techniques. Evidently, there is a potential danger of mis-measurement of the level of the output variable equity investments for our bank set. *Off-balance sheet items* contain contingent liabilities arising from guarantees, irrevocable letters of credit, irrevocable facilities, discounted bills, etc. Derivatives are not included in this item. Like loans, off-balance sheet items force the bank to screen and monitor projects and hence provide services. Finally, the variable *other services* is equal to commission revenue. Contrary to all other output variables, which are stock variables on and off the balance sheet, other services is a flow variable taken from the profit and loss account.

In a panel data framework, i.e. with data on cross-sections spanning several years, the values of the output variables may not imply an equal proportion of service production in different years. That is, if inflation has been substantial, then a deflator must be employed to keep outputs in different years comparable. With this end in view, in the special case of the output variable *other services*, we divide through a price index for banking services. Obviously, changes in prices of the other output variables can be relevant too. Unfortunately no adequate data on these prices are available. We minimise this problem by *scaling* all the output variables, including the deflated commission revenue, and total costs by total assets (16). A more fundamental problem with bank efficiency studies is that amounts of output variables of different banks may not be comparable either (17). Take the example of customer loans on the balance sheet. Customer loans are heterogeneous and different banks may supply different types of loans requiring different amount of effort. Hence, it may be that, without being inefficient, one bank incurs higher costs per unit of loans. As a result, this bank will incorrectly be judged as being inefficient. In our study this problem is potentially severe. Namely, as our focus is on the European Union we will have to assume that within this area output proxies can be compared. Although the implementation of the Second Banking Directive on 1 January 1993 implied a considerable harmonisation of the EU banking laws, it is clear that there are still large structural differences between EU member states. We must bear this in mind when interpreting the results in section 5.

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14) Loans are created by taking the 'total loans', which includes mortgages, from the Bankscope database, and subtracting 'loans to municipalities / government' and 'loans to group companies / associates'. The latter two variables are subtracted as we suspect that relatively few actions need be undertaken when offering loans to these groups of borrowers and thus these assets do not significantly incur additional costs. We share the opinion that mortgages may also imply a different amount of services per unit than other loans and therefore should be treated as an separate output variable. However, unfortunately for most countries Bankscope data does not separate mortgages from loans.

15) Using Bankscope terminology, we add up 'equity investments' and 'other investments'.

16) There is also an econometric argument for it since scaling reduces the problem that the model errors are not orthogonal to the regressors in a cost model specification and on that score the fundamental orthogonality condition is not fulfilled.

17) Mester (1996) attempts to address this problem by including the average volume of non-performing loans as a measure for the quality of the loan portfolio.

#### 4. The structure of the European banking sector

The focus of our study is on *credit institutions*, as defined in the two EU Directives as "an undertaking whose business is to receive deposits or other repayable funds from the public and to grant credits for its own account" (First banking Directive, 1977) (18).

*The structure of the banking sector of the EU-15 countries varies considerably.*

Table 1 reports the country of origin and the type of 1974 banks which were left over after cleaning of our data (19). In the table we have grouped the banks into four categories: Commercial Banks (Commercial), Savings Banks and Co-operative Banks (Savings), Real Estate/Mortgage Banks (Mortgage), and Medium & Long Term Credit Banks and Non Banking Credit Institutions (Long-term and Non-bank). We will follow this classification throughout the rest of the paper. From this table, which fairly well covers the overall European banking industry, and Figure 2 it can be seen that the structure of the banking sectors of the EU-15 countries varies considerably. In particular, Austria, Germany, Italy and Spain have relatively many savings banks (more than 40% of the total). On the other hand, in Ireland, Greece, Luxembourg, The Netherlands, Sweden and the UK, less than 10% of the credit institutions of our sample are savings banks. Although these numbers slightly change when including all banks which reside in Europe, the broad picture holds true for the whole

**Table 1.** Number of credit institutions in the EU-15 analysed in this study

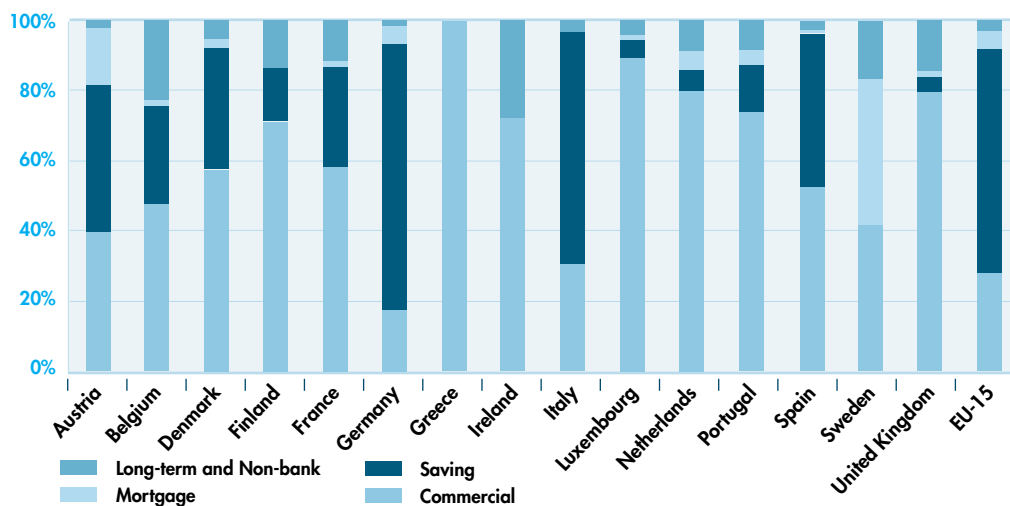
Country (Population in millions in 1995)	Commercial	Savings	Mortgage	Long-term and Non-bank	Total
Austria (8.05)	20	21	8	1	50
Belgium (10.14)	33	19	1	16	69
Denmark (5.23)	47	28	2	5	82
Finland (5.11)	5	1	0	1	7
France (58.15)	171	86	3	35	295
Germany (81.64)	156	673	49	8	886
Greece (10.46)	17	0	0	0	17
Ireland (3.58)	5	0	0	2	7
Italy (57.29)	57	129	0	8	194
Luxembourg (0.4)	86	5	1	5	97
Netherlands (15.45)	28	2	2	3	35
Portugal (9.9)	18	3	1	2	24
Spain (39.21)	66	55	1	3	125
Sweden (8.83)	5	0	5	2	12
United Kingdom (58.26)	59	3	1	11	74
EU-15 (371.7)	773	1025	74	102	1974

Sources: IFS and BankScope.

18) To translate this in practical BankScope terms, we selected "Commercial Banks", "Savings Banks", "Cooperative Banks", "Real Estate/Mortgage Banks", "Medium & Long Term Credit Banks", and "Non Banking Credit Institutions".

19) See Schure and Wagenvoort (1999) for a detailed description of the bank selection criteria.

**Figure 2.** Percentages of banks of different legal status in the European Union



Source: Bankscope.

European banking sector. For instance, while not in our data set, there are a few savings banks in Sweden and Greece.

Another striking fact from Table 1 is that Austria, Belgium, Denmark, France, Germany and, last but not least, Luxembourg have relatively many banks. In these countries there are more than 5 banks per 1 million of inhabitants whereas the median in Europe is only about 3.2 banks per 1 million people.

**For the overall European banking industry, average costs fell by one-quarter from 1993 to 1997, but to interpret this we have to take into consideration changes to input prices and the mix of outputs.**

Figure 3 shows that across Europe there are also considerable differences in the cost levels. Average costs, i.e. the ratio of costs over total assets, range for most countries between 4% and 8%. Besides the striking outlier of Greece, average costs are also relatively high in France, Italy, Luxembourg and Portugal when compared with the EU-15 average (of 6.6% in 1997) (20). In all European countries, however, costs per unit of assets substantially decreased. Figure 4 shows that for the overall European banking industry, average costs fell about 25% during the period 1993-1997.

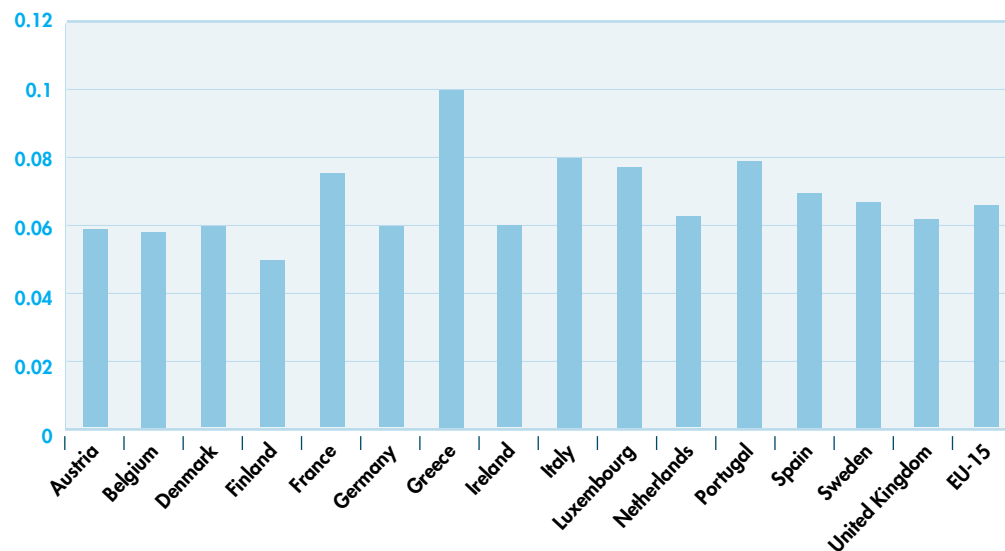
It would be premature to conclude from Figure 3 and Figure 4 that Greek banks are more inefficient than other European banks or that the performance of European banks has improved over time. For testing these kinds of hypotheses we have to take into consideration changes in the input prices and changes in the level and mix of the outputs. For example, it is notable that the interbank fund rate in 1997, on average, is only 47% of the prevailing rate in 1993. Indeed, our cost frontier regression (presented in the next section) gives a fund price elasticity of about 40% with respect to average costs. This means that average costs of X-efficient banks decreased with roughly 20% just because the fund rate fell from 8.4% to 4.5%. Figure 4 shows this relationship between average costs and the fund rate for the European Union. Evidently, given the sharp fall in the price of funds in Europe

20) The EU-15 averages in figures 1 to 4 are constructed by applying country weights on the basis of the share of each country in total European assets.

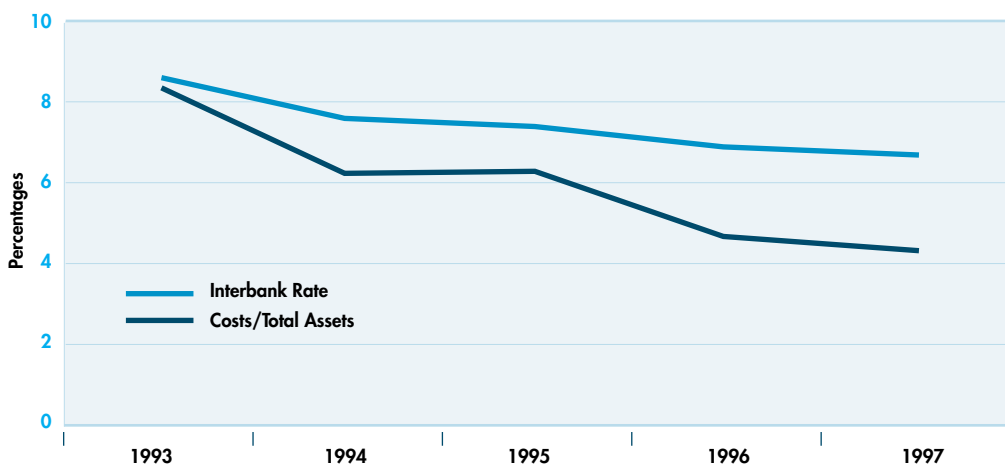


one may expect substantially lower average costs for banks in general. Whether banks have actually improved in efficiency terms can only be detected by careful interpretation of the cost frontier regression results.

**Figure 3.** Costs over total assets in the European Union, full sample



**Figure 4.** Costs over total assets and the interbank rate in the EU-15



Substantial differences across the banking industry are also revealed by looking at the banks' output structure in the respective European countries. Figure 5 shows the decomposition of the earning assets. On average, equity investments are less than 2% of total assets whereas 50% of the balance total consists of loans and mortgages. Luxembourg and Greece have relatively many "other assets". As mentioned before, these assets, such as treasury and other bills, are not included as outputs in our cost model since they do not significantly incur additional costs. In the special case of Luxembourg, however, this assumption could be too restrictive.

### Box 1. The functional form of the cost frontier

We have chosen the following augmented Cobb-Douglas cost function to describe the banks' technology (See Schure and Wagenvoort (1999) for a detailed explanation of the model):

$$(2) \quad \frac{TC_{it}}{TA_{it}} = \gamma_0 \left( \frac{y_{it,1}}{TA_{it}} \right)^{\beta_1} \dots \left( \frac{y_{it,5}}{TA_{it}} \right)^{\beta_5} p_{t1}^{\alpha_1} p_{t2}^{\alpha_2} p_{t3}^{\alpha_3} \sigma_1^{s_{1,it}} \dots \sigma_7^{s_{7,it}} \delta_1^{t_1} \dots \delta_4^{t_4} \gamma_1^{d_{1i}} \gamma_2^{d_{2i}} \gamma_3^{d_{3i}} + \varepsilon_{it}$$

where  $TC_{it}$ ,  $TA_{it}$  and  $y_{it,k}$  are the total costs, total assets, and output  $k$  of bank  $i$  in period  $t$  respectively. There are 5 outputs and 3 inputs.  $p_j$  is equal to the price of input  $j$ . We split our sample of European banks into 8 non-overlapping size groups<sup>a</sup> and thus include 7 size dummies  $s_{1,it}, \dots, s_{7,it}$ . For example, the size dummy ( $s_1$ ) for the group of smallest banks is defined according to  $s_{1,it} = 1$  if  $TA_{it} \leq 100$  ECU million,  $s_{1,it} = 0$  otherwise.  $t_1, \dots, t_4$  are four time dummies.  $d_{1i}, \dots, d_{3i}$  are the values of the type dummies to distinguish commercial banks, mortgage banks and long-term and non-bank credit institutions respectively from savings banks and  $\varepsilon_{it}$  is the random disturbance term. Let  $w = (\gamma_0, \beta_1, \dots, \beta_5, \alpha_1, \alpha_2, \alpha_3, \sigma_1, \dots, \sigma_7, \delta_1, \dots, \delta_4, \gamma_1, \gamma_2, \gamma_3)$  be the vector of parameters to be estimated. Under the null hypothesis of no economies of scale, no technological progress or other structural changes and equal cost structures across different types of institutions the parameters  $(\sigma_1, \dots, \sigma_7, \delta_1, \dots, \delta_4, \gamma_1, \dots, \gamma_3)$  are all equal to one.

In order to disentangle the effects of input prices on the average costs from other time-related effects such as structural changes caused by innovation in technology and deregulation we start with the following three auxiliary regressions:<sup>b</sup>

$$(2) \quad \ln p_{tj} = \eta_{0j} + t_1 \eta_{1j} + t_2 \eta_{2j} + t_3 \eta_{3j} + t_4 \eta_{4j} + dp_{tj}, \quad j = 1, \dots, 3$$

Here  $\eta_{0j}, \eta_{1j}, \eta_{2j}, \eta_{3j}, \eta_{4j}$  are the unknown parameters of the constant and time dummies and  $dp_{tj}, t = 1, \dots, T$  are the errors. These errors can be interpreted as the deviation of the prices from their time pattern in Europe. By construction, the estimated deviations in the prices, after taking into account time effects, are orthogonal to the time dummies. Therefore, price effects on total costs can be separated from other effects such as technological progress and the like by substituting equation (2) in model (1).

Taking logs of both sides of equation (1) and using the equations in (2) gives:<sup>c</sup>

$$(3) \quad \ln \left( \frac{TC_{it}}{TA_{it}} \right) = c + \beta_1 \ln \left( \frac{y_{it,1}}{TA_{it}} \right) + \dots + \beta_5 \ln \left( \frac{y_{it,5}}{TA_{it}} \right) + \alpha_1 dp_{t1}^* + \dots + \alpha_3 dp_{t3}^* \\ + s_{1,it} \kappa_1 + \dots + s_{7,it} \kappa_7 + t_1 \lambda_1 + \dots + t_4 \lambda_4 + d_1 \pi_1 + d_2 \pi_2 + d_3 \pi_3 + \eta_{it}$$

where

<sup>a</sup> Group 1: total assets  $\leq 100$  million ECU, Group 2: 100 million ECU < total assets  $\leq 300$  million ECU, Group 3: 300 million ECU < total assets  $\leq 600$  million ECU, Group 4: 600 million ECU < total assets  $\leq 1$  billion ECU, Group 5: 1 billion ECU < total assets  $\leq 5$  billion ECU, Group 6: 5 billion ECU < total assets  $\leq 10$  billion ECU, Group 7: 10 billion ECU < total assets  $\leq 50$  billion ECU, Group 8: 50 billion ECU < total assets.

<sup>b</sup> At first glance the following regression looks strange as the notation suggests that we have five observations and as many unknown parameters. However, for each country we have different price observations, so that the equation detects a general (EU-15) time pattern in each price. Subscripts indicating the relevant price in each country are omitted for notational clarity.

<sup>c</sup> The number 1 is added to  $TC_{it}$  and  $y_{it,j}, j=1, \dots, 5$  in order to have a well-defined logarithmic function.

$$(4) \quad c = \ln(\gamma_0) + \eta_{01}^* \alpha_1 + \eta_{02}^* \alpha_2 + \eta_{03}^* \alpha_3$$

$$(5) \quad \kappa_k = \ln(\sigma_k), \quad k = 1, \dots, (K-1) = 7$$

$$(6) \quad \lambda_1 = \ln(\delta_1) + \eta_{11}^* \alpha_1 + \eta_{12}^* \alpha_2 + \eta_{13}^* \alpha_3$$

$$(7) \quad \lambda_2 = \ln(\delta_2) + \eta_{21}^* \alpha_1 + \eta_{22}^* \alpha_2 + \eta_{23}^* \alpha_3$$

$$(8) \quad \lambda_3 = \ln(\delta_3) + \eta_{31}^* \alpha_1 + \eta_{32}^* \alpha_2 + \eta_{33}^* \alpha_3$$

$$(9) \quad \lambda_4 = \ln(\delta_4) + \eta_{41}^* \alpha_1 + \eta_{42}^* \alpha_2 + \eta_{43}^* \alpha_3$$

$$(10) \quad \pi_l = \ln(\gamma_l), \quad l = 1, \dots, 3$$

$$(11) \quad \eta_{li} \text{ is the new error term.}$$

Variables with superscript \* indicate their estimated values.

For each cost function the sum of the input price elasticities, or  $\alpha_j$  in the model, equals unity. We therefore estimate model (3) under the restriction:

$$(12) \quad \sum_{j=1}^3 \alpha_j = 1.$$

The parameters of interest given by vector  $w$  can be reconstructed using relationships (4)-(10) once the parameter estimates of the regression models (2) and (3) are obtained. Computing the variances of the parameters of interest sometimes causes more difficulties. See Schure and Wagenvoort (1999) for the adopted method of approximation.

Define  $TC_{ii}^{min}$  to be the estimated cost level of bank  $i$  in year  $t$  if it were on the efficient frontier:

$$(13) \quad TC_{ii}^{min} = \ln \left( \frac{TC_{ii}}{TA_{ii}} \right)^* TA_{ii}.$$

A measure for X-efficiency would be given by the fraction  $TC_{ii}^{min} / TC_{ii}$ . X-inefficiency represents the distance of a particular firm to the efficient frontier, or

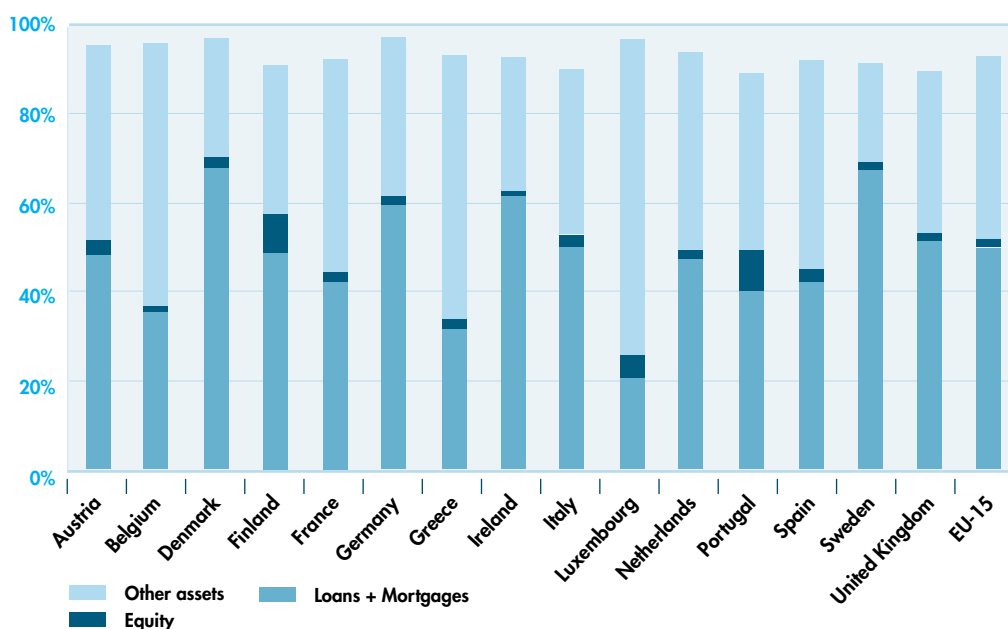
$$(14) \quad X - ineff_{ii} = \left| 1 - \frac{TC_{ii}^{min}}{TC_{ii}} \right|.$$

As was explained in section 2, efficiency may also differ because some banks do not operate at a right size. Let us define  $\sigma^{min} = \min\{1, \sigma^1, \dots, \sigma^7\}$ , i.e.  $\sigma^{min}$  represents the value of the size dummy of banks in the size class with minimum costs. Then a useful measure of size-inefficiency is defined as:

$$(15) \quad S - ineff_{ii} = \left| 1 - \frac{\sigma^{min}}{\sigma_1^{s_1, ti} \dots \sigma_7^{s_7, ti}} \right|.$$

We note that formula (15) is only applied to those banks which are member of a size class with significantly higher costs than the optimal size group of banks. If, on the contrary, the respective size dummy is not significantly different from the optimal scale dummy, then  $S - ineff_{ii} = 0$ .

**Figure 5.** Decomposition of earning assets (output over total assets), 1997



Note: The fixed capital stock, which contains for example buildings, is not explicitly shown in this graph. This explains why the columns do not add up to 100%.

## 5. Cost efficiency of European banking

A brief exposition of the cost frontier model is given in Box 1. The adopted estimation procedure, i.e., the Recursive Thick Frontier Approach (RTFA), is briefly explained in Box 2. Here we will discuss the results regarding the various cost efficiency measures introduced in section 2. Schure and Wagenvoort (1999) give more details of the estimated input price and output elasticities, and the full regression results.

Our cost frontier reveals that there are large inefficiencies in the European banking sector. Only 16% of the credit institutions, i.e. 321 banks, are located on the cost frontier throughout the whole sample period. The model fits the data quite well. Choosing the popular translog specification instead of the adopted augmented Cobb-Douglas function does not lead to improvement in explanatory power. Managerially efficient banks incur between 10% higher costs and 14% lower costs than the predicted optimal costs at the 95% confidence interval (21). The "thickness" of the cost frontier, that is the band around the cost function wherein the average cost of X-efficient firms fluctuate, is relatively small in comparison with the dispersion of the inefficient banks. These latter banks are highly inefficient with an average X-efficiency of 77%. In this case, the corresponding 95% confidence interval spans from 57% to 97%. The overlapping part of these two 95% confidence intervals indicate a "twilight zone" where banks are close to optimal performance but not fully cost efficient. The conclusion that can be drawn from these findings is that many banks are managerial inefficient and sometimes X-inefficiencies are extremely high. There is thus plenty of scope for improving the European banking industry.

**Many banks are managerially inefficient, and sometimes these X-inefficiencies are extremely high.**

21) Our estimation method, RTFA, guarantees that X-efficient banks are not systematically located above or below the frontier.

## Box 2. The estimation technique

We employ the Recursive Thick Frontier Approach (RTFA), developed in Wagenvoort and Schure (1999), to estimate the model (3) described in Box 1. The traditional econometric techniques for frontier models, namely the Stochastic Frontier Approach (SFA), the Thick Frontier Approach (TFA) and the Distribution Free Approach (DFA) (see Aigner, Lovell and Schmidt (1977), Berger and Humphrey (1992) and Berger (1993) respectively) have in common that they depend on a priori assumptions that are, whether feasible or not, difficult to test. Our approach is based on the assertion that if deviations from the frontier of X-efficient companies are completely random then one must observe for this group of banks that the probability of being located either above or below the frontier is equal to a half. This hypothesis can be tested for panel data sets but requires sorting of the full sample into a group of X-inefficient banks and a group of X-efficient banks. The cost frontier is estimated using only the observations of the latter category.

Let us define the following random variable

$$(1) \quad Z = \sum_{i=1}^n indic_i$$

where  $indic_i = 1$  if the event " $T - 1$  or  $T$  of the residuals  $r_{it}$  are positive" occurs or the event " $T - 1$  or  $T$  of the residuals  $r_{it}$  are negative" occurs,  $indic_i = 0$  otherwise.  $T$  is equal to the number of time periods whereas  $n$  indicates the number of banks in the sample.  $r_{it}$  are the regression residuals associated with the model. The random variable  $Z$  has a binomial distribution with probability  $p$  that the indicator function  $indic_i$  returns 1. For example, in our case the panel data set consists of 5 periods ( $T = 5$ ) and thus  $p = 12 \cdot 0.5^5 = 0.375$ . For large samples (in  $n$ ) and probability  $p$  not too small the binomial distribution approximates to the normal distribution. Therefore, we suggest to compute the following "binomial test" statistic

$$(2) \quad \lambda_B = \frac{(Z - np)^2}{np(1-p)}$$

$\lambda_B$  is asymptotically chi-squared distributed with one degree of freedom.

The RTFA starts with a regression using all observations as if all banks were X-efficient. Then we compute  $\lambda_B$  and evaluate whether it exceeds the 99th percentile of the chi-squared distribution. If the binomial test statistic rejects that all banks included in the regression are equally X-efficient then we reduce our set of X-efficient banks by eliminating  $h \cdot \delta\%$  (for instance, in our case  $\delta = 1$ ) of the banks which incur relatively the highest cost, where  $h$  indicates the number of steps in the iterative procedure. For the remaining group of firms, which are relatively closer positioned to the regression line, a new cost frontier and corresponding binomial test statistic are computed. The algorithm stops when the largest possible group of X-efficient banks is detected.

We employ the one-sided trimmed least squares estimator in order to obtain parameter estimates of model (3) for the group of X-efficient banks which are less vulnerable to severe outlying observations below the cost frontier (extremely efficient banks) than classical OLS estimates. Wagenvoort and Schure (1999) provides more details.

Since our full sample of firms contains relatively many German saving banks it could happen that the cost frontier is solely determined by these institutions. Our regression results for the full sample of firms reveal that this problem does not occur. For the separate regression including only saving banks, however, German saving and cooperative institutions put their stamp on the shape of the cost frontier. We therefore repeated the regression for a smaller sample of saving banks which included, besides all the saving banks in the other EU countries, only 150 German saving banks. The latter ones were randomly chosen among 673 German saving institutions. Needless to say, when computing size and X-inefficiencies all German saving banks were taken into account.

Before turning to country differences in X-inefficiency, in the remainder of this section we first discuss the other potential sources of cost inefficiencies. Table 2a and Table 2b summarise some of the key statistics.

### **5.1 Cost differences between different types of credit institutions**

*Other types of banks operate at significantly lower costs than savings banks.*

The full sample regression results reveal that mortgage banks and long-term and non-bank credit institutions operate at significantly lower costs than savings banks. In both cases the ratio of costs to total assets is about 20% lower than for savings banks. Structural differences between different credit institutions may underlie this result. For example, the nature of the outputs or the institutional environment of mortgage banks and long-term and non-bank credit institutions may fundamentally differ from savings banks. For this reason the cost differences mentioned above need not reflect differences in the competence of management.

Our analysis also suggests that on average managerial efficient commercial banks operate at 4% lower costs than savings banks. Again this can be due to differences in structure or X-efficiency. For example, a difference in X-efficiency could occur since managers of savings banks have more discretion over the use of the bank's cash flow.

From a cost reduction point of view, one may therefore expect that competitive forces will eventually trigger restructuring of the European banking sector in the form of de-mutualisation of savings banks. On the other hand, mortgage banks are considerably different from commercial banks in respect to the financial services they offer. It is, thus, very likely that certain types of niche players may flourish while at the same time the bulk of the European financial institutions go in the direction of commercial banking.

### **5.2 Technological progress**

Has the cost frontier shifted over time in the sample period? For the full sample there is no evidence that the optimal cost level of a typical efficient bank changes over time in the period from 1993 to 1997. We find the same result for the regression including only the commercial banks. By contrast, we see that the costs of efficient savings bank decreases over time (i.e. when using only data on savings banks). In particular, for X-efficient banks we find a steady reduction in the costs over total assets of about 2% each year. Therefore, from 1993 to 1997 efficient savings banks reduced their costs by 9%.

With our limited study we are not in the position to judge what are the driving forces behind the drop in costs for savings banks, and why this effect did not occur for commercial banks. One can think however of several explanations. As was mentioned above, saving banks are on average less efficient than commercial banks. The reduction in the cost per unit of assets of the group of managerial efficient savings banks, could simply reflect that these banks have reduced their distance to the even more efficient commercial banks. The possible reasons for observing such a rise in X-efficiency are numerous. For instance, small saving banks may reduce costs by centrally organising the acquisition of funds on the money markets or the portfolio management of securities. Within this view, German "Sparkassen" provide an illustrative example. Cost reductions can possibly also be ascribed to the implementation of new (computer) technology that facilitates data processing, data communication with other institutions, credit risk evaluation and decision-making.

**There is no evidence that the optimal cost level of efficient banks changes over the time period from 1993 to 1997.**

It is not unlikely that savings banks were slower in adopting the latest technology in comparison with commercial banks since the latter group of banks are usually more market orientated. Commercial banks may have started earlier with exploiting new technology in comparison with saving banks, but the returns have faded away or were offset by other structural changes. That does not mean that technological innovation such as Internet banking will have no impact on commercial banks in the future. However, for our sample period, technological progress was statistically irrelevant for commercial banks.

**Table 2.** A summary of the regression results

**2a.** Attainable cost reductions and their sources in European banking

Factor	Full Sample	Commercial Banks	Savings Banks	
Number of banks	1974	773	1025	
	X-inefficiency	X-inefficiency	Inefficiency	
			X	Size
1997	16%	13%	9%	5.6%
1996	20%	18%	6%	5.7%
1995	19%	14%	7%	5.4%
1994	19%	14%	7%	5.4%
1993	20%	13%	7%	5.3%
Cost improvement in 1993 - 1997 (e.g. due to technological progress)	Not Significant	Not Significant	9%	

Note: The results in column 2 to column 4 are obtained by executing three separate regressions, including all banks, commercial banks and savings banks respectively.

**2b.** Differences in average cost among various types of European banks

	Savings versus Commercial banks	Savings versus Mortgage banks	Savings versus Long-term and Non-bank credit institutions
Costs difference per unit of assets	4%	19%	20%

Note: These results are based on the full sample regression.

**5.3 Size inefficiencies**

From the parameter estimates of the size dummies for the full sample we find initially increasing returns to scale and afterwards constant returns to scale. It seems that only very small banks face higher costs than the reference class of banks. In particular, banks with less assets than EUR 100 million have approximately 7.5% higher costs per asset and banks with assets between EUR 100 million and EUR 300 million have approximately 6% higher costs per asset.

Turning to the separate regression for saving banks we clearly find a U-shaped average cost curve. This indicates that small savings banks face increasing returns to scale while very large banks have decreasing returns. Savings banks with less assets than EUR 100 million have approximately 16%

higher costs per asset than the savings banks falling in the reference class. Also the next two smaller size groups have significantly higher costs per asset of roughly 3 and 5%, respectively. After that there are constant average costs until we arrived at the ten very large savings banks with total assets exceeding EUR 50 billion. These banks have roughly 10% higher costs over assets than the medium-sized reference class. Hence, small and very large savings banks can improve efficiency by choosing their total assets between EUR 600 million and EUR 50 billion.

For the group of commercial banks the size picture is much less transparent, as costs seem to jump up and down with increasing size class. In our view these rather strange results are due to the fact that commercial banks form a very diverse group of banks. Some small investment banks that offer a range of products which is substantially different from the average product mix, could belong to this group. This could also be taken as evidence that there is scope for niche players to play an important role in the banking industry.

Using the results above we can determine to which extent the banking sector may improve its performance by exploiting the increasing returns of scale. The European banking sector as a whole hardly would improve efficiency by choosing the right scale of operations. This is because small banks, although there are more than 800 credit institutions in Europe which are smaller than EUR 600 million measured in balance total, account for a small fraction of the European banking sector's assets. By contrast Table 2a shows that savings banks do have scope for improvement. By choosing the right scale, savings banks can reduce costs per asset by approximately 6%. This empirical finding is driven by France and Germany where cost reductions of approximately 8% and 6% are attainable (22). Indeed, most of the European savings banks are based in these two countries and many of them are either small or very large.

***We find increasing returns to scale, but only for very small banks.***

Other studies using European data (see, for instance, Altunbas and Molyneux, 1996) tend to find positive economies of scale also for larger size classes (in some cases up to a level of total assets of EUR 10 billion). Our results are more in line with previous US evidence. Hence, in our view, it remains unclear whether there are greater economies of scale in Europe than in the US.

A final remark has to be made for savings banks in countries such as Germany where there is a very high degree of co-operation between the, from a legal point of view, independent mutual organisations. One could argue that all the small savings banks in Germany constitute one large saving institution. Given such an interpretation, measuring scale economies for this group of banks makes no sense. Our results would then indicate that relatively small savings banks and the ten mega savings banks are much more X-inefficient than the others.

#### **5.4 X-efficiency**

Since inefficiency stemming from the sources discussed above is modest, it is clear that the largest cost reductions in the European banking industry can be achieved by improving management skills, i.e. by improving X-efficiency. In Table 2a we find that for the full sample of banks the average X-inefficiency in the sector is of the order 15-20% throughout the sample period. This figure is similar to what has been found for the US. Average X-inefficiencies within the European Union considerably

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22) Lang and Welzel (1996) also find moderate size economies for all size classes of German cooperatives using 1989-1992 data.



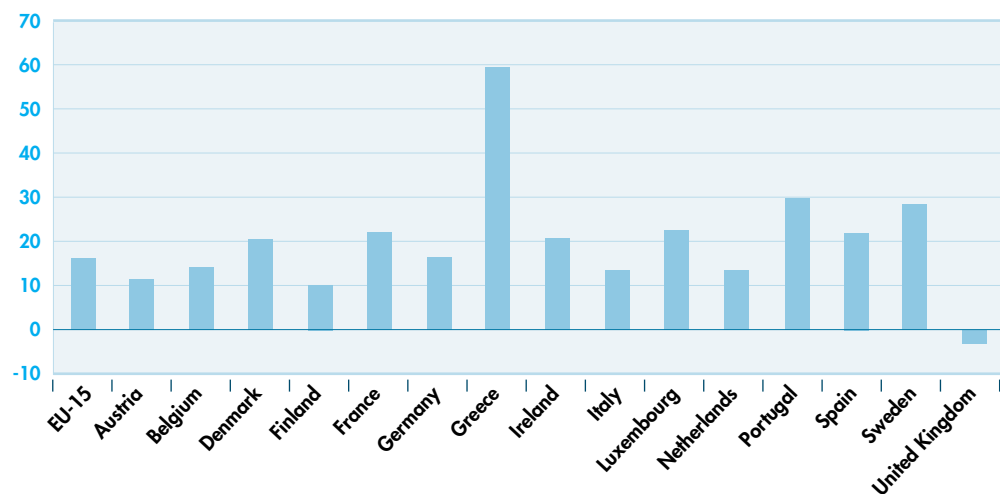
fell from about 20% in 1996 to 16% in 1997. There remains, however, plenty of scope for improving the banking sector.

**Table 3.** Weighted average of the estimated X-inefficiencies in the European Union, percent

Country	1997	1996	1995	1994	1993
EU-15 (1974)	16	20	19	19	20
Austria (50)	11	16	18	14	7
Belgium (69)	13	23	18	16	20
Denmark (82)	20	25	27	37	32
Finland (7)	10	17	11	28	32
France (295)	22	21	21	22	22
Germany (886)	16	19	14	14	10
Greece (17)	59	63	64	67	67
Ireland (7)	21	35	33	35	31
Italy (194)	14	18	26	22	24
Luxembourg (97)	22	20	19	11	20
Netherlands (35)	13	24	21	21	28
Portugal (24)	30	33	36	36	41
Spain (125)	22	24	25	23	29
Sweden (12)	28	30	23	35	39
United Kingdom (74)	-4	8	10	13	20

Note: The weight of each bank is obtained from its total asset amount. The number of banks in each country is given in parentheses.

**Figure 6.** X-inefficiency of European banks in 1997, percentages



In Table 3 we have computed country averages of X-inefficiency in each year. In constructing these averages we weight the X-inefficiencies of a particular bank by its share of total bank assets in the respective country (23). In the same way we also created averages for the European Union. Who are Europe's efficient bankers? There are some striking differences in X-efficiency in Europe that are worth mentioning. These are also illustrated in Figure 6. In the UK, bankers were able to reduce their managerial inefficiency from approximately 20% in 1993 to full X-efficiency in 1997. On the other hand Greek banks appear to be the most inefficiently managed in Europe. Although Greek bankers improved, average X-inefficiency still exceeded 59% in 1997. Like the UK, the Netherlands and Finland show considerable gain in X-efficiency in the sample period. Conversely, Austria, France, Germany and Luxembourg did not improve over time or even worsened. The other differences we observe are less pronounced and sometimes do not match with the prior views that one may have. For example, Sweden is found to have a relatively inefficient banking sector with X-inefficiency ranging between 39% (1993) and 28% (1997). In Italy on the other hand, which many think is still at an early stage in restructuring, the banking sector is found to be relatively efficient (X-inefficiency fell from 24% in 1993 to 14% in 1997).

**The UK, Netherlands and Finland show considerable gains in efficiency. Many countries, such as Austria, France, and Germany, do not improve or even worsen. Greek banks are the most inefficient.**

Splitting up the sample into commercial banks and savings banks reveals some additional interesting results. Looking at the EU averages in Table 2a it is clear that commercial banks have higher average X-inefficiencies (around 13%) than savings banks (around 7%), when each type is compared to its respective cost frontier. We also investigated whether there are differences in X-efficiency between small and large banks. Here we defined a bank to be 'large' when its 1997 total assets amount exceeded EUR 10 billion. The other banks were defined as 'small'. In our data set there are 200 big banks and 1774 small ones. Table 4 shows that, on average, large banks have around 6% lower X-inefficiency than small banks. To us this result seems somewhat counterintuitive, as we would expect that smaller banks are easier to manage. Possibly large banks operate in a more competitive environment which forces them to be more efficient. Another reason can be that managers of large commercial banks are better monitored by shareholders. It is interesting to note that both small and large banks reduced their X-inefficiency over time.

**Table 4.** Weighted average of X-inefficiency of small and large banks, percent

Year	Large	Small
1997	14	20
1996	18	25
1995	18	24
1994	18	24
1993	19	24

Note: A bank is defined to be 'large' when its total assets in 1997 exceeded EUR 10 billion. The remainder is 'small'. In our sample there are 200 big banks and 1774 relatively small ones.

23) In order to reduce the influence of severe outlying observations we ignore those banks with X-inefficiencies that are extremely large or small. This can be revealed by means of a (two-sided) trimmed least squares regression of X-inefficiency on a constant and country dummies. We evaluate whether the absolute value of robust standardized residuals from this regression exceed the cut-off value 5.

Our findings on scale economies cannot explain the recent wave of national and cross-border bank mergers both in Europe and the US. First, our study focused on the bulk of European credit institutions (most of them have total assets less than EUR 5 billion euro) and is less well designed for analysing the cost structure of giants, the so-called mega banks. Also, our model cannot fully detect economies of scope (24).

*Large banks have lower X-inefficiency than small banks - a somewhat counterintuitive result since we would expect that smaller institutions are easier to manage.*

Here we consider only one particular merger case to illustrate our results (25). In 1994 Lloyds Bank and TSB Bank joined hands by establishing Lloyds TSB Group, one of the largest credit institutions in the United Kingdom, employing 82 850 people to manage assets of EUR 92 billion in 1997. Both banks however still exist as separate legal entities. In view of our study, this particular example is of special interest since it involves a merger between two banks with substantial differences in X-efficiency and a difference in type since Lloyds is a commercial bank while TSB was a saving bank. Neither of these banks was in the set of X-efficient banks that determined our cost frontier. In 1993, Lloyds was operating at an X-inefficiency level of 19% which means that it was very close to the average X-inefficiency of UK credit institutions at that time (see Table 3). TSB was much worse as is shown in Table 5. In comparison with a managerial efficient bank of equal size, TSB incurred 37% higher costs per unit of assets in 1993. Although TSB is still, at the end of 1997, drastically under-performing with respect to Lloyds, the merger of the two institutions did work out well for both of them. By 1997 Lloyds bank had reached best practice while TSB reduced costs by 13%. The remarkable gap in cost efficiency between Lloyds and TSB means that overall group profitability has scope to much increase if TSB can also be brought to best practice. From an economy of size point of view, both banks before 1994 were already well beyond the point at which we found increasing returns to scale.

**Table 5.** X-inefficiency of Lloyds and TSB, percent

Year	Lloyds Bank PLC	TSB Bank PLC
1997	0	24
1996	11	32
1995	8	31
1994	18	25
1993	19	37

## 6. Conclusion

The number of studies that evaluate the performance of European banks sink into insignificance beside the voluminous literature on US financial institutions. This paper partially fills this gap by investigating the cost efficiency of almost 2000 credit institutions across 15 European countries.

As size economies are exhausted at a balance sheet total of EUR 600 million, we do not find major economic gains from economies of scale for the overall European banking industry. In contrast with the consequences of size and type, large cost reductions are possible when managers organise

24) Hughes and Mester (1998) argue that large banks take more risk due to the financial scale economies mentioned in section 3. As a consequence, the quality of the output mix of larger banks is of a different nature than the quality of the financial products of small credit institutions. Therefore, large banks may incur higher costs per unit of output and thus measures of output quality must be included in the cost model when assessing efficiency.

25) Vander Venet (1996) analyzes the effects of 492 takeovers in European banking over the period 1988-1993.

***One can only guess about the rapidity with which restructuring will take place. However, there is plenty of scope to reduce costs throughout Europe.***

their business in a more efficient manner. Our results show that more than 80% of the European banks are not located at their cost frontier and that these banks can reduce the cost per unit of assets with more than 16% on average. The slimming course of the European banking sector has already led to substantial cost cutting across Europe, and X-inefficiency decreased on average say about 4% over our sample period. A remarkable result is that bankers in the UK were able to reduce X-inefficiencies from over 20% to essentially zero in this fairly short time span. Although some countries showed rapid improvement in bank performance, in other countries such as Austria, France, Germany, and Luxembourg, bankers have yet to step on the scales. Therefore, considerable differences in cost efficiency still exist across Europe.

This empirical evidence was obtained by estimating an augmented Cobb-Douglas model, which allows us to disentangle the effects of input prices on average costs from other time-related effects such as technological progress. Furthermore, an innovative regression technique was also used.

Although the European banking industry is at the beginning of a new era with the introduction of the euro, one can only guess about the rapidity at which the necessary restructuring will take place. However, there is plenty of scope to reduce costs and enhance efficiency throughout Europe.

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# Increasing concentration and competition in European banking: The end of anti-trust?



**Philip Molyneux**

## 1. Size, concentration and performance in European banking

A trend common to virtually all European banking markets over the last decade or so has been the fall in bank numbers. The decline in number of banks and the associated increase in market concentration may suggest that banking service choice is declining. However, a growth in branch numbers in many systems, increasing foreign bank presence, as well as the growth of non-traditional banking service providers make it difficult to categorically state that overall customer choice is declining. In this section we discuss in more detail how market structure affects performance in the banking sector. This is followed with a discussion of the changing European market structure, and whether increased concentration does actually pose any risks for consumers. The paper concludes with some observations on the impact of mergers on bank performance.

Economic theory tells us that there is a relationship between market structure and firm performance. A market characterised by a large number of firms will be expected to operate in a different fashion to a market with one dominant firm. There is a variety of different types of market structure ranging from perfect competition when there are very many firms (and when consumer welfare is maximised), through imperfect competition under an oligopoly, to monopoly.

Deciding on what constitutes 'the market' is, of course, problematic in banking given its multi-product nature. Nevertheless, the traditional industrial organisation literature which examines banking markets posits that there is a relationship between the structure of the market, firm conduct and industry performance. In particular, the traditional structure-conduct-performance paradigm (SCP) states that market concentration fosters collusion among the largest firms in the industry, which subsequently raises profits to 'uncompetitive' levels. The argument goes that if a small number of banks dominate the industry then it is easier and (less costly) for these to collude (whether implicitly or explicitly). Therefore, the largest banks can charge higher rates on loans, pay less interest on deposits, charge higher fees etc., than compared with a competitive environment.

The bulk of the empirical US and European banking literature that has sought to test the SCP model broadly comes to the conclusion that concentration does positively influence profit levels as well as result in higher loan pricing and lower deposit rates (see Gilbert, 1984, and Molyneux *et al.*, 1996). Nevertheless, this general finding needs qualification. The empirical evidence is by no means overwhelming - in Gilbert's review of 45 studies, only 27 find evidence that the traditional paradigm holds. The much smaller number of European studies do, however, tend to find that the hypothesis holds. These results also have to be treated with considerable caution in that even when positive relationships between concentration levels and profitability are found the explanatory power of the estimated models tend to be very low - variation in concentration levels typically

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*Philip Molyneux is Professor in Banking and Finance and Director of the Institute of European Finance at the University of Wales, Bangor. He also holds the Special Chair of Financial Services and Financial Conglomerates at Erasmus University, Rotterdam, Netherlands.*

explain less than 10-20% of the variation of industry profitability - this means that concentration only has a relatively small influence on industry profitability (even if it is positive).

While there appears to be a weak relationship between market concentration and profitability, this finding cannot be unambiguously interpreted as the result of collusion and monopoly power, because it may simply be a reflection of the fact that bigger firms are more efficient than their smaller counterparts. All other things being equal, if bigger banks are more efficient then they will earn higher profits. As a consequence, more concentrated markets will have higher profit levels. This interpretation of the concentration-profits relationship is generally referred to as the 'efficiency hypothesis'. In other words it is not collusion that explains the positive relationship between profits and concentration, but firm-level efficiency.

**Big banks are relatively more X-efficient**

The focus on bank efficiency has spawned a substantial literature examining scale (size), scope (product-mix) and X-efficiency (managerial and technological efficiency). The literature up until the mid-1980s found that scale economies tended to be apparent in banking at relatively low asset size levels and then became exhausted (see Molyneux *et al.*, 1996). More recent US and European studies, however, have found stronger evidence of economies of scale for large banks (see European Commission, 1997, and Berger and Humphrey, 1997). The results on scope economies in banking are mixed and estimates tend to be unreliable. The main empirical regularity that comes from the broad cost efficiency literature, however, is that X-inefficiencies are much larger than scale economies. This means that banks can improve their overall cost efficiency to a greater extent if they emulate industry best practice (by improving managerial and technological factors) rather than by increasing their size.

On balance, the mainly US based literature does suggest that big banks are relatively more X-efficient, which means that (on average) they are more likely to be closer to the best cost practice of banks with similar size and product mix. In the case of similar small banks, cost differences vary to a much greater extent.

While European research on bank efficiency has not matched the volume of the US literature a handful of recent studies have sought to redress the imbalance. Vander Venet (1998), for instance, compares the cost and profit efficiencies of European universal and specialist banks (1). He finds that financial conglomerates are more revenue efficient than their specialised competitors and that the degree of both cost and profit efficiency is higher in universal compared with non-universal banks. For diversified banks, inefficiency appeared to be uncorrelated with size; however, small specialised banks appeared to be relatively inefficient compared with their larger counterparts. These results are broadly in accordance with Allen and Rai's (1996) cross-country comparison of universal versus specialist banking systems. Scale economies were only found for banks with assets under EUR 10 billion, with constant return thereafter and diseconomies for the largest banks (assets exceeding EUR 100 billion). Following his analysis, Vander Venet suggests that the bank sizes for which no diseconomies are found are higher today than in the 1980s, a result that was also reported for US banks by Berger and Mester (1997).

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1) Using the translog methodology and a sample of 2375 EU banks from 17 countries for the years 1995 and 1996.



Altunbas *et al.*, (1999) also model the cost characteristics of banking markets (2). They find scale economies are widespread across different countries and increase with bank size. In general, scale economies are found to range between 5 and 10 percent, while X-inefficiency measures appear to be much larger, at around 25 percent. X-inefficiencies also vary to a greater extent across different markets, bank sizes and over time. In addition, Altunbas *et al.*, (1999) show that technical progress has had a similar influence across European banking markets between 1989 and 1996, reducing total costs by around 3 percent per annum. The impact of technical progress in reducing bank costs is also shown to systematically increase with bank size. Overall, these results indicate that Europe's largest banks benefit most from scale economies and technical progress. Altunbas *et al.*, (1999) conclude that these are important factors promoting the current trend for consolidation within the industry.

While the bulk of the above literature suggests a tendency for increased concentration across European banking markets there have been no studies, as far as we are aware, that attempt to examine the relationship between bank size, efficiency and market concentration with bank performance in Europe. Berger (1995), however, has done this for the US where he evaluates the influence of market structure (industry concentration), firm size and efficiency on bank performance. He estimates a range of equations along the following lines:

$$\text{ROE (ROA)} = a + b.\text{CONC} + c.\text{MS} + d.\text{X-EFF} + e.\text{S-EFF} + \text{a random error term}$$

where: ROE (ROA) = Return on equity (or return on assets)

CONC = Herfindahl index (a deposit market concentration measure)

MS = Bank's deposit market share

X-EFF = Bank specific X-efficiency measure

S-EFF = Bank specific scale efficiency ratio

and *a*, *b*, *c*, *d*, and *e* are constants.

**Market concentration and bank size are not particularly important in determining bank performance.**

Berger (1995) finds that only the market share and X-efficiency variables are significant and positive in explaining US bank performance. This means that larger banks tend, on average, to earn higher profits and those that are more X-efficient also earn higher profits. He interprets these results as providing evidence that bigger banks can do better because they have 'relative market power' (brought about through such things as product differentiation). More X-efficient banks (irrespective of size) earn higher profits because they have superior management and technology. Note that concentration and economies of scale are found to be unimportant in influencing bank performance.

These results, therefore, show that while market concentration is not an important factor in influencing bank performance, individual bank size appears to be. However, Berger (1995) qualifies his overall findings by pointing to the weak explanatory power of his models and concludes: "it does not appear that any of the [scale or scope] efficiency or market power hypotheses are of great importance in explaining bank profits".

Such findings strongly suggest that market concentration and bank size are not particularly important in determining bank performance, they thus clearly reject the traditional SCP hypothesis that

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2) By applying the Fourier Flexible functional form and stochastic cost frontier methodologies to estimate scale economies, X-inefficiencies and technical change for a large sample of European banks between 1989 and 1996.

suggests that market concentration enables banks to earn anti-competitive profits. If the same holds true in other countries' banking systems, competition regulators would find it difficult to adhere to the view that concentration or/and market share will obviously increase the profitability (or the ability of banks to earn monopoly rents) if they get bigger.

## **2. The changing banking environment**

### **2.1 Contestability in the financial services industry**

Moreover, recent developments in antitrust economics question the rationale for examining structure-performance type relationships. As noted in a recent review article in the Economist magazine (1998), this approach is subject to two main shortcomings: first, it is often unclear as to what market is at stake; second, even when this is clear, the relation between concentration measures and market power is not. This has led economists to downplay market shares and has focused critical attention on other ways of evaluating whether a merger will drive prices higher than they otherwise would be.

During the 1980s, particular attention was placed on the notion of contestability in markets. The argument goes that if entry conditions are relatively free and new entrants can exit the market and recover their costs (no sunk costs) then a sensible monopolist will forestall competition by setting prices as if it were operating in a competitive market, and there will be no economic harm. The higher the entry and exit barriers the less contestable, and therefore less competitive, the market. The smaller the incentive for new entrants to compete against incumbent firms, then the more likely that incumbents will restrict output and raise prices.

While the notion of contestability was strongly championed during the 1980s and influenced US antitrust policy in a major way, concerns that sunk costs were in fact substantial in many merger outcomes has led economists to focus on (usually game theoretic) models of strategic competition among oligopolists to evaluate market power outcomes. Typically, this latter approach uses sophisticated modelling and price/performance data to evaluate the likelihood of collusion resulting from mergers. As far as we are aware, these techniques have not (so far) been rigorously applied to any bank mergers. This is probably because of the complexity of dealing with mergers between multi-product firms where detailed and standardised product and price data are not readily available.

A relatively simple example of how rivalry between large banks can be modelled is presented in Molyneux (1995). This paper tests for inter-firm behaviour between leading banks across European banking markets. He finds that the traditional concentration-profits relationship holds although this is determined by the behaviour of the top two banks. In particular, a large leading bank does appear to promote co-operation (collusion) with other leading banks, but the appearance of a large second bank seems to induce rivalry with leaders rather than co-operation. The impact of more distant rivals does not seem to affect the profitability of banks in the industry. Overall, these results suggest that policy-makers should be concerned if the largest bank in the system is substantially bigger than its nearest competitors. It may well be justified in encouraging mergers between large banks so they can act as stronger competitors to market leaders. As far as we are aware, no other studies investigate this type of behaviour in banking markets, so it is difficult to generalise that the same pattern of behaviour is consistent over time and in other banking markets.

***A large leading bank does appear to promote collusion with other leading banks, but the appearance of a large second bank seems to induce rivalry.***

Contestability of banking markets also depends upon the demarcation line between different financial institutions, and this in turn depends upon technical change. Traditionally, commercial banking has been relatively clearly defined. Its scope was broader or narrower according to different national regulations and historical inheritance. As a typical feature of this industry, production and distribution of banking products and services had always been vertically integrated. Nowadays, however, the picture is more blurred as regulatory barriers hardly settle the border between banking and other financial service providers.

**Deregulation and technological advances are making the banking and financial services industry increasingly contestable.**

An ever larger array of negotiable assets, fed by sustained innovation, has combined with the use of new technologies to support the emergence and rapid growth of money and financial markets (see Molyneux and Shamroukh, 1996, 1999). Banks have experienced widespread disintermediation losing significant market share in deposit-taking and lending especially to large corporate clients and institutional investors. The substantial rise in the retail mutual fund industry as well as in other collective savings and investment vehicles (such as life insurance and pensions) is also promoting disintermediation in consumer banking business. This gradual shift in financing, which tends to benefit capital market operators (such as investment banks, brokerage firms and institutional investors), has forced many commercial banks to develop similar operations in order to benefit from the disintermediation trend. Fee and commission income now accounts for a much larger proportion of commercial banks' net income than it did a decade ago.

The rapid growth of direct banking and insurance services, as well as the increase in new asset-financing firms (factoring and leasing), credit card operators, consumer finance firms, venture capitalists and so on is a clear indicator of these trends. Banks, therefore, nowadays compete with a wider range of financial and non-financial firms than ever before. Increasingly, it seems that any large firm with a significant 'brand image' can enter the (at least retail) financial services industry. The growth of Internet financial services business is further opening up the market to technology firms and significantly reducing transaction and processing costs. The sunk costs associated with Internet banking are negligible compared with 'old' branch banking.

The falling entry costs of many new banking areas suggests that deregulation and technological advances are making the banking and financial services industry in Europe (and the rest of the developed world) increasingly contestable. More formal investigations, including studies undertaken by Molyneux *et al.*, (1994) and De Bandt and Davis (1998) find evidence of monopolistic competition in a variety of European banking systems which they suggest is consistent with the notion of market contestability. Davis and De Bandt (1998) also note that competitive conditions in the French, German and Italian banking markets still lag those of the US. While research in this area is in its infancy there is at least some empirical evidence to suggest increased contestability in European banking.

## **2.2 Role of core banks and other rationales for consolidation**

Another argument for having large banks of similar size is that it reduces the chance of one leader exerting undue influence in a wide range of areas beyond price-setting. This view is, to a certain extent, based on the notion that it is in the interests of government to promote and preserve a small number of 'core banks'. Revell (1987) identifies 'core banks' as the group of any country's largest banks that, by dint of their size, have certain privileges (i.e. are likely to be 'too-important' or 'too-

big' to be allowed to fail) which are balanced, and can often be outweighed, by their duties. In an earlier edition of the *EIB Papers*, Gardener and Molyneux (1997) noted that these core banks:

- are entrusted with the bulk of industry financing and form a pivotal role in the domestic economy
- they traditionally occupy a key position in central bank control of the financial system, especially bearing the brunt of monetary policy measures and being critical in the transmission mechanism for monetary policy
- have been expected to play their part in dealing with bank failures by acquiring troubled banks or providing extra liquidity at certain critical times
- are used a conduit for various government financing initiatives e.g. subsidised trade credit, preferential lending to certain sectors, student loans and so on.

*It may be thought to be in the 'national interest' to encourage mergers between large banks, especially if there is the threat of foreign acquisition of a market leader.*

It has also been stated that it is in the 'national interest' to encourage mergers between large banks, especially if there is the threat of foreign acquisition of a market leader. This view has recently widely trumpeted given the expected competitive threats posed by EMU. The major criticism of government support for 'national champions' is that it helps distort the competitive environment within domestic banking sectors. In particular, mergers motivated mainly for political reasons may result in sub-optimal restructuring and a strengthening of the 'too-big-to-fail' doctrine for the banks involved in such deals. This is likely to place these banks at a competitive advantage compared to other domestic banks and it also reduces the threat of market motivated foreign or domestic bank acquisition. As a consequence, the threat of foreign bank entry through acquisition is diminished reducing the contestability of domestic banking markets. Various commentators argue that 'core banks' or 'national leaders' have to have a critical size to be competitive, typically meaning that an asset size of at least EUR 150 to EUR 200 billion would be sufficient to have a reasonable European presence and be immune from hostile take-over. These factors, along with the more obvious economic reasons (increasing product and geographical market share, opportunities for cost reductions etc) are also important factors promoting the consolidation trend in European banking.

### **3. Impact of mergers on bank performance**

Table 1 shows the main European banking deals that took place during the decade up to 1999. The performance effect of these mergers has been mixed. The main UK deals have been successful in improving efficiency - HSBC's acquisition of Midland resulted in a fall in the ratio of cost to income from over 70 percent in 1992, to under 60 percent by the end of 1997. Lloyds/TBS's cost ratio fell by 12 percent over the same period. Conversely, continental European banks appear to have been less successful. ABN AMRO, reduced domestic branch and staff numbers in the years after merger, with an improvement in ROE, after a time lag. Its cost-income ratio, has remained virtually static during the 1990s. Most of ABN AMRO's profits improvement came from its investment banking and international operations. In Spain, mergers that established Banco Bilbao Vizcaya and Banco Central Hispano (BCH) were convoluted deals that took three to four years to generate significant cost savings and performance enhancement.

Large cross-border deals have only recently taken place (e.g. Merita/Nordbanken, ING/BBL) and the short-term stock price reaction to the announcement of these deals has been negative. It remains to be seen whether these will generate significant gains in the short to medium term (3). While the

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3) Although Vander Vennet (1996) and Altunbas et al., (1997) suggest limited X-efficiency gains from cross-border European bank deals.

merger between UBS and SBC, to create the United Bank of Switzerland is forecast to reduce costs by 20 percent over three years, it is unlikely that many other European banks can follow such a cost cutting strategy. This is because these two Swiss banks have an almost unique duplication of domestic and international businesses in private banking, investment banking, asset management and commercial banking.

One of the reasons for the mixed results is that competition is sufficiently intense in European banking that the cost savings are being passed onto consumers in the form of lower interest margins and keener fee and service charges. Intense competition from mutual savings and co-operative banks in many systems partly explains this trend. In addition, restrictive labour laws also prohibit (or severely limit) rapid headcount reductions.

#### **4. Conclusion**

This paper has examined the main structural and performance features of European banking. While banking markets have become increasingly concentrated and bank numbers have fallen, competition appears to have intensified. Given the large number of banks and branches in many countries there still remain indicators of excess capacity in the system and that the consolidation trend, especially with the advent of EMU, will continue.

*With the current competitive environment, concentration in domestic commercial banking markets is becoming a less relevant antitrust issue.*

A major theme of this paper has been that market concentration and bank size are poor indicators of market power. There is also increasing evidence that large European banks have efficiency advantages over their smaller counterparts. They also appear to benefit more from technological progress. Most of the available evidence points to increasing concentration across European banking markets. However, there is little evidence to suggest that market structure strongly influences performance. Important strategic drivers, such as deregulation and technological change, are changing the economics of the industry, lowering entry barriers and making markets more contestable. With the increasingly wide range of financial service providers, the larger 'domestic' market created by EMU and the current competitive environment, concentration in domestic commercial banking markets is becoming a less relevant antitrust issue.

**Table 1.** The main European banking M & A's, from late 1987 to early 1999

Date	Target	Acquirer	Country	Value(USD billion)
Oct 87	Hill Samuel	TSB	UK	1.3
Oct 88	Banco de Vizcaya	Banco de Bilbao	Spain	3.3
Nov 89	Morgan Grenfell	Deutsche Bank	UK/Germany	1.5
Mar 90	ABN	AMRO	Netherlands	2.4
Nov 90	NMB Postbank	Nationale Nederlanden	Netherlands	7.5
Jan 91	Oesterreische Landerbank	Zentralsparkasse und Kommercialbank Wien	Austria	1.2
Apr 91	BCI & Banco Exterior	Caja Postal, Instituto Credito Local, Banco Hipotecario, Banco Credito Agricola	Spain	
May 91	Banco de Credito Industrial	Banco Exterior de Espana	Spain	1.1
Mar 92	Midland Bank	HSBC	UK	5.7
Jan 93	Swiss Volksbank	CS Holding	Switzerland	1.1
May 93	ASLK-CGER	Fortis	Belgium	1.1
Jan 94	Banesto	Banco Santander	Spain	2.3
Apr 94	Cheltenham & Gloucester	Lloyds Bank	UK	2.9
Oct 94	Credito Romagnolo	Credito Italiano	Italy	2.4
Mar 95	Barings	ING	UK/Netherlands	1.1
Apr 95	National & Provincial	Abbey National	UK	2.2
May 95	S.G Warburg	SBC	UK/Switzerland	3.2
Jun 95	Kleinwort Benson	Dresdner Bank	UK/Germany	1.6
Jun 95	Lloyds Bank	TSB	UK	15.3
Mar 96	Credit Communal Belgique	Credit Local de France	Belgium/France	3.1
Apr 96	Banque Indosuez	Caisse Nationale de Credit Agricole	France	1.2
Oct 96	MeesPierson	Fortis	Netherlands	1.4
Dec 96	Stadshypotek	Svenska Handelsbanken	Sweden	3.3
Jan 97	Creditanstalt	Bank Austria	Austria	1.5
Feb 97	Foreningsbanken	Sparbanken Sverige	Sweden	1.4
May 97	Cariplo	Ambroveneto	Italy	3.9
Jul 97	Bayerische Hypobank	Bayerische Vereinsbank	Germany	5.1
Oct 97	Merita	Nordbanken	Finland/Sweden	Na
Nov 97	BBL	ING	Belgium/Netherlands	4.5
Dec 97	UBS	SBC	Switzerland	19.8
Mar 98	Kredietbank	Cera Bank, ABB Insurance	Belgium	13.6
Apr 98	Credit Mutuel	CIC	France	2.2
Apr 98	San Paolo di Torino	IMI	Italy	10.0
Apr 98	Banco de Santander	Banesto	Spain	4.0
Apr 98	Unicredito	Credito Italiano	Italy	11.0
May 98	Generale	Fortis	Belgium	11.2
Sept 98	Banca Agricola Mantovana	Monte dei Paschi di Siena	Italy	1.6
Sept 98	BHF Bank	ING	Germany/Netherlands	1.5
Jan 99	Banco Central Hispano-americano	Banco de Santander	Spain	11.3
Feb 99	Paribas	Société Générale	France	15

Sources: IFR Securities, Securities Data Company, and other news sources. The list is not exhaustive.

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# The case for a European-wide strategy



Jean Dermine

## 1. Introduction

Although a large series of papers have been concerned with macroeconomic issues such as price stability or employment, very few studies have discussed the impact of the euro on the competitive structure of European banking markets. Two questions are being addressed in this paper:

- How does the move from national currencies to the euro alter the sources of competitive advantage of banks?
- What are the main strategic options available to financial firms?

A review of the European banking industry shows the apparent importance of a national currency. For instance, the markets for pension funds and mutual fund management, or the euro-francs and euro-guilder bond markets are quite fragmented with domestic institutions capturing a very large market share. This paper shows how, besides an obvious loss of intra-European currencies trading business, the introduction of a common currency changes fundamentally the sources of competitive advantage of banks. Clearly, this calls for a major review of strategic options.

The paper is structured in two parts. Drawing on research discussed in an earlier *EIB Papers* article, the first section summarises a number of impacts of the euro (1). In the second part, the strategic options are outlined.

## 2. Banking with a single currency

The first two items that have been identified concern capital markets, including the bond market and its fast growing appendix the interest rate derivative market and fund management. The third factor concerns the broader impact of the single currency on foreign exchange markets, credit risk, and on bank profitability in a low inflation environment.

### 2.1 The bond market, underwriting and trading

The government bond market in Europe is a very fragmented market with domestic players capturing a large market share of the underwriting and secondary trading business. Feldman and Stephenson (1988), a Federal Reserve Study (1991), and Fox (1992) show that this dominance of local players is the result of history (with local players having a privileged access to the public debt issuer), domestic currency denomination (which provides access to, and an understanding of a large investor home base), and expertise in the domestic monetary environment (providing essential information to operate on the secondary bond market).

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*Jean Dermine is Professor of Banking and Finance at INSEAD. He has also held visiting positions at the Wharton School, at the Universities of Louvain and Lausanne, at New York University, and at the Göteborg and Stockholm Schools of Economics.*

*1) Jean Dermine's (1997) paper "Eurobanking, a new world" was winner of the 2nd prize in the EIB's biennial essay competition. It is published in Volume 2, Number 2 of the EIB Papers. The same issues are developed further in Dermine (1998) and Dermine and Hillion (1999).*

**Currency denomination has been a critical source of competitive advantage in bond and equity underwriting and secondary trading.**

Will these sources of competitive advantage survive with a single currency? As domestic currency denomination, the main source of competitive advantage identified for local banks in the literature, will disappear, it is quite likely that we shall observe the emergence of a truly integrated European bond market. If access to a Europe-wide investor base does facilitate placement and if access to market information seems essential for secondary trading, then very likely large-scale European-wide operations will become a necessity, and one will observe a consolidation of the government bond underwriting and trading businesses.

Currency denomination has also been a critical source of competitive advantage for local institutions in corporate bond and equity underwriting and secondary trading. The Eurobond market provides an illustration. A study by the Federal Reserve Bank of New York (1991), confirmed in Dermine (1996), McCauley and White (1997) and Harm (1998), reports a strong correlation for non-dollar issue between the currency denomination and the nationality of the lead bank manager. For instance, French banks are the lead managers for more than 80 percent of the time for French franc-denominated eurobonds issued by French companies, and 75 percent of the time for similar bonds issued by non-French borrowers.

Under EMU savers will diversify their portfolio across European markets, since exchange rate risks have been eradicated. The two main sources of comparative advantage that remain for local players will be historical customer relationships and the understanding of credit (business) risk through a better knowledge of the accounting, legal and fiscal (not to mention language) environment. Whenever the business risk embedded in corporate securities can be better assessed by domestic banks, these players will control underwriting and secondary trading. Local expertise would be particularly valuable for smaller companies, venture capital or the real estate market.

However, for larger corporations, worldwide sectoral expertise (in automobiles, telecoms, etc) will most likely dominate any national advantage. Placing power and trading across Europe will lead to consolidation of this major segment of the securities industry. As a tentative base for comparison, the top five American underwriters of investment grade debt control 65 percent of the US market.

## **2.2 Fund management**

An important segment of capital markets business is the fund management industry, and here too we see the dominance of local firms. In this case, the main sources of comparative advantage come from the retail distribution network, a home-currency preference by customers, the possible existence of economies of scale and research expertise (Kay, Laslett and Duffy, 1994).

The first source of competitive advantage in the retail segment is the control of the distribution network. This is in the hands of local banks in several countries. Indeed, domestic control of distribution is even protected under current European legislation which gives national authorities the right to regulate the marketing of funds into their own territory. Domestic banks will keep their competitive advantage as long as the branch network remains a significant channel of distribution.

The customer preference for home-currency assets was also often imposed by regulation. A single currency will, of course, eliminate this factor and reinforce the need for European-wide portfolios.

The possible existence of economies of scale and scope in the fund management industry is still a subject of debate (Bonnani, Dermine and Röller, 1998). However, it is quite likely that we will see very large, low cost, European index-tracking funds (where scale may be more relevant) competing with smaller research-based funds.

### **2.3 Foreign exchange markets, credit risk and low inflation**

An obvious direct effect of the single currency is that intra-European foreign exchange transactions will disappear, together with the competitive advantage of a particular bank in its home currency. As an example, a Belgian bank operating in New York will not be any more the Belgian franc specialist, but will compete with other European banks for euro/dollar business. Following the same logic as before, one is likely to observe consolidation of the commodity-type low-cost spot foreign exchange business (2).

Are there any implications for banks of having euro as an international currency? Three benefits can be identified. The first one is that an increased volume of euro-denominated assets or liabilities will ease the foreign exchange risk management of bank equity. Indeed, a large part of bank assets will be denominated in the same currency as the equity base, easing the control of currency-driven asset growth and capital management. Secondly, access to a discount window at the European Central Bank will make the liquidity management of euro-based liabilities marginally cheaper. Finally, if third countries issue assets denominated in euro or use the European currency as a vehicle, European banks will be well positioned in secondary trading for the reasons mentioned earlier.

#### **The nature of credit risk could change under a single currency.**

An additional impact of the euro is its potential effect on credit risk. There are reasons to believe that the nature of credit risk could change under a single currency. The argument is based on the theory of Optimum Currency Areas and on the ECB's objective of price stability.

The first issue relates to the impact of an asymmetric economic shock. If a bank concentrates its business in its home country, and if that country were to be subject to asymmetric shocks, it is quite possible that the central monetary policy would not soften the impact of the shock. This means that the greater the risk of such shocks, the more banks have to diversify their loan portfolios.

A related effect of EMU on credit risk is that the statute of the European Central Bank will prevent inflationary policies. *Ceteris paribus*, this could increase the potential for losses resulting from default, as one cannot count anymore on a predictable positive drift for the value of collateral assets (3). This will also change fundamentally the nature of credit risk as firms and individuals cannot rely any more on the nominal growth of their revenue to reduce the real value of their debt.

Low inflation could have other effects. During the last twenty years higher inflation and interest rates have provided substantial interest margins on price-regulated deposits. For instance, in the early 1980s, interest margins on demand deposits were above ten percent in Belgium, France, and Spain, but by the mid-1990s margins had dropped by a factor of about one-half. One can safely conclude that low inflation will reduce the source of profitability on the deposit funding business.

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2) However, some banks may find market niches by developing differentiated products based on service quality or technical innovations.

3) Although non-inflationary policies may also reduce the amplitude of business cycles.

However, if this effect is quite significant in a large number of countries, two additional effects of a low inflation environment might soften the impact of lower margins on deposits. One positive factor is that a low interest rate environment leads usually to a much higher margin on personal loans because of the relative inelasticity of interest rate on personal loans. For instance, in France, loan rate stickiness has raised the margin on hire purchase (consumer) loans from 6.3 percent in 1990 to 10.1 percent in 1996, a period of rapidly declining market rates (Banque de France, 1996). A second positive impact of a low inflation environment is that the 'inflation-tax' will be much smaller. The overall impact of a low inflation environment on the profitability of banks will thus depend on the relative importance of reduced margins on deposits, higher profit on personal loans, and on the significance of the 'inflation-tax'.

### 3. Some strategic issues

A considerable amount of domestic restructuring has already taken place in Europe, driven by the creation of the Single Market in 1992. In most cases, domestic mergers were based on cost-cutting reasons. For instance, White (1998) reports that the restructuring of the Finnish banking system, undertaken after a severe financial crisis, has reduced employment by 32 percent (4). These domestic mergers have increased concentration and produced firms of bigger size, albeit at national level. A first series of cross-border deals took place in the merchant banking area, where independent merchant banks (many of them British) were purchased by continental banks (5). These acquisitions were no doubt motivated by the wish to rapidly acquire a necessary expertise in securities-based corporate finance and asset management. Until quite recently, cross-border mergers of commercial banks of significant size have been rare. The difficulty in merging two national cultures was often put forward as a barrier to cross-border mergers. But two noticeable deals have taken place recently: the purchase of the Belgian Banque Bruxelles Lambert (BBL) by the Dutch Internationale Nederland Groep (ING), and the merger of the Swedish Nordbanken with the Finnish Meritabank. These cross-border deals are noteworthy because they involve very large domestic players. It is also worth observing that these deals involve small countries with banks attempting to create a larger customer base.

As discussed above, the arrival of the euro will rapidly change the sources of competitive advantage in various segments of the capital markets. If one accepts the argument that size will matter on some of these markets, a question is raised of either exiting (outsourcing) part of these activities, or of reaching the appropriate size. Moreover, one should of course bear in mind that an additional, potentially much more significant change concerns information technology. IT should allow, in principle, the distribution of financial services to retail clients across borders and without a physical presence. As concerns this threat (or opportunity), the key issue is the speed of acceptance of this new delivery channel by customers and their willingness to entrust a significant part of their financial affairs to a foreign supplier.

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4) This has to be compared with a drop in bank employment of 5 percent in France and 0.3 percent in Germany (White, 1998).

5) Examples include the purchase of Morgan Grenfell by Deutsche Bank, Barings by ING Bank, Warburg, O'Connor, Brinson, Dillon Read by Swiss Bank Corp, Kleinwort Benson by Dresdner, Hoare Govett by ABN-AMRO, Smith New Court (UK) and MAM (Spain) by Merrill Lynch, BZW by CSFB and Hambros by Société Générale.

In view of this new Eurobanking world, banks face three major strategic options:

- **National (regional) champion.** A firm acquires a significant market share on its domestic market through M&A activity. It outsources part of its capital market activities to larger international firms. Domestic size will provide the ability to achieve cost efficiency and to offer high quality services. This strategy can survive until new technology allows large foreign firms to target local clients directly, disintermediating the local financial "supermarket". Under such a scenario, the domestic champion will be absorbed sooner or later by a large international player who would benefit from a large, low cost, operating platform. Given the loyalty of retail clients and the particular nature of financial services for which trust (which cannot be acquired so rapidly) is an essential element, one could take the view that significant competition from foreign competitors on the retail market will not take place for several years. This domestic strategy could be adopted by national banks or even by some regional banks, such as the Cajas in Spain, which have a very strong local retail franchise.
- **Cross-border merger or acquisition.** This allows the institution to reach size and international coverage rapidly. Corporate control can be efficient as the process is managed with authority from a centre, but the allocation of responsibilities in the newly created entity appears to have been a very difficult process for many financial firms (6). This is the top-down approach.
- **The co-operative strategy (bottom/up approach).** Local co-operatives created national centres several decades ago to serve their treasury or international needs (the case of the Rabobank in the Netherlands, or of the Crédit Agricole in France). In a similar way, groups of national institutions could create European centres taking care of asset management and, potentially, large international corporates. This approach has the merit of being decentralised at the national retail level, with an efficient management of capital market activities at the international centre. As history has shown (such as that of European American Bank or European Asian Bank), the danger is a lack of control or speed of decision by the various members.

**Size will be important to operate on some segments of the market and a European coverage will be necessary.**

A premise of the above analysis has been that size will be important to operate on some segments of the market and that a European coverage will be necessary. This premise demands identification of the major competitive difference between large domestic size versus large size at the European level. Indeed, one could argue that two large banks of an equal size (one domestic and the other one European) could have the same market power on the bond or currency markets. This question is relevant since it will be much more difficult to create an international institution than a domestic one.

It is the author's belief that European coverage will dominate a domestic one for two major reasons. The first is that some corporate clients have become increasingly international, giving preference to banks with an international coverage. The second, more significant, argument in favour of a European coverage is that it provides a most welcome source of diversification. This is, of course, necessary to reduce overall credit risk, but is also relevant to stabilise the demand for services in capital markets. Indeed, because of a recession or a major change in the legal-fiscal environment, a large domestic bank would rapidly lose what was deemed necessary to compete: Local market knowledge plus placing power. A European coverage would be a way to stabilise business flows, allowing an adequate size to be retained permanently.

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6) An interesting case in 1998 is that of the highly praised Wells Fargo failing to integrate FirstInterstate successfully, and recently being forced into a merger by Northwest.

#### 4. Conclusions

*Consolidation of the European banking industry will take place in the capital market business, and further domestic rationalization of commercial banking will be needed.*

The objective of this paper has been to identify the various ways through which the euro would alter the sources of competitive advantage of European banks and to analyse the various strategic options available. Besides the obvious fall in revenue from intra-European currencies trading, the analysis has identified significant and permanent effects on several segments of the industry. One can forecast a rapid consolidation of the commodity-type business, such as government bonds, interest rate derivatives and spot currency trading. This is motivated by the loss of a main domestic source of competitive advantage, namely the national currency. If domestic expertise in the accounting, legal and fiscal environment gives a competitive advantage to domestic players in some segments of the corporate bond and equity markets, other factors such as placing power across Europe, trading capacity and global industry expertise will lead to consolidation of that industry. On the fund management side, very large European-wide index-tracking funds will compete with specialised funds. On the commercial banking side, the nature of credit risk is likely to change as one of the instruments of monetary policy, devaluation, will not be available. Finally, the impact of a low inflation environment on bank profitability will work through reduced margins on deposits, higher profits on personal loans and a lower 'inflation-tax'.

Furthermore, one should highlight the obvious but important fact that the single currency will make irreversible the creation of a single European banking market. A more predictable environment will facilitate the exploitation of economies of scale and the optimal location of processing units.

If the premises underlying the above analysis are verified in the future, one can anticipate the creation of a new Eurobanking world. A major international consolidation of the European banking industry will take place in the capital market business, and further domestic rationalisation of commercial banking will be needed.

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# Financial services strategies in the euro-zone



**Ingo Walter**

## 1. The new euro environment

Introduction of the euro certainly represents a sea-change in the environment of modern global finance. In the three decades since the end of the Bretton Woods system in 1971, and against great odds, Europe has forged a platform that could ultimately emerge as a viable challenger to the United States as the world's premier financial market. It was a difficult birth - but if ever the saying "no pain, no gain" applies in context of macro-financial reform, this is it (1).

Financial institutions are extraordinarily sensitive even to small changes in the environment. Increases in interest-rate or exchange-rate volatility can create wholly new markets for risk-management products, just as surely as these businesses - often built-up at huge expense - can be wiped-out overnight if volatility drops. Regulatory concerns about counterparty or liquidity risk in over-the-counter (OTC) markets can quickly drive transactions onto organised exchanges and their standardised contracts, and eliminate much of the innovation that is most easily undertaken in interprofessional OTC markets. Similar stories could be related to changes in tax codes, transaction-costs, information technologies, and an array of other variables that form the environmental overlay of business strategy in the financial services industry. These are parameters that management has to carefully think through, build a consensus on, and then place its strategic bets. When mistakes are made in devising core strategies in the financial services industry, they are usually big ones.

The advent of the euro is probably the most important current development in the environment of the world's financial institutions, and therefore has to be carefully related to the strategies of financial firms. Other contemporary issues, such as emerging market financial crises, regulation of hedge funds, and Japan's continued economic doldrums pale by comparison. The euro will redefine a large part of the global financial landscape of the 21<sup>st</sup> century. Strategies of European financial services firms in their home markets have already been profoundly affected by competitive conditions that have yet to be fully delineated. Meanwhile outsiders, notably American firms long used to competing in a massive single-currency market, have big strategic plans for the euro-zone. In some cases they have already made incursions into European financial services markets that would have been undreamed-of a few years ago. As financial reconfiguration in the euro-zone proceeds alongside continued technological advance in both the wholesale and retail domains, as regulatory and tax policy alignment continues to change the rules of the game, and as clients become increasingly performance-oriented and promiscuous, core strategies of financial firms - many of whom continue to think in terms of institutional boundaries instead of financial processes - will come under additional stress.

This paper begins with a series of suppositions - essentially maximum-likelihood state-variables relating to financial system conditions in the euro-zone, assuming a five-year time horizon. These

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*Ingo Walter is Charles Simon Professor of Applied Financial Economics and Director, New York University Salomon Centre, as well as Professor of International Management, INSEAD.*

1) See for example Story and Walter [1997].

suppositions set the framework for a discussion of strategic positioning and implementation on the part of financial services firms expecting to compete successfully in the euro-zone. We focus on the institutional microstructure of the financial intermediation process and the determinants of competitive performance. This is followed by an assessment of strategic *options* facing financial firms in the euro-zone, and alternative institutional *outcomes* from the perspective of efficiency and stability of the euro-zone financial system. Where appropriate, comparisons are drawn with the U.S. financial system, which has operated under a single currency since 1865. The final section of the paper provides some strategy and policy indications for the future.

## 1.1 Suppositions

Any competent strategic exercise aiming at creating and sustaining a high-performance financial services franchise in the euro-zone has to start by taking a view on the basic drivers of financial markets - as well as various regulatory overlays - and their impact on the prospective size and structure of the market for wholesale and retail financial services. If some of management's suppositions turn out to be wrong, expensive and possibly debilitating strategic mistakes may be the result. Box 1 presents the likely impact on financial markets of the introduction of the euro.

If these environmental suppositions are broadly borne-out by the facts, the euro-zone market for financial services is likely to be a very dynamic one indeed, both in terms of its overall prospects within the broader context of the global financial system and in terms of its structure. This runs across the entire spectrum of wholesale and retail financial activities. There is plenty of growth potential in wholesale capital market activities as the new government bond market envelops the constituent national markets and as the corporate and asset-backed bond markets accelerate the replacement of bank debt, as it has done in the United States. Equity markets should develop rapidly as well, propelled by rising volumes of new issues and an expanding need for equities in pre-funded pension plans as some of the euro-zone countries come to grips with the demographic reality of ageing populations. Economic sectors, individual corporate prospects, and credit quality will replace currencies in asset allocation strategies. And at the retail level, clients will face an increasing array of financial services from a wide variety of vendors using traditional and non-traditional approaches to distribution, with local and regional financial services oligopolies confronting unprecedented challenge.

***The potential for change is set against a state of substantial overcapacity and inefficiency in broad segments of the euro-zone's financial services industry.***

The potential for change brought about by the euro is set against a state of substantial overcapacity and inefficiency in broad segments of the euro-zone's financial services industry. There is too much capital and there are too many people employed in the production and distribution of financial services - as there have been in the United States. Both will be removed in a process of restructuring and consolidation that has only just begun. It will take a long time, most particularly in the retail sector in view of the importance of government-related and co-operative institutions in Europe that are not subject to the shareholder-value discipline. The ruthlessness of the U.S. restructuring process will be missing, and this is likely to retard the movement to a new equilibrium in terms of financial structure. And of course nobody wants to be shaken-out, so tenacious rear-guard actions will be mounted by vulnerable players even as new entrants - including the ubiquitous Americans hardened by their own structural revolution - crowd into the European marketplace.

Table 1 shows some of the differences between European and U.S. financial-sector restructuring via mergers and acquisitions (M&A), with U.S. intra-sector M&A volume during the period 1985-97 almost three times the European volume in banking, three times as large in securities and twice as large in insurance. This despite the fact that the EU plus Switzerland comprises a larger economic region than the United States. Inter-sector M&A volume was higher in Europe for banks buying insurance companies, presumably due to the popularity of bancassurance and the absence of legal barriers. Table 2 shows the cross-border aspects of financial services M&A activity. Most important among U.S. acquisitions abroad are investment firms buying other investment firms (notably British merchant banks and asset managers) and insurance companies buying foreign insurance companies. Intra-European cross-border transactions are mainly intra-sectoral, with almost half occurring in the insurance industry. When European firms acquire non-European ones (mainly in the United States and Japan), this is again largely on an intra-sector basis.

**Table 1.** Volume of in-market mergers & acquisitions in the United States and Europe, 1985-98 (billions of U.S. dollars and percent)

Acquiring Institution	Target Institution					
	U.S.			Europe		
	Banks	Securities	Insurance	Banks	Securities	Insurance
Commercial Banks	435 (53.4%)	18 (2.2%)	0.2 (0.0%)	186 (36.9%)	16 (3.2%)	21 (4.2%)
Securities Firms	6 (0.7%)	98 (12.0%)	29 (3.6%)	27 (5.4%)	31 (6.2%)	31 (6.1%)
Insurance Companies	73 (9.0%)	15 (1.9%)	140 (17.2%)	45 (9.0%)	9 (1.8%)	137 (27.2%)

Source: DeLong, Smith and Walter [1999].

**Table 2.** Volume of cross-market mergers & acquisitions in the United States and Europe, 1985-98 (billions of U.S. dollars and percent)

Acquiring Institution	U.S. - Non U.S.			Target Institution Intra-Europe			Europe - Non Europe		
	Banks	Securities	Insurance	Banks	Securities	Insurance	Banks	Securities	Insurance
Commercial Banks	15.1 (16.0%)	6.3 (6.6%)	0.2 (0.3%)	21 (15.4%)	5.9 (4.2%)	0.4 (0.3%)	40.2 (16.9%)	11.0 (4.6%)	0.9 (0.4%)
Securities Firms	3.6 (3.8%)	19.8 (20.9%)	5.7 (6.1%)	4.9 (3.5%)	8.9 (6.4%)	2.5 (1.8%)	7.9 (3.3%)	26.7 (11.2%)	8.1 (3.4%)
Insurance Companies	0.6 (0.7%)	4.4 (4.6%)	21.1 (15.1%)	21.1 (15.1%)	1.8 (1.3%)	72.6 (52.0%)	22.1 (9.0%)	5.8 (2.5%)	115.1 (48.4%)

Source: DeLong, Smith and Walter [1999] and Securities Data Company. The first figure is the dollar value (in billions) of M&A activity and the second number in parentheses is the percentage of the total (these sum to 100 for each 3x3 matrix). Figures reported are the sum of the equity values of the target institutions.

## **The impact on financial markets of the introduction of the euro**

### ***The Government Bond Market***

- Eleven euro-zone government bond markets, estimated at USD 1.9 trillion in 1998, are roughly comparable in size to the United States. There will be growing standardisation of government bonds in the euro-zone, including auction calendars and interest calculations, as well as new instruments such as inflation-indexed bonds denominated in euro.
- The changed fiscal environment will constrain the issuance of national government bonds and the rate of growth of the market, and push financing onto municipalities and other public finance entities, sometimes with state guarantees.
- Trading in euro-zone government bonds, driven historically by interest rate and exchange rate factors among the participating countries are likely to be driven mainly by credit spreads in the future. The 23 bp and 20 bp spread between Germany and Portugal and Belgium, respectively, at the end of 1998 are far smaller than those between the states in the U.S. Without future sovereign bailouts, these may be too narrow. Euro-zone government bonds will be subject to conventional rating criteria and corporate spreads will no longer be capped by home-country government spreads.

### ***The Corporate Bond Market***

- The euro-zone corporate bond market was estimated at USD 160 billion in 1998, one-sixth the size of the United States, with limited liquidity. Outstandings may rise to USD 800 billion over ten years as capital market financing replaces bank financing, as a high-capacity, liquid euro-zone market replaces fragmented national markets, and as national investment restrictions are scrapped.
- Incremental demand for assets denominated in euro can be expected to lower average interest rates and the cost of capital facing euro-zone corporations even in the presence of growing demand for financing in euro. Increased trading volume and market liquidity will reduce transaction costs for investors and issuers.
- The market for non-investment grade debt in Europe has already grown rapidly as investors search for yield and as the financing requirements of small, high-growth companies increase, a development that is likely to continue in the foreseeable future.
- The market for asset-backed securities in the euro-zone, very small in comparison to that in the United States, will grow rapidly as various tax and regulatory impediments are removed, and as banks rethink how much capital they should have tied-up in their lending book. Already some of the pioneering securitisation of commercial loans has taken place in Europe, with significant mutual gains for borrowers, investors and intermediaries.

### **The Market for Equities**

- Euro-zone equity market capitalisation was estimated to be USD 2.5 trillion in mid-1998, compared to about USD 10 trillion in the United States, with various forecasts pointing to a tripling over a decade or so. The euro-zone's 32 stock exchanges in 1998 (compared to 8 in the U.S.) and 23 derivatives exchanges (compared to 7 in the U.S.) will consolidate rapidly even as trading, clearance and settlement systems become more efficient.
- Secondary markets for equities in the euro-zone will increasingly be characterised by block-trading, as large institutional investors grow in importance, and with it the need for risk management, capital and institutional distribution capability. There will be growing use of innovative equity-linked financial instruments and structured transactions for which the national European markets were previously too small, too fragmented and illiquid, too tightly regulated or too uncompetitive to make them attractive.
- The creation of euro-equity benchmarks like the Dow Jones Euro Stoxx 50 and the FTSE Eurotop 100 will strengthen performance orientation of asset managers as well as corporations, promoting the shift from national to sectoral asset allocation.
- Accelerated development of IPOs and the small-cap equity market can be foreseen, promoted by the success of markets such as Nouveau Marché in France and Neuer Markt in Germany, as well as growth in the volume of MBOs, LBOs, venture capital and private equity.

### **Retail Financial Services**

- Retail financial services markets in the euro-zone will change only gradually, due to wide differences in preferences and the historical dominance of certain types of institutions such as savings banks, mortgage banks, co-operative banks and postal savings banks, as well as equally significant differences in the insurance industry.
- New products and retail distribution channels will gradually encroach on legacy structures, as they have already done in the case of *bancassurance*, which will gradually make the retail financial services market more open to competition, both cross-border and between domestic strategic groups.
- As demographics confront heavy reliance in most euro-zone countries on unfunded (pay-as-you-go) or underfunded pension schemes, governments are being forced to introduce pre-funded pension systems. New schemes will focus on defined contribution formulas that shift management responsibility to beneficiaries, suggesting a growing role for mass-distribution and branding of pension products. This will eventually form massive, performance-driven managed pools of fixed-income securities and equities. As involuntary "noise" traders, these will make a disproportionate contribution to euro-zone financial market liquidity and efficiency (see Walter, 1999).
- The euro-zone mutual fund industry will be contested by banks, insurance companies, independent fund management companies, as well as financial conglomerates. However, retail financial services in the euro-zone will be subject to strong consumer protection measures at the national level, which may retard penetration of non-traditional and innovative products and distribution channels.

Developing and implementing strategies in firms hoping to secure a permanent and profitable place in the coming euro-zone financial services configuration thus presents challenges that will test the mettle of even the most far-sighted and determined managers. It centres around seven basic questions:

- *Strategic positioning.* Given the foregoing environmental suppositions governing the euro-zone, what are the target markets - in terms of clients, products and geographic spread - that promise the most attractive opportunities for growth over time?
- *Prospective market structure.* How are these targeted markets likely to evolve over time in terms of competitive structure? There is not much sense in going through the effort and expense of gearing up - for what looks like a potentially profitable market if, at the end of the day, competitors are doing the same thing and market structure ends up approximating perfect competition, incapable of supporting attractive, sustained returns on the capital employed. Herd-like behaviour is well known among financial services managers and strategists, especially in the face of major parameter-shocks like creation of the euro-zone, and it may be advisable to stay out of the way of the stampede.
- *Core competencies.* What is the firm really good at, in terms of its baseline market position and franchise, creativity and innovation, flexibility, ability to manage complexity, command of financial and human resources? What competitive resources can be rolled-out geographically or focused on defensible market segments in response to euro-zone developments?
- *Operating economies.* To what extent are there economies of scale, cost economies of scope and production-efficiencies that can be exploited in order to reinforce the firm's competitive position?
- *Revenue synergies and earnings diversification.* Are there revenue economies of scope that can be exploited by linking products and clients, and are these cross-selling gains likely to prevail across the euro-zone for target retail and/or wholesale client segments? Relatedly, are there significant earnings-stability gains to be had by diversifying across clients, financial services activities and geographies within the euro-zone?
- *Institutional configuration.* What types of institutional configurations do the strategic positioning considerations suggest are the ones most likely to maximise the value of the enterprise, running across the institutional spectrum from massive euro-zone universals or multifunctional financial services conglomerates to specialists that are highly focused on best-in-class delivery of specific types of financial services?
- *Ability to execute.* Based on the firm's existing situation and an objective assessment of competitive strengths and weaknesses - a "reality check" - is it reasonable to envision its transformation into what will be required in the light of the environmental suppositions, given resource and managerial constraints, with reasonable but not excessive urgency?

**The industry is beginning a profound shakeup which will ultimately settle into some sort of new institutional equilibrium. Nobody is quite sure how that will look.**

Financial intermediation in the countries comprising the euro-zone has traditionally been heavily dominated by commercial banks, insurance companies and savings institutions, together capturing about 85% of all financial assets in the system in 1998, compared with about 40% in the United States. If the same economics of disintermediation apply in both regions, one would expect the role of classic euro-zone intermediaries to decline dramatically over time. In order to "go with the flow" banks will have to develop viable strategies to compete in mutual fund management, pension fund

management, capital market access, asset securitisation, custody and securities transaction-processing, etc. So will insurance companies and savings institutions. And there will be plenty of room for specialists of various kinds. The financial services industry, in short, is beginning a profound shake-up, which will ultimately settle into some sort of new institutional equilibrium, and nobody is quite sure yet how that will look. But if the United States is any sort of reasonable guide, it will be a highly varied and dynamic field of players.

## **2. Searching for operating economies and revenue synergies**

As in many other industries, a major purported benefit associated with the advent of the euro is the realisation for the first time of significant economies of scale and economies of scope. For the first time as well, an unprecedented degree of competitive pressure will bear on longsheltered European financial firms, and force them to manage better. Regardless of scale or scope benefits, this will create a leaner, more cost-effective set of competitors to the benefit of their own shareholders and the European financial system.

*Whether economies of scale exist in financial services has been at the heart of strategic and regulatory discussions about optimum firm size in the sector.*

Individually or in combination, economies (diseconomies) of scale and scope in euro-zone financial firms will lead to increased (decreased) profit margins or passed along to clients in the form of lower (higher) prices resulting in a gain (loss) of market share. They should be directly observable in cost functions of financial services suppliers and in aggregate performance measures. Unfortunately, studies of scale and scope economies in financial services are unusually problematic (2). The nature of the empirical tests used, the form of the cost functions, the existence of unique optimum output levels, and the optimising behaviour of financial firms all present difficulties. Limited availability and conformity of data present serious empirical problems. And the conclusions of any study that has detected (or failed to detect) economies of scale and/or scope in a sample selection of financial institutions does not necessarily have general applicability. Such difficulties notwithstanding, the potential impact of the euro on operating economics (production functions) of financial firms is so important - and so often used to justify mergers, acquisitions and other strategic initiatives - that available empirical evidence is central to the whole argument.

### **2.1 Economies of scale**

Whether economies of scale exist in financial services has been at the heart of strategic and regulatory discussions about optimum firm size in the financial services sector. Can increased average size of firms create a more efficient financial sector and can it increase shareholder value?

For example, large organisations may be more capable of the massive and "lumpy" capital outlays required to install and maintain the most efficient information-technology and transactions-processing infrastructures. If extremely high technology spend-levels result in higher efficiency, then large financial services firms will tend to benefit in competition with smaller ones. However, smaller organisations ought to be able to pool their resources or outsource scale-sensitive activities in order to capture such gains

In an information and distribution-intensive industry with high fixed costs such as financial services, there should be ample potential for scale economies - as well as potential for diseconomies of scale

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2] For a recent survey, see Berger, Demsetz and Strahan [1998].

attributable to disproportionate increases in administrative overhead, management of complexity, agency problems and other cost factors once very large firm-size is reached. If economies of scale prevail, increased size will help create systemic financial efficiency and shareholder value. If diseconomies prevail, both will be destroyed.

Examples of financial-sector mega-mergers in 1998 alone include Deutsche Bank and Bankers Trust as the first intercontinental mega-deal, creating the world's largest bank with combined assets of USD 849 billion in November 1998, Swiss Bank Corporation and Union Bank of Switzerland in Europe to form UBS AG (USD 749 billion), and Citibank and Travelers to form Citigroup (USD 702 billion), Banco Santander and Banco Central Hispanoamericano to form BSCH (USD 300 billion) in January 1999, as well as such major 1998 U.S. deals as First Chicago NBD and BancOne, and BankAmerica and NationsBank. Bankers regularly argue that "bigger is better" from both systemic and shareholder-value perspectives, and usually point to economies of scale as a major reason why. What is the evidence?

Many studies of economies of scale have been undertaken in the banking, insurance and securities industries over the years (see Saunders, 1996 for a survey). Estimated cost functions form the basis most of these empirical tests, virtually all of which have found that economies of scale are achieved with increases in size among small banks (below USD 100 million in asset size). More-recent studies have shown that scale economies may also exist in banks falling into the USD 100 million to USD 5 billion range. There is very little evidence so far of scale economies in the case of banks larger than USD 5 billion. An examination of the world's 200 largest banks [Saunders and Walter, 1994] found evidence that very largest banks grew more slowly than the smaller among the large banks during the 1980s, but that limited economies of scale did appear among the banks included in the study. More recently, there is some scattered evidence of scale-related cost gains of up to 20% for banks up to USD 25 billion in size [Berger and Mester, 1997]. But according to a new survey of all empirical studies of economies of scale through 1998, there was no evidence of such economies among very large banks [Berger, Demsetz and Strahan, 1998]. The consensus seems to be that scale economies and diseconomies generally do not result in more than about 5% difference in unit costs.

Inability to find major economies of scale among large financial services firms is also true of insurance companies [Cummins and Zi, 1998] and broker-dealers [Goldberg, Hanweck, Keenan and Young, 1991]. And among German universal banks Lang and Wetzel [1998] found diseconomies of scale in both banking and securities services. Annex 1 shows the 20 largest European and U.S. banks, all of which are much larger than the size of banks for which any empirical evidence of scale economies has been found. The data also show the top-20 European banks to be much larger than the top-20 U.S. banks.

*The fabled "economies of superscale", like the abominable snowman, have unfortunately never been observed in nature.*

So, for most banks and non-bank financial firms in the euro-zone, except the very smallest among them, scale economies seem likely to have relatively little bearing on competitive performance. This is particularly true since many of the smaller European institutions are linked-together in co-operatives or other structures that allow harvesting available economies of scale centrally, or are specialists not particularly sensitive to the kinds of cost differences usually associated with economies of scale in the financial services industry. Big deals like those cited above and most of the mega-mergers that may appear in the euro-zone in coming years are unlikely, whatever their



*A basic fallacy, of course, is focusing on firm-wide scale economies when the really important scale issues are encountered at the level of individual financial services.*

other merits may be, to contribute very much in terms of scale economies unless the fabled "economies of superscale" turn out to exist – these, like the abominable snowman, have unfortunately never been observed in nature.

A basic fallacy, of course, is focusing on firm-wide scale economies when the really important scale issues are encountered at the level of individual financial services. There is ample evidence, for example, that economies of scale are both significant and important for operating economies and competitive performance in areas such as global custody, processing of mass-market credit card transactions and institutional asset management, but are far less important in other areas - private banking and M&A advisory services, for example. Unfortunately, empirical data on cost functions that would permit identification of economies of scale at the product level are generally proprietary and therefore unavailable. Still, it seems reasonable that a scale-driven pan-European strategy may make a great deal of sense in specific areas of financial activity even in the absence of evidence that there is very much to be gained at the firm-wide level.

## **2.2 Economies of scope**

There should also be potential for economies of scope in the euro-zone financial services sector - competitive benefits to be gained by selling a broader rather than narrower range of products - which may arise either through supply- or demand-side linkages.

On the supply-side, scope economies involve cost-savings achieved through sharing of overheads and improving technology via joint production of generically similar services. Cost-diseconomies of scope may arise from such factors as inertia and lack of responsiveness and creativity that may come with increased firm size and bureaucratisation, "turf" and profitattribution conflicts that increase costs or erode product quality in meeting client needs, or serious cultural differences across the organisation that inhibit seamless delivery of a broad range of financial services.

Most empirical studies have failed to find cost-economies of scope in the banking, insurance or securities industries, and most of them have concluded that some diseconomies of scope are encountered when firms in the financial services sector add new product-ranges to their portfolios. Saunders and Walter [1994], for example, found negative supply-side economies of scope among the world's 200 largest banks - as the product range widens, unit costs seem to go up.

Scope economies in most other studies of the financial services industry are either trivial or negative (see Saunders, 1996). However, the period covered by many of these studies involved institutions that were shifting away from a pure focus on banking or insurance, and may thus have incurred considerable costs in expanding the range of their activities. If this diversification effort involved significant front-end costs - which were expensed on the accounting statements during the period under study - that were undertaken to achieve future expansion of market-share or increases in fee-based areas of activity, then we might expect to see any strong statistical evidence of diseconomies of scope (for example, between lending and non-lending activities of banks) reversed in future periods. Investment in staffing, training, and infrastructure in fact bear returns in the future commensurate with these expenditures, then neutral or positive cost economies of scope may well exist. Still, the available evidence remains inconclusive.

On the revenue side, economies of scope attributable to cross-selling arise when the all-in cost to the buyer of multiple financial services from a single supplier - including the cost of the service, plus information, search, monitoring, contracting and other transaction costs - is less than the cost of purchasing them from separate suppliers. Revenue-diseconomies of scope could arise, for example, through agency costs that may develop when the multi-product financial firm acts against the interests of the client in the sale of one service in order to facilitate the sale of another, or as a result of internal information-transfers considered inimical to the client's interests. Managements of universal banks and financial conglomerates often argue that broader product and client coverage, and the increased throughput volume and/or margins this makes possible, leads to shareholder-value enhancement.

Despite an almost total lack of hard empirical evidence, it is nonetheless reasonable to suggest that revenue economies of scope may indeed exist, but that these are likely to be very specific to the types of services provided and the types of clients served. Strong cross-selling potential may exist for retail and private clients between banking, insurance and asset management products (one-stop shopping), for example. Yet such potential may be totally absent between trade-finance and mergers and acquisitions advisory services for major corporate clients. So demand-related scope economies in the euro-zone are clearly linked to a firm's specific strategic positioning across clients, products and geographic areas of operation [Walter, 1988]. Indeed, a principal objective of strategic positioning in the "new" model of European financial services is to link market-segments together in a coherent pattern - what might be termed "strategic integrity" - that permits maximum exploitation of cross-selling opportunities, and the design of incentives and organisational structures to ensure that such exploitation actually occurs. These are, however, extraordinarily difficult to achieve and must work against multiple-vendor behaviour on the part of corporate and institutional clients as well as a new generation retail clients comfortable with non-traditional approaches to distribution such as the Internet (3).

### **2.3 Production efficiency**

Besides economies of scale and cost-economies scope, financial firms of roughly the same size and providing roughly the same range of services can have very different cost levels per unit of output. There is ample evidence of such performance differences, for example, in comparative cost-to-income ratios among banks or insurance companies or investment firms both within and between national financial-services markets. The reasons involve differences in production functions, efficiency and effectiveness in the use of labour and capital, sourcing and application of available technology, and acquisition of inputs, organisational design, compensation and incentive systems - i.e., in just plain better management.

***The way banks are run is more important than their size or the selection of businesses that they pursue.***

Empirically, number of authors have found very large disparities in cost structures among banks of similar size, suggesting that the way banks are run is more important than their size or the selection of businesses that they pursue [Berger, Hancock and Humphrey, 1993; Berger, Hunter and Timme, 1993]. The consensus of studies conducted in the United States seems to be that average unit costs in the banking industry lie some 20% above "best practice" firms producing the same range and

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3) Recent consumer surveys in the United States show that client reactions to multi-product vendor relationships are viewed very positively in principle, but in fact American retail clients have significantly increased the average number of financial services firms they deal with throughout the 1990s.

volume of services, with most of the difference attributable to operating economies rather than differences in the cost of funds [Akhavain, Berger and Humphrey, 1996]. Siems [1996] finds that the greater the overlap in branch-office networks, the higher the abnormal equity returns in U.S. bank mergers, while no such abnormal returns are associated with increasing concentration levels in the regions where the bank mergers occurred. This suggests that any shareholder value gains in many of the financial services mergers of the 1990s were more highly associated with increases in production efficiency (often termed X-efficiency) than with reductions in competition.

If very large institutions are systematically better managed than smaller ones (which may be difficult to document in the real world of financial services) then there may be a link between firm size and X-efficiency. In any case, both from a systemic and shareholder-value perspective, management is (or should be) under constant pressure through their boards of directors to do better, to maximise X-efficiency in their organisations and to transmit that pressure throughout the enterprise. If the euro-zone intensifies that pressure, this may in the end be one of the most significant sources of financial-sector performance gains.

Taken together, the available empirical suggests very limited prospects for firm-wide cost economies of scale and scope among major financial services firms, and that X-efficiency seems to be the principal determinant of observed differences in cost levels among banks and non-bank financial institutions. Demand-side economies of scope through cross-selling may well exist, but are likely apply very differently to specific client segments and can be vulnerable to erosion due to greater client promiscuity in response to sharper competition and new distribution technologies. Based on these considerations alone, therefore, there appears to be room in the euro-zone for viable financial services firms that range from large to small and from universal to specialist in a rich mosaic of institutions, as against a competitive monoculture dominated by financial mastodons.

*There appears to be room for firms that range from large to small and from universal to specialist, as against a competitive monoculture dominated by financial mastodons.*

### **3. Prospective market structures in euro-zone financial services**

In addition to the strategic search for operating economies and revenue synergies in the euro-zone financial services industry of the future, firms will also seek to dominate markets in order to extract economic rents. Europe has a long history of imperfect market structures and sometimes cartel formation in various industries, and the financial services market has been no different.

The role of concentration and market power in the financial services industry is an issue that empirical studies have not yet examined in great depth, although in many national markets for financial services, suppliers have shown a tendency towards oligopoly. Supporters have argued that high levels of national market concentration are necessary in order to provide a platform for a viable pan-European or global competitive position. Opponents argue that monopolistic market structures without convincing evidence of scale economies or other size-related gains serve mainly to extract economic rents from consumers or users of financial services and redistribute them to shareholders, cross-subsidise other areas of activity, or reduce pressures for cost-containment. They therefore advocate vigorous anti-trust action to prevent exploitation of monopoly positions (4).

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4) In the case of Canada, two mega-mergers that would have reduced the number of major financial firms from five to three was disallowed by the authorities in late 1998 despite arguments by management that major American financial services firms would provide the necessary competitive pressure to prevent exploitation of monopoly power.

The key strategic issue is the likely future competitive structure of financial services in the euro-zone, since margins tend to be positively associated with higher concentration levels, as do cost-to-income ratios. Financial services market structures differ widely among countries, as measured for example by the Herfindahl-Hirshman index (5), with very high levels of concentration in countries such as the Netherlands, Finland and Denmark, and low levels in relatively fragmented financial systems such as the United States and Germany. The market-concentration issue is perhaps best considered separately for wholesale and retail financial services.

**National markets for wholesale financial services in the euro-zone countries are already increasingly contested.**

With respect to wholesale financial services, the competitive structure that prevails in the euro-zone is likely to be similar to that prevailing in the global market. National markets for wholesale financial services in the euro-zone countries are already increasingly contested, with corporate and institutional clients under pressure to find the best and most competitively-priced products regardless of vendor. American and other European firms have achieved impressive incursions on traditional domestic client relationships. This is likely to be reinforced by the euro. The pan-European wholesale banking market should be highly fluid, as has long been the case in the United States.

The top-10 firms in global fixed-income and equity underwriting, loan syndications and M&A mandates in 1997 ranged from U.S. broker-dealers like Merrill Lynch, Goldman Sachs and Morgan Stanley Dean Witter to multifunctional financial conglomerates like UBS, Deutsche Bank and Citigroup - see Annex 2. The dominance of the U.S. firms is evident from this data. Of the top-10 firms, eight were American, two were European and none was Japanese. Of the top-20 firms, 13 were American, seven were European and none was Japanese. The 1998 announced merger of Citicorp and Travelers would have moved its combined market share to No.2 in the 1997 rankings, and the acquisition of Bankers Trust by Deutsche Bank would have moved the combined firm to No. 10 in the rankings. This picture may shift in the years ahead, as the major European universal banks acquire or build significant wholesale market-shares against their American rivals - especially if introduction of the euro and higher levels of capital-market integration creates disproportionate growth Europe's share of global transaction-flow.

A significant number of firms below the top-10 have the ambition to move up in the rankings. Indeed, global wholesale banking shows very little evidence so far of systematically increasing market concentration to levels capable of supporting sustained excess returns. The Herfindahl-Hirshman index for the top 10 firms rose gradually since 1990, but was still only 572 in 1997. For the top 20 firms, the index rose from 430 in 1995 to 621 in 1997. But the index is still very low compared with many other industries, indicating a high level of market competition despite some evidence of a rising trend in concentration. This indicates a very competitive global wholesale market prevailing well into the future, one that is far tougher than the term "global bulge bracket" - a small coterie of highly profitable global firms - suggests (6).

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5) The Herfindahl-Hirshman index is the sum of the squared market shares ( $H = \sum s^2$ ), where  $0 < H < 10,000$  and market shares are measured for example, by deposits, by assets, or by capital.  $H$  rises as the number of competitors declines and as market share concentration rises among a given number of competitors.

6) Such data, of course, mask much higher concentration levels in specific areas of wholesale banking activity. But with the exception of initial public offerings (IPOs) the evidence of margin erosion is compelling, suggesting highly contestable global sub-markets that are likely to prevail well into the future.

With respect to wholesale financial services, competitive conditions that will exist in the global market are likely to exist in the euro-zone as well, which suggests a highly competitive market structure for the foreseeable future. This is good news for the euro-zone financial system as a whole, but not such good news for shareholders expecting sustained high profitability from wholesale banking activities. Nor is there much evidence so far that size as conventionally measured (e.g., by assets or capital) makes much difference in determining wholesale banking market share.

**The key question is whether the euro will trigger the kind of geographic cross-penetration observed in the United States after the relaxation of interstate banking restrictions.**

The situation is likely to be very different with respect to market structure in retail financial services. Here the geography of local and regional market concentration is clearly more important, and what will no doubt be a very low euro-zone Herfindahl-Hirshman index for retail banking, insurance and investment services as a whole can mask high levels of regional or local concentration that are capable of supporting monopolistic pricing. The key question here is whether the advent of euro will trigger the kind of geographic cross-penetration observed in the United States after the relaxation of interstate banking restrictions in the 1990s (7). American retail financial services markets have become increasingly contestable, with large national and super-regional banking networks like Bank of America, Key Corp., Fleet Financial and First Union battling it out for regional market-share with smaller, local institutions surprisingly adept at survival. Table 3 shows that, among all types of financial services firms doing business with the general public, only banks and savings institutions have shown significant increases in concentration (8-firm ratio) during the period 1988-97 - from 22.3% to 35.5% - while concentration has decreased substantially in the life insurance industry. Even in the case of banks, the Herfindahl-Hirshman index has *decreased* from 2 020 in 1988 to 1,949 in 1997 in urban areas, and from 4 316 to 4 114 in non-urban areas - this during a period of dramatic industry consolidation in the United States.

Recent research [Kwast, Starr-McCluer and Wolken, 1997] shows that retail banking clients remain strongly dependent on financial services firms with a local presence, and where there is a high level of concentration this is reflected in both interest rates and deposit rates [Berger and Hannan, 1987]. However, the most profitable firms in the industry were not clearly identified with highly concentrated markets, suggested that other competitive factors seem to be more important. On the other hand, bank mergers that increased local concentration sufficiently to trigger antitrust guidelines of the Department of Justice (a Herfindahl-Hirshman index exceeding 1800 and a 200-point increase in the index as a result of the merger) was associated with reduced deposit rates [Prager and Hannan, 1999]. The U.S. has implemented a legislative constraint against excessive market concentration in the form of the Riegle-Neal Act, which limits the share of retail deposits captured by mergers to 30% in a given state and 10% nationally, although these limits do not apply in the case of organic growth (8). And despite continued consolidation and capacity reduction in the industry, in 1998 almost 300 new U.S. commercial bank charters were issued. There remains stiff competition from mutual fund companies, broker-dealers and insurance companies as well - i.e., intense competition both within and between strategic groups.

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7) Insurance and investor services were never subject to such restrictions, although there continues to be prudential regulation at the state level.

8) The merger of BankAmerica and NationsBank in 1998 created a national market share of 8% for the new Bank of America, which is very close to the limit but can be circumvented by moving assets off the balance sheet or non-deposit funding.

**Table 3.** Concentration trends in the U.S. financial services industry

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Number of U.S. Bank Charters	13,130	12,727	12,370	11,949	11,496	11,001	10,491	9,984	9,575	9,216
Number of Banking Organizations	9,881	9,620	9,391	9,168	8,873	8,446	8,018	7,686	7,421	7,234
Eight Firm Concentration Ratio	22.3%	22.6%	22.3%	25.7%	26.4%	28.1%	29.7%	30.4%	34.3%	35.5%
<b>Life Insurance</b>										
Number of Firms	1,367	1,288	1,223	1,221	1,177	1,187	1,082	1,054	1,001	n.a.
Asset share of Eight Largest Firms	41.7%	40.4%	39.0%	38.1%	37.2%	36.4%	35.3%	34.9%	34.7%	n.a.
<b>Property-Liability Insurance</b>										
Number of Firms	940	1,193	1,272	1,267	1,232	1,197	1,187	1,179	1,138	n.a.
Asset share of Eight Largest Firms	32.5%	32.4%	32.4%	32.2%	32.2%	31.5%	31.3%	33.7%	36.1%	n.a.
<b>Securities Firms</b>										
Number of Firms	6,432	6,141	5,827	5,386	5,260	5,292	5,426	5,451	5,553	5,597
Capital share of Ten Largest Firms	57.5%	61.8%	63.6%	62.1%	62.2%	63.4%	60.9%	59.3%	58.5%	55.5%
<b>Savings Institutions</b>										
Number of Firms	3,175	3,100	2,725	2,386	2,086	1,726	1,532	1,420	1,322	1,201
Asset share of Eight Largest Firms	13.5%	15.0%	18.2%	19.9%	19.3%	17.7%	19.2%	21.7%	21.3%	30.6%
<b>Credit Unions</b>										
Number of Firms	13,875	13,371	12,860	12,960	12,594	12,317	11,991	11,687	11,392	11,238
Asset share of Eight Largest Firms	6.3%	6.5%	6.7%	6.8%	7.4%	7.7%	7.9%	7.9%	7.8%	8.0%

Source Allen N. Berger Rebecca S. Demsetz and Philip E. Strahan: *The Consolidation of the Financial Services Industry: Causes, Consequences and Implications for the Future* (New York: Federal Reserve Bank of New York, 1998).

It seems likely that the kind of contestable retail financial services market that exists in the United States will be slower in coming to the euro-zone. Pan-European mass-market branding is not easy to achieve. Local and national consumer preferences remain strong, with no particular reason to change unless there are demonstrable gains in terms of pricing or service quality provided by foreign firms. Nationally entrenched retail financial firms have generally improved their performance to the point that foreign players have a difficult time doing much better, and penetrating local markets by acquisition can be prohibitively expensive. So far, successful cross-border retail businesses are largely in niches like private banking or consumer finance, with broader-based incursions like Deutsche Bank in Italy or ING in Belgium confined to special situations. Still, change will come, especially with a new generation of consumers less tied to local vendors and new ways of delivering financial services. Markets that are already highly concentrated and characterised by high margins will be increasingly challenged. This suggests that the euro will eventually undermine existing monopolistic market structures, with little prospect of high levels of retail market concentration in the euro-zone as a whole in the foreseeable future.

**So far, successful cross-border retail businesses are largely in niches like private banking or consumer finance, with broader-based incursions confined to special situations.**

*The euro is unlikely to have much of an impact on market concentration in wholesale financial services or in asset management. At the same time, it may gradually reduce regional market concentration.*

Finally, the asset management industry (where the top firms comprise a mixture of European, American and Japanese firms and at the same time a mixture of banks, broker-dealers, independent fund management companies and insurance companies) is perhaps the most contestable in the entire financial services industry. Any number can play, as long as they have strong distribution, performance and client service capabilities. With a Herfindahl-Hirshman index of 540 for the top-40 firms in the industry and very little signs of increasing concentration in recent years, this sector of the euro-zone's financial system is likewise likely to remain highly competitive. Despite this, the quality of earnings in asset management is relatively high, and provides an anchor of stability for financial firms that are also engaged in much more volatile parts of the business.

The role of the state at the national, regional and municipal level will also have a major impact on competitive structure and performance in the euro-zone, and remains rather unclear. The state is far more heavily involved than in the United States, ranging from the European Investment Bank through the German Landesbanken to municipal savings banks. Public guarantees and other forms of support, as well as performance pressures, are very different from those facing investor-owned financial firms. When public- and private-sector firms meet in the market, competitive outcomes will clearly be affected. Consequently, the value extracted from a given market structure may be substantially smaller than expected in the presence of explicit or implicit subsidies imbedded in the activities of state-linked firms in the market. Similar points could be made with respect to co-operatives and mutuals, which play a major role across much of the euro-zone.

One can conclude that the euro is unlikely to have much of an impact on market concentration in wholesale financial services, which is basically a globalised industry, or in asset management. At the same time, it may gradually reduce regional and local market concentration by introducing new competitors. If this is correct, a good proportion of the gains associated with restructuring and competitive development in the euro-zone financial services sector will flow to end-users rather than shareholders. This will place an even greater premium on astute strategic positioning and execution on the part of financial firms.

#### **4. Universal banking versus specialist institutions**

##### **4.1 Firm structure and financial stability**

Proponents of universal banking as the dominant current and future form of strategic organisation of financial services argue that the aforementioned operating economies and synergies, as well as non-destructive competition, can best be assured if the core of the evolving financial system in the euro-zone comprises bank-based multifunctional financial organisations [van den Brink, 1998].

There is also the argument that greater diversification of income from multiple products, client-groups and geographies creates more stable, safer, and ultimately more valuable institutions. Indeed, there is some evidence that this is the case. Saunders and Walter [1994] carried out a series of simulated mergers between U.S. banks, securities firms and insurance companies in order to test the stability of earnings of the "merged" as opposed to separate institutions. The opportunity-set of potential mergers between existing firms and the risk-characteristics of each possible combination were examined. The findings suggest that there are indeed potential risk-reduction gains from diversification in multi-activity financial services organisations, and that these gains

**Risk-reduction gains appear to arise more from combining commercial banking with insurance activities, than with securities activities.**

increase with the number of activities undertaken. The main risk-reduction gains appear to arise from combining commercial banking with insurance activities, rather than with securities activities. Such empirical studies may exaggerate the risk-reduction benefits of universal banking because they ignore many of the operational costs involved in setting up and managing these activities (9).

It has also been argued that shares of European-type universal banks, incorporate substantial franchise value due to their conglomerate nature and importance in national economies, which Demsetz, Saldenberg and Strahan [1996] suggest serve to inhibit extraordinary risk-taking. They find substantial evidence that the higher a bank's franchise value, the more prudent management tends to be, so that large universal banks with high franchise values should serve shareholder interests as well as stability of the financial system - and the concerns of its regulators - with a strong focus on risk management, as opposed to banks with little to lose. This conclusion is, of course, at variance with the observed, massive losses incurred by European universal banks in recent years in lending to highly leveraged firms, real estate lending and emerging market transactions.

It is certainly the case that a number of large financial institutions will play a major role in the future financial configuration of the euro-zone. Failure of one of these institutions is likely to cause unacceptable systemic consequences, and the institution is virtually certain to be bailed-out by taxpayers — as happened in the case of comparatively much smaller institutions in the United States, Switzerland, Norway, Sweden, Finland, and Japan during the 1980s and early 1990s (10). Consequently, too-big-to-fail (TBTF) guarantees create a potentially important public subsidy for universal banking organisations.

Of course, "free lunches" usually don't last too long, and sooner or later such guarantees invariably come with strings attached. Possible regulatory responses include tighter limits on credit- and market-risk exposures, stronger supervision and surveillance intended to achieve "early closure" in advance of capital depletion, and structural barriers to force activities into business units that can be effectively supervised in accordance with their functions even at the cost of a lower levels of X-efficiency and scope economies.

## **4.2 Conflicts of interest**

The potential for conflicts of interest is endemic to the kinds of multifunctional financial services firms that characterise the euro-zone, and runs across the various types of activities in which they are engaged (11).

First, when firms have the power to sell affiliates' products, managers may no longer dispense "dispassionate" advice to clients and have a salesman's stake in pushing "house" products, possibly to the disadvantage of the customer. Second, a financial firm that is acting as an underwriter and is unable to place the securities in a public offering may seek to ameliorate this loss by "stuffing" unwanted securities into accounts over which it has discretionary authority. Third, a bank with a loan

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9) That is, only the financial firms in existence for the full 1984-88 period are considered.

10) The speed with which the central banks and regulatory authorities reacted to the 1996 Sumitomo copper trading scandal signaled the possibility of safety-net support of the global copper market, in view of major banks' massive exposures in highly complex structured credits.

11) For a detailed discussion, see Saunders and Walter [1994], Chapter 6.



outstanding to a client whose bankruptcy risk has increased, to the private knowledge of the banker, may have an incentive to induce the corporation to issue bonds or equities to the general public, with the proceeds used to paydown the bank loan (12). Fourth, in order to ensure that an underwriting goes well, a bank may make below-market loans to third party investors on condition that the proceeds are used to purchase securities underwritten by its securities unit. Fifth, a bank may use its lending power activities to coerce a client to also use its securities or securities services. Finally, by acting as a lender, a bank may become privy to certain material inside information about a customer or its rivals that can be used in setting prices, advising acquirers in a contested acquisition or helping in the distribution of securities offerings underwritten by its securities unit.

Mechanisms to control conflicts of interest can be market-based, regulation-based, or some combination of the two.

In most of the euro-zone countries few impenetrable walls exist between banking and securities departments within universal banks, and few external firewalls exist between a universal bank and its non-bank subsidiaries (e.g., insurance) (13). Internally, there appears to be a reliance on the loyalty and professional conduct of employees, both with respect to the institution's long-term survival and the best interests of its customers. Externally, reliance appears to be placed on market reputation and competition as disciplinary mechanisms. The concern of a bank for its reputation and fear of competitors are viewed as enforcing a degree of control over the potential for conflict exploitation. The United States, on the other hand, has had a tendency since the 1930s to rely on regulation, and in particular on "walls" between types of activities. Either way, preventing conflicts of interest is an expensive business. Compliance systems are costly to maintain, and various types of walls between business units can have high opportunity costs because of inefficient use of information within the organisation (14).

**Conflict of interest may seriously limit effective strategic options for universal banks.**

The conflict of interest issue may seriously limit effective strategic options. For example, inside information accessible to a bank as lender to a target firm would almost certainly prevent it from acting as an adviser to a potential acquirer. Entrepreneurs are unlikely to want their private banking affairs dominated by a bank that also controls their business financing. A mutual fund investor is unlikely to have easy access to the full menu of available equity funds though a universal bank offering competing in-house products. These issues may be manageable if most of the competition is coming from other universal banks. But if the playing field is also populated by aggressive insurance companies, broker-dealers, fund managers and other specialists, these issues will prove to be a continuing strategic challenge to management.

### **4.3 The conglomerate discount**

It is often argued that the shares of multi-product firms and business conglomerates tend (all else equal) to trade at prices lower than shares of more narrowly-focused firms. There are two reasons why this "conglomerate discount" is alleged to exist.

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12) A recent example is the 1995 underwriting of a secondary equity issue of the Hafnia Insurance Group by Den Danske Bank, distributed heavily to retail investors, with proceeds allegedly used to pay-down bank loans even as Hafnia slid into bankruptcy. This case is now before the courts. See Smith and Walter [1997B].

13) For a comprehensive catalog of potential conflicts of interest, see Gnehm and Thalmann [1989].

14) A detailed discussion is contained in Smith and Walter [1997A], Chapter 8.

*Universal banks will have to come up with a compelling set of arguments, particularly when investors have the choice of placing their bets on more narrowly-focused financial specialists.*

First it is argued that, on the whole, conglomerates tend to use capital inefficiently. Empirical work by Berger and Ofek [1995] assesses the potential benefits of diversification (greater operating efficiency, less incentive to forego positive net present value projects, greater debt capacity, lower taxes) against the potential costs (higher management discretion to engage in value-reducing projects, cross-subsidisation of marginal or loss-making projects that drain resources from healthy businesses, mis-alignments in incentives between central and divisional managers). The authors demonstrate an average value-loss in multi-product firms on the order of 13-15%, as compared to the stand-alone values of the constituent businesses for a sample of U.S. corporations during the period 1986-91. This value-loss was smaller in cases where the multi-product firms were active in closely allied activities within the same two-digit standard industrial code (SIC) classification.

The bulk of value-erosion in conglomerates is attributed by the authors to over-investment in marginally profitable activities and cross-subsidisation. In empirical work using event-study methodology, John and Ofek [1994] show that asset sales by corporations result in significantly improved shareholder returns on the remaining capital employed, both as a result of greater focus in the enterprise and value-gains through high prices paid by asset buyers.

Such empirical findings from event-studies of broad ranges of industry may well apply to diversified activities carried out by financial firms as well. If retail banking and wholesale banking are evolving into highly-specialised, performance-driven businesses, one may ask whether the kinds of conglomerate discounts found in industrial firms may not also apply to universal banking structures, especially as centralised decision-making becomes increasingly irrelevant to the requirements of the specific businesses.

A second possible source of a conglomerate discount is that investors in shares of conglomerates find it difficult to "take a view" and add pure sectoral exposures to their portfolios. Investors may avoid such stocks in their efforts to construct efficient assetallocation profiles. This is especially true of highly performance-driven managers of institutional equity portfolios who are under pressure to outperform cohorts or equity indexes. So the portfolio logic of a conglomerate discount may indeed apply in the case of a multifunctional financial firm that is active in retail banking, wholesale commercial banking, middle-market banking, private banking, corporate finance, trading, investment banking, asset management and perhaps other businesses. In effect, a financial conglomerate shares are a closed-end mutual fund of a broad range of assets.

Both the portfolio-selection and capital-misallocation effects (perhaps mitigated by the franchise and TBTF effects mentioned earlier) may thus weaken investor demand for financial conglomerate shares, and lower their equity prices. In the context the euro-zone universal banks and other financial conglomerates, management will have to come up with a compelling set of counter-arguments, particularly when investors have the choice of placing their bets on more narrowly-focused financial specialists.

#### **4.4 Linkages between financial and non-financial firms**

In most of the euro-zone countries, including France and Germany, banks and insurance companies have traditionally held large-scale shareholdings in non-financial corporations or have been part of

multi-industry holdings of financial groups. There are various historical reasons for this, such as politically-driven interests of the state to intervene directly in the control of industry and past economic crises that forced banks to capitalise debt in the face of threatened client bankruptcies. There are also portfolio reasons, such as the need of insurance companies to invest massive reserves in the absence of sufficiently broad and deep local capital markets - inevitably leading to major equity positions in non-financial corporations as well as banks. And there are relationship reasons, with banks viewing shareholdings in client firms as an important part of "Hausbank" ties that would attract most of the client's financial services business, even as clients themselves value the presence of a reliable lender who looks beyond a purely arm's length credit relationship.

The absence of efficient capital markets in many European countries has historically produced a powerful role for the types of "internal" capital markets that can be seen in industrial conglomerates, long-term cross shareholdings, equity stakes cementing strategic alliances and other institutional and financial ties between banks, insurance companies and industrial companies. Of course, the causality can run the other way too, with European-style "insider" relationships tending to perpetuate themselves. This will impede the development of alternatives such as commercial paper markets, corporate bond markets, and strong equity markets capable of attracting broad stock holdings on the part of individuals, pension funds and mutual funds. This in turn will limit shareholder-value pressures and periodic governance challenges to corporate under-performance though hostile corporate action.

The value of bank shareholdings in industrial firms or insurance companies is, of course, embedded in the market price of bank shares. The combined value of the bank itself and its industrial shareholdings may be larger or smaller than the sum of their stand-alone values. For example, "Hausbank" ties to corporations in which a bank has significant financial stakes and a direct governance role may raise the value of the bank. On the other hand, if such "tied" sourcing of financial services raises the cost of capital facing client corporations, this will in turn reduce the value of bank's own shareholdings. The reverse may be true if such ties lower client firms' cost of capital. Permanent bank shareholdings may also stunt the development of a contestable market for corporate control, thereby impeding corporate restructuring and depressing competitive performance and stock prices, which in turn are reflected in the value of the bank to its shareholders. Banks may also be induced to lend to affiliated corporations under credit conditions that would be rejected by unaffiliated lenders, and possibly encounter other conflicts of interest that may ultimately make it more difficult to maximise shareholder value.

In effect, a shareholder of euro-zone banks with significant industrial participations obtains a closed-end mutual fund that has been assembled by bank managers for various reasons over time, and may bear no relationship to the investor's own portfolio optimisation goals. The value of the bank itself then depends on the total market value of its shares, which must be held on an all-or-nothing basis, plus its own market value.

*It seems clear how the "battle of the systems" of corporate governance is running, with a pan-European capital market-based approach likely to carry the day.*

Bank-industry linkages have for some time been subject to re-examination in many of the euro-zone countries, especially in terms of their impact on economic restructuring and overall economic performance in comparison with the more capital-market oriented "Anglo-American", approach. Even without the U.K. as a founding member of the euro-zone, companies like DaimlerChrysler, VEBA, Aegon and Alcatel have exposed themselves to market-based shareholder-value discipline,

even as developments are underway that may ultimately lead to a pan-European equity market capable of meeting the needs of massive performance-driven institutional pension funds and mutual funds. And there is a clear tendency toward loosening bank-industry ties, both on the part of corporations seeking better access to financing and advice and on the part of bankers seeking to manage their equity portfolios more actively - most notably in the establishment of DB Investor by Deutsche Bank late in 1998. So it seems clear how the "battle of the systems" of corporate governance is running, with a pan-European capital market-based approach likely to carry the day (15).

## 5. Strategic options

The foregoing discussion is centred around a common-sense approach to strategic positioning and execution after the launch of the euro. Put simply, it's all a matter of doing the right thing, and then doing it right. This invariably requires an astute assessment of the prospective competitive battlefield, both in terms of market prospects and competitive structures, which has to be based on a number of suppositions reflecting a well-argued consensus among those creating the strategy. If important suppositions turn out to be wrong, key parts of the strategy will be wrong too.

Once a judgement has been reached as to key client-groups, geographies and product portfolios that may promise to generate acceptable risk-adjusted returns to shareholders, a strategic configuration has to be devised for the institution that can extract significant scale and scope economies and that can be managed effectively to achieve strong operating economies. Such an optimum configuration may be termed "strategic integrity." It forms what the Germans call a "soll-Zustand" (what *ought to be*). This has to be compared with the "ist-Zustand" (what *is*), i.e., how does the institution currently stack-up against all competitors, traditional and non-traditional, in the cold light of day, and what will be required to compete effectively in the future in terms of capital, human and managerial resources and organisational change.

**Rejecting losers among strategic options is just as important as selecting winners, and is often much more difficult.**

Realistically comparing reality to strategic objectives in the presence of a critical time element usually produces a number of showstoppers. Rejecting losers among strategic options is just as important as selecting winners, and is often much more difficult - especially when opportunistic moves beckon and time is short. Failure to reject losers probably results in a disproportionate number of what turn out to be strategic errors in the financial services sector often at great expense to shareholders.

Finally comes strategic implementation: Marshalling resources, controlling costs, getting the troops on board, building a high-performance "super-culture" over what inevitably will be a number of often very different "sub-cultures," getting the right people, and then providing effective leadership. The devil is always in the details.

If a strategic direction taken by the management of a financial firm in the euro-zone does not exploit every source of potential value for shareholders, then what is the purpose? Avoiding an acquisition attempt from a better-managed suitor who will pay a premium price does not seem nearly as unacceptable today as it may have been in the past. In a world of more open and efficient markets for shares in financial institutions, shareholders increasingly tend to have the final say about the future of their enterprises.

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15) See Walter [1993] and Story and Walter [1997].

# Annex 1

## U.S. and European bank performance data

Bank	Total Assets (USD billions)	Market Cap (USD billions)	Market Cap as % of Assets	Tier 1 Equity	ROAE (post tax)	Net Int Margin	P/E	P/B
<b>Top-20 U.S. banks</b>								
1 Citigroup	702	107.0	15.2%	8.3	6.5	5.1	n.a.	n.a.
2 Chase Manhattan	357	48.7	13.6%	8.3	14.9	3.1	13.2	2.20
3 JP Morgan	299	16.6	5.6%	7.4	5.3	0.7	17.3	1.68
4 BankAmerica	264	99.9	37.8%	7.4	7.7	3.6	14.6	2.12
5 First Union	235	57.4	24.4%	7.1	23.5	3.8	15.5	3.31
6 Norwest/Wells Fargo	196	50.0	25.5%	n.a.	n.a.	n.a.	n.a.	n.a.
7 Bankers Trust	156	6.0	3.8%	7.0	n.a.	1.0	8.7	1.44
8 BancOne	120	57.3	47.8%	9.2	21.8	5.3	14.4	2.81
9 Fleet Financial	100	22.7	22.7%	6.9	18.6	4.6	15.5	2.68
10 National City	83	21.2	25.5%	8.8	19.0	4.1	16.2	2.94
11 Key Corp	78	13.3	17.1%	6.7	18.1	4.2	13.7	2.38
12 PNC Bank	76	15.1	19.9%	7.4	20.5	3.8	15.4	2.75
13 BankBoston	74	10.8	14.6%	7.0	16.3	4.0	12.5	2.30
14 Bank of NY	64	23.6	36.9%	7.5	24.2	3.2	20.6	4.76
15 Wachovia	66	18.7	28.3%	8.1	18.2	6.2	20.4	3.52
16 Sun Trust Bank	61	14.6	23.9%	7.2	13.3	3.9	19.6	2.79
17 State Street	51	10.1	19.8%	14.3	20.0	1.8	23.4	4.51
18 Mellon Bank	48	15.7	32.7%	6.8	20.3	4.0	18.5	3.60
19 South Trust	36	6.0	16.7%	6.8	14.4	3.7	14.3	2.27
20 Comerica	34	10.0	6.5%	7.2	23.0	4.6	17.2	3.73
Total	3100.0	624.7	20.2%					
Average Top 20	155.0	40.5	21.0%	7.6	15.7	3.6	14.3	2.4
U.S. Banks Average				8.6	16.2	3.7	15	2.85
<b>Top-20 European banks</b>								
1 UBS	749	69.2	9.24%	7.5	21.6	1.0	15.50	2.94
2 Deutsche Bank	693	33.4	4.82%	5.1	15.0	1.3	11.70	1.76
3 ABN-Amro	501	31.8	6.35%	7.2	18.3	1.7	16.00	2.12
4 Hypovereinsbank	492	31.3	6.36%	5.0	17.7	1.3	n.a.	n.a.
5 HBSC	487	55.5	11.40%	9.8	17.7	2.8	12.00	2.02
6 Credit Suisse	477	46.4	6.56%	10.3	2.2	0.9	18.60	3.2
7 Dresdner	462	24.7	5.35%	5.7	15.0	1.3	19.70	2.04
8 ING Groep	456	55.2	12.11%	7.0	13.5	2.3	15.60	1.47
9 Société Générale	418	18.2	4.35%	6.2	10.4	1.2	13.50	1.65
10 Barclays	406	35.6	8.77%	7.3	22.9	3.4	12.20	2.70
11 Bque Nationale de Paris	346	14.6	4.22%	5.5	10.1	1.1	12.40	1.39
12 Commerzbank	343	13.8	4.02%	6.0	10.4	1.3	13.90	13.7
13 National Westminster	311	30.2	9.71%	8.1	18.6	3.3	12.80	2.37
14 San Paolo-IMI	200	12.0	6.00%	11.0	5.2	1.8	20.80	2.25
15 Lloyds TSD	234	64.8	27.69%	9.1	27.7	3.6	18.10	5.49
16 Santander	186	21.9	11.77%	8.3	22.2	2.6	19.90	3.33
17 BBV	147	26.9	18.30%	9.0	19.4	2.9	25.00	4.88
18 Bank Austria	126	6.9	5.48%	5.9	8.5	1.5	6.40	1.07
19 Banco di Roma	119	10.3	8.66%	6.9	n.a.	2.4	16.80	1.80
20 BCI	117	12.0	10.26%	7.8	5.1	2.9	23.40	2.32
Total	7270	614.7	8.46%					
UK & Continental Avg.				7.4	14.6	1.7	14.5	2.06

Source: Goldman Sachs & Co., November 1998 data

# Annex 2

## Global wholesale banking and investment banking 1997 Full credit to book running manager only (\$ billions)

Firm	Global Securities Underwriting and Private Placements	Global M&A Advisory(a)	International Bank Loans Arranged	Medium Term Notes Lead Managed (b)	Total	Percent of Industry Total
Merrill Lynch	291,840	202,652	8,657	85,093	588,242	11.32%
Goldman Sachs	200,647	225,146	7,996	47,933	481,722	9.54%
Chase Manhattan	69,683	13,939	331,139	37,700	452,461	8.96%
Morgan Stanley Dean Witter	199,043	209,723	1,939	26,595	437,300	8.66%
JP Morgan	150,871	104,601	126,125	6,600	388,197	7.69%
CSFB	124,973	137,998	30,423	74,842	368,236	7.29%
Salomon Smith Barney	208,185	110,514	7,153	23,723	349,575	6.92%
Lehman Brothers	162,022	54,163	6,404	81,285	303,874	6.02%
UBS/SBC	69,252	113,799	12,620	1,100	196,771	3.90%
NationsBank	28,342	31,422	116,182	196	176,142	3.49%
Citicorp	11,116		128,929	17,471	157,516	3.12%
Bear Stearns	80,236	47,897	1,800	15,081	145,014	2.87%
DLJ	66,673	62,144	4,898	1,400	135,115	2.68%
Bank America	14,326	5,009	102,851	5,300	127,486	2.52%
Deutsche Bank	47,083	32,960	9,233	26,000	115,276	2.28%
BT Alex Brown/Bankers Trust	21,891	39,791	46,722	5,937	114,341	2.26%
ABN AMRO	32,295	13,125	7,531	51,328	104,279	2.07%
Lazard Houses		79,979		500	80,479	1.59%
Barclays Capital	20,183	6,903	5,474	35,091	67,651	1.34%
NatWest Markets	40,014	11,008	4,890		55,912	1.11%
First Chicago/NBD			50,286		50,286	1.00%
Schroder Group		40,466			40,466	0.80%
Paine Webber	33,434	5,130	975		39,539	0.78%
HSBC	20,219	17,996			38,215	0.76%
Paribas	22,476	8,509	2,302	2,000	35,287	0.70%
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Top 25 Firms	1,914,804	1,575,874	1,014,529	545,175	5,049,382	
Industry Total	2,242,247	1,033,140	1,265,864	654,921	5,196,172	
<b>Top 10 as % of Total Industry</b>	<b>67.11%</b>	<b>116.53%</b>	<b>51.24%</b>	<b>58.80%</b>	<b>72.02%</b>	
<b>Top 20 as % of Total Industry</b>	<b>82.00%</b>	<b>145.46%</b>	<b>75.91%</b>	<b>82.94%</b>	<b>93.25%</b>	

(a) Completed deals only. Full credit to both advisors to targets and acquirers.

(b) Equal credit to both book runners if acting jointly.

Data: Securities Data Corporation

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