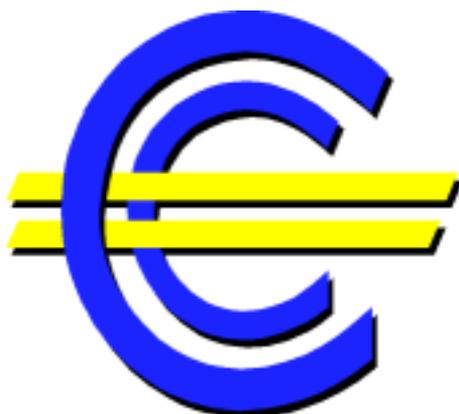




**Second ECB  
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**THE TRANSFORMATION OF THE EUROPEAN  
FINANCIAL SYSTEM**

**CONFERENCE PAPER**

**EUROPEAN BANKING: PAST, PRESENT AND  
FUTURE**

**Jean Dermine**

*N.B. The views expressed in this paper are those of the author(s) and do not necessarily correspond to the views of the European Central Bank.*

**EUROPEAN BANKING,  
Past, Present and Future**

**Jean Dermine  
INSEAD, Fontainebleau  
October 2002**

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# **EUROPEAN BANKING,**

## **Past, Present and Future**

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### **Introduction**

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## ***Introduction***

In April 1983, a White Paper on financial integration<sup>1</sup> by the European Commission called for further work to be done in order to achieve a better allocation of savings and investment in the European Community. Following various European councils, the 1986 Single European Act,<sup>2</sup> the 1998 Council directive on the liberation of capital movements,<sup>3</sup> the 1992 Treaty on European Union,<sup>4</sup> the creation of the Euro in 1999, and the Financial Services Action Plan, legal barriers to an integrated European banking market have been progressively dismantled. Twenty years into this transformation period, we review the impact of this legislation on the European banking industry, the commercial banks, their customers, and regulators. A review of this twenty-year period will hopefully help to better understand the dynamics of the transformation and potential future developments.

This paper is divided into four sections. In Section 1, we review the history of European banking integration, the costs of “non-Europe” as they were evaluated in the mid-Eighties, and the welfare benefits that have accrued to consumers. In Section 2, we attempt to better understand the remaining barriers to the creation of a truly single European banking market. In particular, we argue that the concept of a bank with a single license operating with cross-border branches is more a myth than a reality. Indeed, cross-border consolidation very often appears to take the form of subsidiaries, not branches. We carefully examine the *raison d’être* of the many bank mergers, which took place between 1990 and 2002, in Section 3. The analysis covers not only the real sources of economies of scale and scope, but also the financial sources resulting from a better international diversification of risks. Finally, in Section 4, we address three public policy issues raised by the process of consolidation: investor protection in international banking, the impact on banking supervision, which, historically, has been conducted by each member state, and the impact on competition and stability. The main conclusions of the paper are summarized at the end.

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<sup>1</sup>European Commission (COM 83 207)

<sup>2</sup>OJL 169, 29.6.1987

<sup>3</sup>Council directive on the application of Article 67 of the EEC Treaty, June 1988.

<sup>4</sup>Europe document n° 1759/60.

The public policy implications to draw from the paper are fourfold: First, European countries of smaller size, such as the Netherlands and Switzerland, would face severe economic hardship should one of their large national banks default. Second, as banks often expand across borders with subsidiaries, the winding up of such institutions would be quite complex. Moreover, the closure of an international bank would likely have cross-border spillovers. Centralization, or at least European-wide coordination, of the decision to close or bail out international banks would be needed. Third, more legislative work appears necessary, not only to harmonize consumer protection laws and national supervisory practices, but also to ensure that national corporate or value-added taxes do not hinder the creation of efficient European firms. Fourth, if domestic consolidation has contributed significantly to operating efficiency, it has increased the degree of concentration in several EU countries. Strict monitoring of the degree of competition in the banking industry is needed in order to facilitate the growth of the small & medium size enterprise (SME) sector, which employs more than fifty percent of the labor force in the European Union.

## ***Section 1 . European Banking, from Fragmentation to Integration***

A brief review of developments in the legal environment (1.1) is followed by: (1.2) an analysis of the specific impact of the Euro on the banking industry, (1.3) an analysis of additional sources of change, and (1.4) their twenty-year-impact on the integration of the European commercial banking industry.

### ***1.1 Developments in the Legal Environment***

The actions taken by the European Commission and the Council of Ministers can be divided into five time periods: Deregulation of entry into domestic markets from 1957 to 1973, various attempts toward harmonization of regulations from 1973 to 1983, the “1992” directives regarding a single banking license, home country control, mutual recognition, and freedom of cross-border services, the creation of the single currency in 1999, and the Financial Services Action Plan (2001-2005).

#### ***Deregulating Entry (1957-1973)***

The objective of the 1957 Treaty of Rome was the transformation of highly segmented national markets into a single common market. This objective was achieved by means of two types of measures: The recognition of the right of establishment and the coordination of legislation wherever necessary. In June 1973, the Council adopted a directive on *The Abolition of Restrictions on Freedom of Establishment and Freedom to Provide Services for self-employed Activities of Banks and other Financial Institutions*.<sup>5</sup> This directive applies the national treatment principle, which ensures the equal regulatory and supervisory treatment of all firms operating in one country. Although in 1973, entry restrictions could not be discriminatory, the objective of the initial treaty was still far from being met. International competition, through the supply of cross-border services, was severely restricted by regulations on capital flows. Furthermore, there was no coordination of banking supervision, so that banks operating in different countries could be subject to different rules. This additional burden raised the costs of operating internationally. This led to the second phase of attempts to harmonize regulations.

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<sup>5</sup>Directive 73/183, EEC.

### ***Harmonization of Banking Regulations (1973-1983)***

Progress in harmonization came in 1977 with the adoption of the First Banking Directive on *The Coordination of Laws, Regulations and Administrative Provisions Relating to the Taking Up and Pursuit of Credit Institutions*<sup>6</sup>. This directive established the principle of home country control. Responsibility for the supervision of credit institutions operating in two or more member countries would gradually be shifted from the host to the home country of the parent bank. The 1977 directive was a first step toward the harmonization of the regulations. It was a general program, which, without providing any specific regulation, called for further directives.<sup>7</sup>

After the 1977 First Banking directive, the European banking markets were still fragmented for the following reasons:

- A bank wishing to operate in another country still had to be authorized by the supervisors of that country.
- A foreign bank remained subject to supervision by the host country, and its range of activities could be constrained by host country laws.
- In most countries, branches had to be provided with earmarked capital as if they were new banks.
- Finally, as already mentioned, the supply of international services was severely impaired by restrictions on capital flows.

The inability to agree on a common set of regulations prompted a new approach toward European integration.

### ***The Completion of the Internal Market (1983-1992)***

While most international agreements have used the national treatment principle, which ensures the equal treatment of all firms operating in one country, the European Commission has used a powerful method of integration: home country control with very minimal harmonization of national regulations.

In 1985, the European Commission published a White Paper on *The Completion of the Internal Market*, which provided for the free circulation of persons, goods, and capital in the

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<sup>6</sup>Directive 77/780/EEC.

<sup>7</sup>Directives on *Supervision of Credit Institutions on a Consolidated Basis*, on a *Uniform Format for Bank Accounts*, and on *Consumer Protection* were adopted by 1987. The first banking directive initiated work on *Winding Up and Liquidation* and on the *Mortgage Market*.

European Union. In the context of banking, the White Paper called for a single banking license, home country control, and mutual recognition.<sup>8</sup> These principles were incorporated into the Second Banking Directive<sup>9</sup>, under which, all credit institutions authorized in an EU country would be able to establish branches or supply cross-border financial services in the other countries of the EU without further authorization, provided that the bank was authorized to provide such services in the home state.

The banking model adopted by the EU is the universal banking model, which permits banks to undertake investment banking activities, while leaving it to national regulators to control financial conglomerates, the ownership structure of banks, and their relationship with industry. The Second Banking Directive called for home country control on solvency,<sup>10</sup> which, under this directive, extends to the bank itself, its foreign and national subsidiaries which have to be consolidated for supervisory purposes, and its foreign branches. With regard to the latter, the host state retains the right to regulate a foreign bank's activities in that state only to the extent that such regulation is necessary for the protection of 'public interest'. Thus, the manner in which a bank markets its services and deals with customers can be regulated by the 'host state'. The 'host state' may also intervene in those matters which have been expressly reserved to it, notably liquidity, monetary policy and advertising. A bank constituted in a member state has the right to open a subsidiary in another member state on the same conditions as nationals of the latter state. The establishment of a subsidiary bank is subject to the control of the country in which it is established since that is the 'home' state'.<sup>11</sup>

To address the need for a minimal harmonization of regulations, the Second Banking

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<sup>8</sup>The principles of home country regulation and mutual recognition have been inspired by the famous 1987 case *Cassis de Dijon* (EC Commission vs Germany. 205/84, ECR 3755). In this case, the European Court of Justice found that Germany could not prohibit the import of liquor that was lawfully produced and sold in France solely because the alcoholic content was too low for it to be deemed liquor under German law.

<sup>9</sup>Directive 89/646/EEC.

<sup>10</sup>As discussed in Norton (1991), the EC directives have basic ideas in common with the Basle Concordat (June 1993) on guidelines for consolidated supervision, and the division of supervisory responsibilities between the home and host states.

<sup>11</sup>The supervisory control of the subsidiary by the authorities of the country in which it is located is again confirmed in the *Report on Financial Crisis Management* (Economic and Financial Committee, 2001).

Directive called for harmonized capital adequacy standards and large exposure rules, and supervisory control of banks' permanent participation in the non-financial sector. A major supportive piece of legislation was the 1988 Directive on Liberalization of Capital Flows. This directive, however, contained a safeguard clause authorizing member states to take necessary measures in the event of balance of payments problems.<sup>12</sup> Some uncertainty, therefore, existed, concerning the complete and permanent freedom of capital flows.

A directive on Deposit Guarantee Schemes<sup>13</sup> was accepted by the Council of Ministers in 1994. This directive provides for mandatory insurance for all EU financial institutions. The coverage per depositor is a minimum of € 20,000, with a franchise of a maximum 10 %.

The 1992 Maastricht Treaty on European Union has confirmed the Single Market program. Although the primary objective of the European System of Central Banks (ESCB) is to maintain price stability, there are explicit references to regulation and supervision in the Treaty:

**Article 105 (2)**

*“The basic tasks to be carried out by the ESCB shall be :*

- to define and implement the monetary policy of the Community;*
- to conduct foreign exchange operations consistent with the provisions of Article 109;*
- to hold and manage the official foreign reserves of the Member States;*
- to promote the smooth operations of payment systems.*

**Article 105 (5)**

*The ESCB shall contribute to the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system.*

**Article 105 (6)**

*The Council may, acting unanimously on a proposal from the Commission and after consulting the ECB and after receiving the assent of the European Parliament, confer upon the ECB specific tasks concerning policies relating to the prudential supervision of credit institutions and other financial institutions with the exception of insurance undertakings”.*

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<sup>12</sup>Directive 88/361/EEC. The June 1988 capital directive (Article 3) provided for the temporary implementation of capital controls. In the case of large speculative movements, the Commission, after consultation with the Committee of Central Bank Governors, could authorize capital controls. In very urgent cases, a country can implement them, but only after giving prior notify to the Commission.

<sup>13</sup> 94/19/EC.

The Treaty is explicit on the principle of decentralization and allocation of regulatory and supervisory powers to national central banks. It is only in very special circumstances, and with unanimity in the European Council, that the ECB will be allowed to regulate or supervise financial institutions.

Finally, it should be recognized that the single banking market goes beyond the fifteen members of the European Union. On May 13, 1992, the countries of the European Free Trade Association (EFTA),<sup>14</sup> with the exception of Switzerland, joined the European Economic Area (EEA). With regard to banking, this implies that the EEA countries accept the European banking legislation covering a single banking license, home country control, mutual recognition, and acceptance of the common regulations.

### ***The Creation of the Single Currency, 1999***

In 1989, the Committee for the Study of Economic and Monetary Union recommended, in the *Delors Report*, a three-phase transition spread over ten years. Its conclusions were incorporated in the 1992- Treaty on European Union. Stage I, which ran from July 1, 1990 to December 31, 1993, provided for the freedom of capital flows and the coordination of national monetary policies. Stage II started in July 1994, with the creation of the European Monetary Institute. One of its missions was to prepare the monetary institutions and the European System of Central Banks (ESCB). Finally, Stage III led to European Monetary Unification (EMU)<sup>15</sup> on January 1, 1999. With irrevocably fixed exchange rates, the money and capital markets moved into the Euro, while the retail market continued to operate in legacy national currency. Euro notes and coins were introduced in January 2002. An important feature of the single currency is the payment system and the clearing mechanism. The payment system is organized at the national central bank level, while large Real Time Gross Settlements (RTGS) between financial institutions flow through the ECB Target system.<sup>16</sup>

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<sup>14</sup>EFTA comprises Iceland, Liechtenstein, Norway, and Switzerland. In January 1995, three EFTA countries, Austria, Finland and Sweden, became members of the European Union.

<sup>15</sup>The initial members included eleven countries. Greece joined on January 1<sup>st</sup> 2001. Denmark, Sweden, and the United Kingdom have kept open their option to join at a later date.

<sup>16</sup>As will be discussed later, the organization of the payment system at the national level constitutes a barrier to integration.

### ***The Financial Services Action Plan (1999 - 2005)***

Finally, in May 1999, the Council launched the Financial Services Action Plan (FSAP),<sup>17</sup> which consists of a large series of initiatives taken to ensure the full integration of banking and capital markets by the year 2005. The objective is to develop the legislative and non-legislative framework along four objectives: A single EU wholesale market, open and secure retail banking & insurance markets, the development of state-of-the-art prudential rules and supervision, and optimal wider conditions (essential fiscal rules) for an optimal single financial market. The 22 July 2002 FSAP Progress Report lists a series of twelve planned actions for the wholesale market objective, and five actions for the retail market objective.

### ***1.2 Banking with a Single Currency***

European banking markets are not only affected by the creation of the single market, but also by the creation of the single currency. How does the single currency affect the strategies of banks and why do domestic and/or cross-border mergers become relevant strategies? In this section, and for the sake of space, three potential effects of the Euro are identified and analyzed.<sup>18</sup> The quantitative impact of the Euro and the single market are evaluated in Section 1.4.

The first impact of the Euro concerns capital markets, including the government and corporate bond and equity markets. The last two effects concern commercial banking, with the impact of the single currency on credit risk, and bank profitability in a low inflation environment.

#### ***The Bond and Equity Markets, Underwriting and Trading***

Before the introduction of the Euro, one observes that the capital markets in Europe were very fragmented with domestic players capturing a large market share of the underwriting and secondary trading business. This raises the question of the sources of competitive advantage for local banks.

With regard to the underwriting and trading of securities, the dominance of local firms is the result of four main factors: (a) a historical factor, with local banks having privileged relations

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<sup>17</sup>COM (1999) 232.

<sup>18</sup>A complete analysis of the impact of the euro is available in Dermine (1996<sub>a</sub>) and Dermine and Hillion (1999).

with the local issuer (customer relations), (b) local expertise in evaluating business risk to price the issue, (c) domestic currency denomination, which facilitates the access to a large investor home base, providing a significant advantage not only in placing the issue, but also in understanding the demand/supply order flows and (d) expertise of local banks in the domestic monetary environment, which provides essential information for operations on the bond secondary market.

A single currency in Europe changes fundamentally the competitive structure of the corporate bond and equity markets, since one key-source of competitive advantage, namely home currency, disappears. Indeed, savers will diversify their portfolio across European markets, now that the exchange rate risk has been eradicated. If access to a Europe-wide investor base facilitates placement, and if access to information on the supply/demand order flows seems essential to operate on the secondary market, operations on a large scale and at a European-wide level are likely to become a necessity and one should observe a consolidation on the capital markets.

Therefore, the two main sources of comparative advantage remaining for local players will be historical customer relationship and the understanding of credit (business) risk through a better knowledge of the accounting, legal, fiscal (not to mention language) environment. Whenever the business risk embedded in corporate securities can be better assessed by domestic banks, these firms 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 industry expertise and placing power at the international level will most likely dominate any national source of advantage. The replacement of national currencies by the Euro thus explains consolidation in capital markets activities.

### ***EMU and Credit Risk***

An additional impact of the Euro is its potential effect on credit risk. The argument is based on the theory of Optimum Currency Areas.

The theory of Optimum Currency Areas has called attention to the fact that countries subject to asymmetric economic shocks would value monetary autonomy to lessen the effects of a shock. Indeed, with symmetric shocks, there would be a consensus among the members of a currency union on economic policy, but with asymmetric shocks, the policy run from the center may not be adequate for all the members of the Union. For instance, one can wonder whether the rapid recovery enjoyed by British banks in 1994 was helped partly by the September 1992 devaluation, which reduced somewhat a bad debt problem. Similarly, the 42% devaluation of the Finnish Markka in the early 1990's helped the restructuring of the country after the real estate crisis and

the collapse of one of its major trading partners, the Soviet Union. A case of fixed exchange rates which prevented a smooth adjustment is that of Texas. The decrease in oil prices from US\$40 a barrel in 1979 to under US\$10 in 1986, and a change in federal tax policy affected not only the oil industry, but also unemployment, real estate and the Texan banking industry (Gan, 2002). Had the Texan dollar been allowed to devalue, the severity of the recession would have been lessened. How could the introduction of a single currency affect credit risk? If a bank concentrates its credit risk in its home country, and if that country is subject to asymmetric shocks, it is quite possible that a central European monetary policy or fiscal transfers will not be able to lessen the shock. Although the likelihood of such a significant asymmetric shock could be quite low, the fact remains that any bank must control risk in such extreme, 'stress', cases. An indirect corollary of the Optimum Currency Area theory is that, for banks operating in a single currency area, the need to diversify their loan portfolio increases in proportion to the likelihood of the home country being subject to asymmetric (uncorrelated) shocks. This can be achieved through an increased international diversification of the loan portfolio with cross-border lending or cross-border merger.<sup>19</sup> Securitization and credit derivatives could help to trade credit risk, but the asymmetric information on the quality of loans will raise the cost of trading credit risk, most likely leaving a major place to international diversification of lending.

### ***Banking in a Low Inflation Environment***

The third effect of a single currency concerns the impact on bank profitability of doing business in a low inflation environment. Indeed, in the last twenty years, inflation and relatively high interest rates in some countries have created significant interest margins on price-regulated deposits. One can safely expect that the objective of monetary stability and low inflation, pursued by an independent European Central Bank, reduces the source of profitability on the deposit

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<sup>19</sup>Note that Danthine *et al.* (1999) offers an opposite view. Building on the 1979-1992 regional employment study by Fatas (1997), they argue that diversification of credit risk at the national level will be sufficient and that not much has to be gained by international diversification. We disagree with their conclusions for three main reasons. First, historical data might not be a good guide for the future as we move into a new single currency regime. The enlarged market could induce corporate firms to specialize, thereby increasing the level of domestic correlations. Second, the concern with credit risk is with very large (quite rare) domestic shocks that can not be mitigated by national monetary policies. The 1990 devaluation of the Finnish Markka, and the 1992 devaluation of Sterling and the lira have helped to reduce the extent of severe recessions. This policy tool does not exist under a single currency regime. Third, employment data could be a poor proxy for credit risk. Empirical studies reported in Section 3 confirm the potential benefits of an international diversification of credit risk.

funding business. 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: margins on loans and the so-called inflation tax.

The first impact is that a low interest rate environment usually leads to much higher margins on personal loans because of the relative inelasticity of interest rates on personal loans. This effect is well known on the credit card markets in which margins are known to be permanently higher in a low interest rate environment. A second positive impact of a low inflation environment is that the so-called 'inflation-tax' will be much smaller. An inflation tax arises because banks, being net holders of financial assets, are taxed on their nominal income rather than their real income (Dermine, 1985).

Therefore, the impact of a low inflation environment on the profitability of banks will depend on the relative importance of reduced margins on deposits, higher profit on personal loans, and on the significance of the 'inflation-tax'.

### ***1.3 Additional Factors of Change***

The powerful forces of change, driven by the European agenda, should not hide four additional sources of change: worldwide integration, demographics, entry of new competitors, and information technology. For reasons of space, these are discussed briefly. Rapid changes in demographics in Europe and Japan will not only produce a shift in the pattern of savings but may also generate lower economic growth. Global integration is facilitated by the World Trade Organization Accord on financial services and by financial crises which have forced the opening of banking markets in Asia, Central and Eastern Europe, and Latin America.<sup>20</sup> In some countries, new competitors, such as credit card specialists and supermarkets, have succeeded entering the banking market. Finally, progress in information technology, with the ability to transfer rapidly very large amounts of data, as well as the processing capability, are transforming the distribution mechanisms in banking (Vesala, 2000).

### ***1.4 Impact of the Single Market and the Euro***

Two main types of changes will be discussed: those induced by deregulation, and those induced

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<sup>20</sup>Focarelli and Pozzolo (2002) argue that economic growth is one of the major levers of cross-border banking.

by European-wide integration. The impact on consolidation and bank mergers is analyzed separately in Section 3.

### ***Deregulation***

The picture of European banking markets in the early 1980s that emerges from this review of regulatory and economic development is one of severe fragmentation. Although national treatment applied with a freedom of establishment recognized by the 1973 directive, capital controls in many countries (with the exception of the United Kingdom, Germany, and the Benelux countries), and the threat of potential capital controls (European Commission, 1988a) severely limited cross-border trade in banking activities. Moreover, in the early 1980's, the banking sector of most countries was very much repressed with a large set of regulations constraining its activities. Exceptions included Germany, the United Kingdom, the Netherlands and Luxembourg. The list of regulations reported in Table One includes:

- Control of interest rates
- Capital controls
- Stock exchange membership
- Branch restrictions
- Foreign bank entry
- Credit ceilings
- Mandatory investment requirements
- Restrictions on insurance

In addition, reserve requirements, reported in Table Two, were put in place to facilitate monetary policy and/or to finance public deficits. They were quite onerous in several countries, such as Germany, Italy, and Portugal. The money markets were underdeveloped. As Table Three indicates, the creation of the Certificate of Deposits and Commercial Paper markets took place in the 1980's.

Twenty years later, a level playing field was created, with a regulatory convergence toward a minimum set of regulations, on banking license, capital, and large exposure limits. The ending of 'repressed' banking systems is, most likely, one of the major contributors of the single market program. The conjecture of analysts (e.g., Neven, 1993), according to whom the main benefit of the single market was to launch a process of competitive deregulation among national regulatory agencies using their power to help their banking industry, was fully supported by facts. Anecdotal,

but quite to the point, was the change in German law in 1990 to allow the creation of financial futures markets in Germany to compete with the successful *bund* futures contract traded on the London International Financial Futures Exchange (LIFFE).<sup>21</sup> This period of massive deregulation led to an exceptional expansion of the banking systems. In Table Four, we report the ratio of banking assets to GNP in 1981 and 2000, as well as the number of bank employees.<sup>22</sup> In most countries, this ratio has doubled over the past twenty years, with an almost constant workforce.<sup>23</sup> A notable exception is Finland with a 27% reduction in the number of employees after the early 1990's banking crisis.

### ***European Integration***

Having observed the significant impact of the single market programme on deregulation, we now turn to its impact on the degree of European integration of banking markets. Here one should be careful to distinguish the retail markets, including personal and small & medium size enterprises, from the market for large corporate firms and public entities. Three dimensions of international integration can be analyzed: a) the law of one price, b) the amount of cross-border business, and c) the amount of foreign direct investment and market share of foreign firms in a market. These three dimensions are analysed successively. A specific analysis of the degree of integration of wholesale banking markets follows.

#### **a) The Law of One Price on the Retail Banking Markets**

In the context of the single market program, the European Commission published the Cechini report on the Costs of non-Europe (European Commission, 1988, Emerson, 1988). In an attempt to estimate the consumer gains to be expected from the single market, the authors reported the potential price falls in several banking products by comparing the current price to the average of the lowest four observations. Table Five reports the significant price changes expected from this

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<sup>21</sup>The market shares of the German government bond contract traded on LIFFE and Deutsche Terminbörse (DTB) were converging by 1997 (Steinherr, 1999).

<sup>22</sup>Detailed data on national banking systems countries are found at the end of the paper.

<sup>23</sup>One could wonder whether the growth of a banking sector is healthy at a time when the development of a market-based system is being encouraged. Beck and Levine (2002) find evidence for neither the market-based nor the bank-based hypothesis. Legal efficiency and overall financial development appear to boost industry growth.

study. The implicit assumption is that the retail banking product is a homogeneous service traded in a perfect market so that cross-border competition will drive away price differentials. The law of one price is presumed to hold. However, several authors have pointed out that banking services are unlikely to meet the traded 'homogeneous' product definition (e.g., Geroski and Szymanski, 1993). Four reasons justify this :

First, there is the issue of trust and confidence. When you deposit your entire savings of a lifetime, you want to ensure that they are in safe hands. If there is an error or a fraud in a transaction, you want to access an easy mechanism for redress. Knowledge of the bank, proximity, and national legal system will de facto create differentiated banking products.

Second, it has been observed that retail customers buy a package of financial services from the bank providing the payment service (McKay, 1998, and Competition Commission, 2002). If, for convenience, customers buy a bundle of financial services, the law of one price would hold for the bundle of services, not necessarily for each component. Moreover as mentioned earlier, since the payment clearing is done at the national level, a domestic bank will have a competitive advantage, particularly in the handling of checks.

Third, asymmetric information in lending is quite important (Diamond, 1984, Rajan, 1998, or Bolton and Freixas, 2000). In many cases, local knowledge can help to reduce this information asymmetry.<sup>24</sup> Fourth, and not specific to banking, the law of one price assumes the absence of transportation costs and regulatory barriers. If these are significant, the services will belong to the non-traded goods category (such as hairdressing and medical services). The law of one price would apply at the domestic level only.

These four arguments help to understand the extent of switching costs and why the law of one price is unlikely to hold in retail banking. Switching costs can explain a relatively low price elasticity, the absence of price competition on some markets, and the persistence of profit. Ausubel (1991) reports strong evidence of profit persistence in the US credit card markets, while a similar concern is expressed for the SME markets (Berger *et al.* (2000<sub>d</sub>) for the United States, Cruickshank (2000) and the Competition Commission (2002) for the United Kingdom, and the CPB Bureau for Economic Policy Analysis for the Netherlands (Canoy *et al.*, 2001).

Progress in information technology has reduced transportation costs (Vesala, 2000), but the three other factors remain. This explains, why, so far, stand-alone e-banking has a very minimal impact

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<sup>24</sup>Padilla and Pagano (1997) makes the point that information sharing with credit bureaux partly reduces this asymmetry.

on commercial banking competition<sup>25</sup> and why the standard seems to be the multi-channel distribution route with a combination of telephone, electronic and branch proximity (Cabral, 2002). To improve on the issue of trust, the European Commission published in 2001 a *Communication on e-Commerce and Financial Services*<sup>26</sup> to complement the general Directive on a legal framework for e-commerce.<sup>27</sup> This approach is based on the principle that the trading rules applied to cross-border sales and the purchase of financial services should be those of the member state where the service provider is established (i.e. “place of establishment”). However, there are several exceptions to this principle, particularly with regard to the sale of investment funds and insurance for which the host country competence prevails. The Commission has been working to further harmonize these marketing rules (on, for example, ‘cold calling, unsolicited phone calls, and the provision of information about products and services) and has launched a European Union-wide network of financial services complaints bodies (ombudsmen) called FIN-NET that can provide cheap and effective cross-border redress, thus avoiding the need to seek recourse in court.<sup>28</sup> The communication indicates that much more work remains to be done to make the delivery of products on the Internet a level playing field. Note that if cross-border Internet banking does succeed, the law of one price will be even less valid. Varian (2001) predicts that the information available will allow the pricing and differentiating of products to each client.

Four sources of evidence document the claim that the law of one price does not hold in the retail market: the results of the 1997 Single Market Review, pricing of cross-border transfers, fees on money market funds in France, and interest margins on deposits.

### ***Single Market Review***

The authors of the Single Market Review (European Commission, 1997), relying both on questions from postal and Eursotat surveys and comparisons of margins on loans and deposits, concluded that the retail banking markets are segmented, and, in contrast to the prediction of the Cechini report, they observed little convergence of prices.

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<sup>25</sup>The impact on share brokerage is a notable exception.

<sup>26</sup> COMM(2001),

<sup>27</sup>2000/31/EC

<sup>28</sup>FIN-NET : The Cross-border Out-of-Court Complaints Network for Financial Services (FIN-NET, 2002)

### ***The Costs of Cross-Border Transfers***

One good example that the law of one price does not hold concerns the charges on cross-country transfers. At the end of 1999, the Commission conducted a study on the charges for standard cross-border transfers of €100. The results, compared to those of a similar study undertaken in 1993, are reported in Table Six.

There were wide variations, not only across countries, but also within countries. The cost of a transfer from France to Belgium, for instance, could vary from €5.52 to €28.28, and the cheapest rate was from Luxembourg to France (€ 1.98), compared to a cost of €46.76 from Italy to Austria. Finally, payees were charged fees in 25% of cases in breach of the 1999 directive on cross-border credit transfers. Over the years 1993-2000, one observes a fifty percent price reduction in some countries but virtually no change in others. Frustrated with the little progress observed in the reduction of price differentials between domestic and international payments, the Commission, in 2001, introduced a regulation on cross-border payments in Euros.<sup>29</sup> This price regulation applies the principle of equal charges for electronic payment transactions, whether they are within-border or cross-border.

### ***Money Market Funds in France***

Even within a country, the law of one price may not hold. We report in Table Seven the management fee charged on French money market funds, a product which could be qualified as homogeneous with very minimal risk. Traded on the stock markets, they are, in principle, accessible to any investors. At the end of 2001, there were 396 funds on offer in France, varying in size from €1.2 million to €16.5 billion. The range of management fees varied from 8 basis points to 200 basis points with an average of 68 bp. Similar data from a 1989 study (Dermine and Röller, 1992) indicate that the range of management fees has not been reduced in the last ten years, and that the average management fee has increased from 50bp to 68bp.

### ***Interest Margin on Deposits***

In Table Eight, we report the interest margin on savings deposits for six countries observed in 2000. Calculated on the basis of a common Euro money market rate of 3.34 %, the margin ranged from a low of 0.75 % in Belgium to a high of 2.37 % in Spain. If the range is clearly not indicative of the law of one price, one observes a convergence of margins on savings deposits over the period 1980-2000. However, as will be argued later, this is mostly driven by the convergence of money market rates in the Euro zone to a low interest rate level, rather than to the result of international competition and the law of one price.

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<sup>29</sup>Regulation EC 2560/2001

### **b) Cross-Border Banking Business**

In addition to the law of one price, one can look at a second indicator of market integration, the flows of cross-border banking business. Data reported in the country tables at the end of the paper concerns the cross-border deposits or lending to non-financial institutions. Unfortunately, these data do not discriminate between the retail and corporate segments. In the ten-year period 1990-2000, one observes a significant (often twofold) increase in Belgium, Denmark, Finland, Italy, Germany, and Spain. One can guess that this trend is driven mostly by the large corporate sector. Although cross-border banking still represents a small percentage of total assets (often less than ten percent), the trend is encouraging. A third dimension of an integrated market is the cross-border investment and the market share of foreign banks in a particular country.

### **c) Market Share of Foreign Banks**

If some financial services are non-tradable for the reasons mentioned earlier, European integration through cross-border investment could bring competition and efficiency. As a complete discussion of Mergers and Acquisitions (M&As) is conducted in Section 3, we report in Table Nine the market share achieved by foreign banks in some markets. These vary from high figures in the small countries of Luxembourg and Belgium (respectively, 94.6 % and 36%) to low figures in France, Italy, and Germany (9.8 %, 6.8 % and 4.3 %, respectively). The trend is encouraging in Italy and Germany, but negative in countries like the Netherlands and France. So, although a large number of cross-border M&As are reported in Section 3, many of them must have affected small firms, as they do not change the market share of foreign banks in a significant way.

Twenty years into the creation of a single banking market, the picture that emerges is still one of fragmented retail markets with low market share of foreign institutions in most national markets, and a relatively low, but growing, amount of cross-border activity. Although market segment data are not readily available, one can guess that the foreign penetration must concern market niche and corporate banking, still with very limited impact on retail banking (personal and medium-size companies). This is consistent with a retail market fragmented by the issue of trust, asymmetric information, and/or transportation costs. Recent studies allow one to analyze the degree of integration of wholesale banking markets.

### **Integration of Large Corporate and Wholesale Banking Markets**

Given that asymmetric information is less of an issue with large corporate firms and that the size of transactions will reduce the relevance of switching costs, one would expect, *a priori*, that the banking market for large corporate and financial firms would be much more integrated. Four specific pieces of empirical evidence concern the segmentation of the market for bond issue, loans,

cash management products, and the Euro money market.

Using an International Financing Review (IFR) database over the years 1993-1996 for the issue of 6,517 corporate bonds and loans, Harm (2001) estimates a logit regression to determine the probability that a debt issue is led by a bank of a specific country. He observes that currency denomination is a key factor for bond issue, confirming the impact of national currency on placing power and the competitive advantage of local banks. He also observes a significant impact of the nationality of the borrower for syndicated loans, a confirmation of the importance of customer relations. Santos and Tsatsaronis (2002) analyze the early impact of the arrival of the Euro with the 1994-2001 IFR database. They not only confirm the earlier findings that 80.5% of the issues were underwritten by banks from a country with the same currency denomination, but that this figure sharply decreased to 59.5 % in the post-EMU 1999-2001 period. Moreover, they report that the average fee has decreased from 1.6% to 0.77 % in the post-EMU period. Bishop (2001) reports that issues of more than € 1 billion increased from 14 percent to 48 percent of all Euro-denominated issues from the first quarter of 1998 to the first quarter of 2001. Driven by a much larger market liquidity, Belgium came up with a €5 billion issue in 2002. This confirms the need for larger banks with a bigger capital base to absorb the risk of an issue.

In a related study, Berger, Dai, Ongena and Smith (2002) examine the 1996 choice of banks by 2000 foreign affiliates of multinational corporations in 20 European nations for cash management services.<sup>30</sup> They report that two-thirds of the sample choose a bank headquartered in the host nation. They conclude that their finding indicates a limit to globalization. In our view, this is not necessarily the case. It is consistent with the view of the non-traded goods aspect and the need for a national geographical coverage to ensure the handling of checks and other means of payments. As foreign banks still have a small coverage in most European countries, they are not well placed to offer a cash management service.<sup>31</sup> The absence of cross-border trade does not preclude a second form of integration, that of foreign direct investment and cross-border merger taking place to provide a more efficient bank.

Finally with regard to the Euro money market, the creation of not only the single currency but also TARGET, the efficient cross-border real time gross settlement system has, as expected, created a

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<sup>30</sup>Cash management services include liquidity management, check clearing, factoring, A/R management, short-term lending, Forex, and hedging.

<sup>31</sup>This explains why some banks have gone down the alliance road to offer a cross-border cash management service. For instance, the Inter Bank On-Line System (IBOS), an alliance of 18 banks (13 from Europe, 4 from North-America and 1 from South-Africa) offers an international cash management service to multinational corporations by pulling together the national branch network of its members.

large integrated money markets. For instance, the market for inter-bank deposits shows virtually complete convergence in very short-term interest rates (Hartmann *et al.*, 2001, and Economic and Financial Committee, 2002).

It must be reported that the above evidence on integration in the retail or wholesale banking markets is fairly similar to the results of the study conducted at the University of Salerno (Adam *et al.* 2002). Borrowing from the economic growth literature, the authors report two measures of convergence. Applied to various parameters such as interest rates or margins, the  $\sigma$ -convergence measures how countries deviate from the benchmark, while the  $\beta$ -convergence measures the speed of adjustment to the long-run benchmark value. They confirm the rapid integration of the wholesale capital market, but the absence of integration on the loan market.

So the picture that emerges is one of a fully integrated market for corporate/investment banking services and a fragmented retail market created, in part, by asymmetric information and the existence of significant switching costs. The European banking legislation has attempted to eliminate the remaining barriers to an integrated banking market and the single banking license has been created to reduce the regulatory costs involved in operating in different countries. In the next section, we evaluate whether these objectives of European legislation have been met entirely.

## ***Section 2. Single Banking License, Single Home Country Regulator, Single Bankruptcy Proceedings : A Great Illusion ?***

As reviewed in Section 1, the grand vision of the single European market was to push the boundaries of each country in order to create the equivalent of an enlarged EU-wide national market. One banking license would be needed, one home country regulator would supervise, one home country deposit insurer would insure the deposits raised throughout the European Union, and single bankruptcy proceedings would apply. The intention was to decrease the regulatory costs, to facilitate entry into foreign countries, to increase competition, and to facilitate legal proceedings in the event of a wind-up of an international bank. However, to be allowed to go freely cross-border, a bank would need to operate within one corporate structure and a series of branches. If it were operating with subsidiaries, the European passport would not apply as subsidiaries are considered as local banks in each country.

A striking feature of the process of cross-border European banking is that it often takes place via subsidiaries, not branches. In Table Ten, we report the number of branches and subsidiaries established in each EEA country. In total, there were 450 branches and 363 subsidiaries for banks from EEA countries, while the order was reversed for banks from non-EEA countries, i.e., 312 branches and 372 subsidiaries. More significant for the purpose of this study, is the fact that cross-border mergers involving banks of significant size have all resulted in holding company structures with subsidiaries. This is, at first glance, a very surprising outcome of the single banking market, as it would seem that a single corporate bank structure would have reduced the regulatory costs significantly. Is the single banking license an illusion ?<sup>32</sup>

To gain insights into the corporate structure issue, we first present three major cases of cross-border banking in the European Union: Nordea AB, ING Group, and HypoVereinsbank (HVB). We then seek to explain the choice of a corporate subsidiary structure. Insights are gleaned from the corporate finance literature, the international business literature, and interviews conducted in two of these banks. Not only do these cases help to understand the effective barriers to a truly single European banking market, but they also raise significant public policy issues as to why and how the choice of corporate structures matter.

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<sup>32</sup>Banking theorists also appear victims of this illusion. Repullo (2000) wrote a paper on the welfare and regulatory implications of cross-border banking with branches, and Holthausen and Ronde (2001) analyze the incentives for information-sharing between host and home authorities in a branch-based system.

Nordea AB is the result of the merger of four leading banks in Finland (Merita), Sweden (Nordbanken), Denmark (Unidanmark) and Norway (Christiania Bank).<sup>33</sup> The group holds significant bank market shares in Nordic countries: 40 percent of banking assets in Finland, 25 per cent in Denmark, 20 per cent in Sweden, and 15 percent in Norway. The group structure, adopted in 2001, is described in Table Eleven. A listed holding company, Nordea AB, based in Stockholm, is the owner of banking subsidiaries operating in Scandinavia.

The ING Group originated in 1990 from the merger between the Dutch insurer Nationale Nederlanden and the bank NMB Postbank Groep. Since the merger, ING has experienced a decade of rapid expansion. Notable acquisitions on the banking side include the British merchant bank Barings in 1995, the Belgian Bank Brussels Lambert in 1998, the German BHF-Bank in 1999, and the Polish bank Slaski in 2001. Cross-border acquisitions have also been made on the insurance side. A Form 20-F report, submitted to the US Securities and Exchange Commission in 2001, lists 56 subsidiaries as part of the banking operations of ING Group.

HypoVereinsbank (HVB) is the second-largest private bank in Germany. The ‘Bank of the Regions in Europe’, it has major activities in Austria through its subsidiaries, Bank of Austria and Creditanstalt (merged in 2002 into Bank Austria Creditanstalt AG) and several subsidiaries in Central and Eastern Europe.

The corporate finance literature helps to understand the nature of imperfections, which can lead to the creation of subsidiary structures. In a world with no transaction costs, corporate structures would not matter. However, conflicts of interest (agency problems) can arise between several parties: bank shareholders, depositors, deposit insurers, borrowers, and bank managers. Imperfect asymmetric information between parties, the monitoring costs, and complexity make it impossible to draw up complete contracts for each state of the world. This has raised interest in financial contracting (reviewed in Hart, 2001). Although very much applied to the debt vs equity financial structure issue, it has also been applied to the choice of corporate structure. Applications include, for instance, the use of project finance (Brealey and Cooper, 1996 ; Esty, 1999), loan securitization (James, 1988), the use of bank subsidiary structure with bad loans housed in a ‘bad bank’ (Kahn and Winton, 2000), and the public listing of subsidiaries (Habib *et al.*, 1997).

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<sup>33</sup> Nordbanken and Merita merged in 1997 to create MeritaNordbanken. In March 2000, this group merged with Unidanmark. In October 2000, the Norwegian Government Bank Investment Fund decided to sell its shares in Christiania Bank og Kreditkasse to MeritaNordbanken.

Developing on Esty (1999), it appears that incentive distortions can fall into one of the following four categories: overinvestment in negative NPV project (known as free cash flows conflicts or cross-subsidization), investment in a high-risk NPV project (risk shifting), underinvestment in a positive (even riskless) NPV project (the debt overhang<sup>34</sup>), and underinvestment in a risky positive NPV project due to managerial risk aversions. Leaving aside the debt overhang (an issue for distress companies and/or countries), the general corporate issue of overinvestment (free cash flows, cross-subsidy, or low managerial effort), and managerial risk aversion, it appears that the issue of risk shifting is an important one in banking. The well-known moral hazard argument states that due to limited liability of shareholders and asymmetric information between insiders and outsiders (opacity), shareholders can expropriate debt holders or deposit insurers by increasing the riskiness of assets (risk shifting).

A subsidiary structure for a bank could make sense for three reasons. First, it would reduce the dilution cost of outside finance if the financiers did not have to worry about risk shifting in a far away and ‘opaque’ subsidiary. Kahn and Winton (2000) argue that the problem of risk shifting is particularly acute when two entities have very different degrees of risk. The creation of a corporate subsidiary helps to insulate a business from other sources of risk.<sup>35</sup> In the context of the four Nordic banks, it would seem that this situation is unlikely to be validated. Second, a subsidiary structure could help to exploit the put option created by deposit insurance. In a single corporate entity, there would be some form of co-insurance between the results of the four national entities such that the probability of default states would be low (with a lower expected payout by the deposit insurer). With separate corporate subsidiaries, the probability of states in which one of the subsidiaries might default would be higher.<sup>36</sup> Of course, one could argue that, in order to protect its reputation, the holding company would not let its subsidiaries default. The argument is certainly a valid one, but one cannot rule out cases in which the cost of bailing out a subsidiary would be greater than the loss of reputation.<sup>37</sup> A third reason for a subsidiary structure is that it allows a separate public

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<sup>34</sup>There can be underinvestment when the net present value benefit of a project cannot accrue fully to shareholders, being shared with the existing debtholders.

<sup>35</sup>Risk insulation is sometimes referred to as ‘ring fencing’. This explains why Spanish banks operate with subsidiaries in Latin America. This protects the debt-holders and the deposit insurer of the home Spanish bank. Other cases of ‘ring fencing’ include the separation of banks and insurance companies with subsidiaries.

<sup>36</sup>In the option pricing literature, in which deposit insurance is viewed as a put option (Merton, 1977), a portfolio of put options on a series of assets is worth more than one put on the sum of the assets.

<sup>37</sup>Two banks decided in 2002 not to bail out their distressed subsidiaries in Argentina: the Canadian Bank of Nova Scotia with its subsidiary Quilmes, and the French Credit

listing which can solve asymmetric information problems between uninformed investors, informed investors, and managers of the firm. The increase in the number of traded securities make the price system more informative (Habib *et al.*, 1997). To summarize, the corporate finance literature shows that corporate structure, branches vs. subsidiaries, matters when the problem of risk-shifting can harm debt-holders or deposit insurers in cases of non-sensitive insurance premia. The public policy issues raised by the existence of subsidiary structures are discussed in Section 4.

The international management literature (e.g. Rangan, 2000) gives additional reasons why cross-border mergers of equals can lead to a subsidiary structure, at least in the early years of the joint entity. The first argument is that a subsidiary structure can help to break managerial resistance to a merger. By committing to keep in place a local structure, the staff of both entities are reassured. This argument is of a short-term nature and should disappear after a few years. The second argument is that international firms must balance the benefits of economies of scale with proximity. Proximity is facilitated by subsidiaries. As a local corporate firm and as a member of the local bankers' association, a company can influence its environment better. A second benefit of proximity is that clients and suppliers can sue the distressed firm under local laws. A third benefit is decentralization and assessment of the local corporate subsidiary on its own merit.<sup>38</sup> So, irrespective of the existence of a single market, the international management literature predicts that international firms will operate with a mix of branches and subsidiaries to optimize the proximity/scale trade off.

The third source of insights are the interviews conducted at ING Group and Nordea AB<sup>39</sup>. Both banks explain that, in principle, a single corporate entity will facilitate the exploitation of economies of scale. This is why, in the structure of Nordea AB, for instance, the asset management and securities business are put into cross-border structures with branches. The motivation to keep a subsidiary structure for banks is driven by eight arguments. The first four are of a temporary nature, likely to disappear overtime. The others are more permanent.

A first argument in favor of the subsidiary structure at the time of the merger is to keep 'business

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Agricole with its three banks, Banco Bisel, Banco Sugia, and Banco de Entre Rios (FT May 21 2002)

<sup>38</sup>In principle profit center-based accounting could lead to a similar outcome.

<sup>39</sup>In both cases, we were able to meet the general counsel, the tax and compliance directors, and executive directors in charge of the corporate structure.

as usual' and not to change the brand. This has a short-term timespan as both banking groups, Nordea and ING, are busy building their own brands. A second argument is one of reassurance of the local management that key-functions will not be transferred. The reassurance of shareholders so as to get their approval is the third argument. MeritaNordbanken started with a dual listing in Stockholm and Helsinki. A dual structure reassures shareholders, as it gives both flexibility and continuity. The fourth argument is that of the need to reassure nations that they keep their bank. When acquiring the Norwegian Christiania Bank, Nordea stated that it would continue to operate as a legal entity. A fifth, and major, reason concerns corporate tax. A subsidiary structure is often more flexible from an international corporate tax point of view than a branch structure. That is, in case of future group restructurings, start-up losses are more easily preserved and taxable capital gains are more easily avoided in a subsidiary structure. Moreover, the conversion of a subsidiary into a branch could create a corporate tax liability. The sixth (surprising) argument is deposit insurance. One must be reminded that the deposit insurer of a subsidiary is the one in the host country, just as the insurer of a branch is the one in the home state. Moreover, in many countries, deposit insurance premia are levied until the deposit insurance funds reach a certain level. After that, the premium is much reduced. If Nordea AB, based in Sweden, transformed its Norwegian subsidiary into a branch of its Swedish bank, it would have to contribute extra deposit insurance premia to the home country Swedish deposit insurance fund in charge of protecting a larger pool of Swedish and Norwegian deposits. Apparently, the bank would not be able to collect the premia paid to the Norwegian insurance fund. The seventh argument for a subsidiary structure is ring-fencing (protection from risk-shifting) and the ability to do a separate listing. Finally, the eighth argument put forward in favor of a subsidiary structure is the ease with which to sell a business unit.

Of the eight arguments advanced to explain the choice of a subsidiary structure, four appear temporary (protection of the original brand, management trust, nationalistic feelings, and shareholder approval), two are due to the incomplete process of European integration (corporate tax and deposit insurance), but the last arguments are permanent features of business (asymmetric information and risk shifting, listing, and flexibility). Two conclusions come out of this analysis of the factors governing the corporate structure. First, there are clear indications that much more work needs to be done on the corporate tax side to facilitate the creation of a European tax group by way of a branch structure. Second, the analysis indicates that the corporate structure of European banks is very unlikely to meet the single entity with branches textbook case, but will involve a web of branches and subsidiaries. The regulatory implications of this type of structure are dealt with in Section 4.

In addition to the corporate tax and deposit insurance premium issues described above, four additional barriers to an integrated European banking markets have been reported (apart from the obvious language, culture, and tax differentials): national consumer protection laws, Value-Added Tax (VAT) on services supplied by shared services centers, regulatory reporting to host and home country authorities, and protection of local firms.

Consumer protection laws in some countries can severely limit the cross-border transfer of information across subsidiaries. Access to customers can be restricted (by, for example, rules on ‘cold calling’). Products cannot be standardized, as they need to meet national consumer protection regulations on information and the possibility to withdraw from a contract.<sup>40</sup> A significant barrier in a subsidiary structure is VAT on services provided by a ‘shared services’ center. Indeed, a major source of economies of scale in cross-border commercial banking lies in the creation of shared-services entities (such as risk control, accounting, IT, and call centers). The services sold across countries would incur VAT charges, but since banks typically receive low VAT revenue, the net VAT charges increase the cost of the service. This reduces significantly the benefits expected from ‘shared services’ centers.<sup>41</sup>

Finally, Focarelli and Pozzolo (2001) indicate that the volume of M&A is much smaller in the financial sector than in other sectors. They attribute this to the difficulty of operating in foreign markets due to asymmetric information and to non-regulatory barriers. Despite legislation on freedom of entry, rumours abounded of public intervention to deter the entry of foreign banks in the case of the sale of CIC in France and of Générale de Banque in Belgium, an (unsuccessful) attempt to prevent the sale of the bank of the Champalimad group to Banco Santander in Portugal, and of a desire expressed by the Central Bank of Italy to keep the large banks independent.

To conclude this section, it appears that the European bank operating abroad, exclusively with branches, is a myth. As a corporate structure has major financial stability implications, it appears that more work needs to be done to eliminate the (mostly tax) barriers to an efficient corporate structure. Even if these barriers are eliminated, there are several economic reasons as to why a

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<sup>40</sup>A similar list of obstacles is discussed in the Gyllenhammar report (Heinemann and Jopp, 2002).

<sup>41</sup>An additional expense was incurred via fiscal laws. Due to the size and liquidity of the Swedish equity markets, the Nordea group was headquartered in Sweden, despite the negative impact on Finnish shareholders. Indeed, these shareholders enjoy an ‘avoir fiscal’ (tax rebate) for dividend paid by national firms, but not for dividend paid by foreign firms. As a bank is an income-stock, Finnish shareholders were penalized by the loss of the ‘avoir fiscal’.

corporate group will operate with a mix of branches and subsidiaries<sup>42</sup>.

Before analyzing the financial stability implications of the types of corporate structure which are emerging, one must first discuss a main characteristic of the transformation of European banking, the large series of mergers. Indeed, the economic benefits expected from bank mergers will have to be balanced against the potential costs.

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<sup>42</sup>A similar observation is made by Herring & Santomero (1990) in the context of the corporate structure of financial conglomerates.

### ***Section 3 . Economics of Bank Mergers***

The level of Mergers & Acquisition in European banking has been high in the last ten years. In the EU, the number of credit institutions fell from 12,256 in 1985 to 9,285 in 1997 (ECB, 1999). In the USA for comparison, from the 1950s to the 1980s, the number of commercial banks remained quite stable with a number of between 13,000 and 15,000. Between 1980 and 1992, the number fell to 11,500, and between 1992 and 1997, to 9,200. With the advent of nationwide banking, that number is expected to fall to 4,000 (Miskhin, 1999).

Data from Table Twelve provides a clear picture of the types of M&As taking place in European banking. Over the period 1990-1999, out of a total of 2,549 transactions, 56% involved within-border/within-industry transactions, 20 % within-border/across-industry deals, 17 % cross-border/within-industry, and 6 % cross-border/cross-industry. Tables Thirteen<sub>a,b,c</sub> report significant transactions. Domestic mergers have led to a massive consolidation process in many European countries. A series of specific cross-border transactions have involved the acquisition of merchant banks (most registered in the United Kingdom) to access expertise in corporate finance and asset management. Finally, few cross-border transactions of significant size are observed. Significant transactions, already mentioned, include the Dutch ING Group, with the acquisition of banks in Belgium and Germany, Nordea AB, with the merger of four Scandinavian banks, and the German HypoVereinsbank (HVB), with the acquisition of banks in Austria and Central and Eastern Europe.

A complete review of the various arguments put forward to justify bank mergers is followed by a critical review of the empirical evidence and an assessment of the future outlook.

#### ***3.1 The Economic Rationale for Bank Mergers***

Extensive literature has reviewed the various motives for bank mergers and acquisitions (Hawawini and Swary (1990), Pilloff and Santomero (1997), MacKay (1998), Berger *et al.* (1999)). In principle, the decision to merger or acquire a firm should be motivated by the desire to increase the wealth of shareholders of the acquiring firm. However, agency conflicts between shareholders and managers could also lead to situations in which the decision to acquire is motivated by the managers' self interest. Eleven arguments are reviewed.

**1. Cost-based Economies of Scale :** Cost efficiency is achieved by lowering average cost per unit of output through expanding a single line of business.

**2. Brand-based Economies of Scale:** Large size will allow brand recognition to be obtained at a lower cost. This is a special type of cost-based economies of scale, related to marketing costs per unit of product sold. The strategic importance of brand is often recognized as a potential key source of competitive advantage for the future, when consumers of financial services shop on the Internet, facing a wide choice of products with the help of the new ‘integrators’.

**3. Revenue-based Economies of Scale:** Size and a large capital base will allow underwriting of large loans and securities issues, thus having a positive impact on the demand for underwriting services. In the context of the Euro and integrated capital markets, size will be one source of competitive advantage in capital markets.

**4. Safety net-based Economies of Scale:** As a bank becomes very large, it is more likely to be qualified as ‘too big too fail’ by the public authorities. This would provide a competitive advantage in terms of both a lower funding cost for a given level of capital and risk, and larger positions accepted by counterparties. White (1998) reports the two ratings provided by Moody’s : the bank financial strength ratings (BFSR), measured solely on the intrinsic safety and soundness on a legal stand-alone basis, and the ordinary long-term deposit ratings factoring in credit support from owners, industry group and/or official institutions. The quasi-systematic bailing out of insolvent banks in Europe is documented in Goodhart-Schoenmaker (1993). Boyd-Graham (1998) and Kane (2001) have expressed great concern that many of the bank mergers in the United States were creating large “too big too fail” banks.

**5. Cost-based Economies of Scope:** Cost efficiencies achieved by offering a broad range of products or services to a customer base. These could originate from the large fixed costs incurred in gathering an information data base or computer equipment which can be used to provide a large set of services.

**6. Sales (revenue)-based Economies of Scope:** The hope of cross-selling new products to a existing customer base. This relies on the assumed preference of investors for one-stop shopping. The case of banking and insurance products is often quoted.

**7. Financial diversification-based Economies of Scope :** Standard portfolio theory shows that a portfolio of imperfectly correlated risks will reduce the overall volatility of profit. According to Pilloff and Santomero (1997), lower volatility may raise shareholder wealth in several ways. First, the expected value of bankruptcy costs may be reduced. A large proportion of bankruptcy costs are incurred as a result of the loss of franchise value caused by a default. Second, if the firm faces a

convex tax schedule, then expected taxes paid may fall. Third, earnings from lines of business where customers value bank stability (the case of long-term customer relationship) may be increased. Finally, levels of certain risky activities, barely profitable, could be increased because the necessary amount of capital would be reduced. The argument is that a business exhibiting a low correlation with an existing portfolio of business will have a low marginal risk, thus creating the need for a lower capital requirement and a lower threshold of acceptable earnings. Financial diversification can be obtained through offering a range of products, servicing different customers groups, or through spreading credit risk across industries or regions. The assumption here is that firm-based diversification is more efficient than diversification purchased on the market, such as credit derivatives and loan sales (Froot and Stein, 1998). Winton (1999) calls attention to the fact that diversification might not always reduce the risk of bank failure. He introduces the benefit and cost of monitoring loans and the possibility that diversification might lead banks into new sectors in which they have less expertise. In such a richer setting, the benefits of diversification are not always positive.

**8. X-Efficiency:** X-efficiency refers to the fact that given a current volume of output, a firm is not operating with maximum cost efficiency, i.e., it has a too high cost structure. This source of efficiency is often cited as the prime motivation for a domestic merger, as two banks merging can more easily coordinate the reduction of the size of a too large branch network.<sup>43</sup>

**9. Market Power:** Horizontal mergers, which reduce the number of firms operating in one market, may lead to less competition and higher margins. Mergers across industries may allow higher profit due to *tying* strategies which allow the firm to package a bundle of goods.

The first nine motives were discussed from a perspective of increasing the value of shareholders' wealth. One notices that, in some cases, the increase in wealth of shareholders does not correspond to a social optimum. Exploiting the benefits of a public safety net or market power will create economic inefficiencies. Moreover, agency conflicts between management and shareholders could lead managers to attempt to increase their own expected utility. Two arguments are as follows: merger to avoid being taken over, or attempt to increase own benefits.

**10. Defense-based Economies of Scale:** Achieving size (capital clout) that acts as a defensive measure against takeover.

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<sup>43</sup>In this respect, it is worth mentioning that the reduction of excess capacity in the steel industry was coordinated by the European Commission, while downsizing of the banking industry is left to market forces, mainly through mergers.

**11. The ‘quiet life’ and ‘hubris’ hypotheses.** The argument is that higher profit driven by economies of scale or market power can be captured by management in the forms of higher salaries, perks or reduction of risk (the ‘quiet life’ hypothesis). A special case is the *hubris* hypothesis according to which management because of arrogance (hubris) will overstate the gain from a merger, ending up by overpaying target firms (Roll, 1986).

### ***3.2 Gains from Bank Mergers, The International Empirical Evidence***

Extensive empirical literature in banking has analyzed the degree of cost-based economies of scale, revenue-based economies of scale, cost-based economies of scope, diversification-based economies of scope, and the degree of X-efficiency. Related literature has analyzed on an *ex ante* basis and on an *ex post* basis the economic benefits from bank mergers. Finally, recent studies have examined the relative efficiency of banks at the international level. Although a large part of the empirical evidence is based on studies done in the USA, a series of recent studies have been carried out in Europe. An interesting observation is the high degree of convergence of these studies. A summary of the empirical evidence is followed by a critical analysis and an assessment of the future outlook for M&As in European banking. The presentation attempts to match the eleven motives for bank mergers identified in the previous section

#### **1. Cost-based Economies of Scale**

US studies on the existence of cost-based economies of scale with multiple products have traditionally used a translog function. This has the advantage of allowing different economies of scale or scope at different levels of output. The wide consensus is that only very small banks have the potential to achieve economies of scale, and that the average cost curve quickly becomes more or less flat for larger firms. The scale-efficient point scale ranges from US\$500 million in the late eighties to US\$ 25 billion of assets in more recent studies (Berger and Mester, 1997). The substantial increase in optimal size is justified by progress in information technology or deregulation in interstate banking, which allows new forms of organization with larger size.

In Europe, estimates reproduced in the review of the impact of the single market (European Commission, 1997) report the existence of economies of scale up to an asset size of €25 billion. Vander Venet (2002) estimates optimal size in the range of €10-100 billion. Two studies have analyzed a specific segment of the financial services industry: mutual funds (Dermine and Röller, 1992 ; Bonnani *et al.*, 1998). They observe that economies of scale are exhausted in France for asset under management of €500 million. Almost all of these studies conclude that there are no significant cost-based economies of scale to be gained in M&As involving very large banks.

## **2. Brand-based Economies of Scale**

To the best of the author's knowledge, there has been no published study on the linkage between size, brand recognition, and interest margins.

## **3. Revenue or profit-based Economies of Scale**

Akhavein *et al.* (1997) report that US mergers allow banks to transfer assets from low earnings securities to higher earnings loans. They find these data consistent with the hypothesis that megamergers help to diversify the portfolio and reduce risk, which allows the consolidated banks to issue more loans for the same amount of equity capital. In Europe, there is anecdotal evidence that a large capital base helps on the capital markets. For instance, The Royal Bank of Scotland group, since its acquisition of The National Westminster bank, has been much more active in syndicated loan activities.

## **4. Safety net-based Economies of Scale**

To the best of the author's knowledge, there have been no published studies on the impact of size on the probability of being deemed 'too-big-to-fail' and on the size of the benefits.

## **5. Cost-based Economies of Scope**

Scope efficiencies in US studies were measured by comparing the total cost of a firm with what would be the cost if that firm were broken into a set of firms offering a smaller set of products. Overwhelming evidence points to the lack of economies of scope. However, serious methodological doubts have been expressed (Dermine and Röller, 1992). On the empirical side, we do not observe specialized institutions, so economies of scope have to be estimated out of sample. Moreover, the translog specification is ill-suited to study economies of scope.

## **6. Revenue-based Scope Economies**

Berger *et al.* (1996) attempt to evaluate whether the revenue of banks selling a large range of services is higher than the revenue of specialized banks offering a smaller range of services. They report the absence of revenue-based economies of scope and interpret their results as indicating that either consumers value one-stop shopping but that competition does not enable banks to increase the prices, or that consumers simply do not value one-stop shopping. One should be cautious with these results for two reasons. First, US banking law did not allow the joint offering of banking and insurance services. Second, as discussed in Dermine and Röller (1992), the sample is unlikely to include firms offering only one service, so economies of scope have to be estimated out of sample.

## **7. Risk, Size, and Financial Diversification**

Boyd and Runkle (1993) and Hughes, Lang, Mester and Moon (1999) report that large banks, able to diversify credit risks across many states, exhibit a lower variance of profit. Other studies (Santomero and Chung, 1992 ; Boyd, Graham and Hewitt, 1993)), simulating a merger between banks and insurance companies, come to similar conclusions (a quite obvious result, since low correlation can only lead to more stable profits). Simulation results indicating the benefits of diversification must be viewed with caution for two reasons. First, there is an implicit assumption that the combined firm can be managed as efficiently as the separate firms. Second, as emphasized in an empirical study by Boyd and Runkle (1993), lower volatility of asset return is often combined with a lower equity base (higher leverage) so that the probability of default of large diversified institutions appears to be as high as that of smaller, less diversified but less leveraged, firms. At the international level, Berger *et al.* (2000a) report very low correlations of the aggregate ROE of banking systems of the various European countries. Dahl and Logan (2002) analyze the overdue international claims of 28 UK-owned banks over the period 1987-2000. They report a significant gain from international diversification of credit risk exposure. Acharya, Hasan, and Saunders (2002), however, express caution in a detailed analysis of credit losses in Italy over the period 1993-1999 that the benefits of diversification might be lost with lack of expertise. Amihud, Delong and Saunders (2002) see no impact on the volatility of stock returns either before or after a cross-border merger.

A word of caution should be expressed here, concerning studies that focus on correlation and volatility of losses. As credit risk distribution is known to be highly skewed (many states of the world with fairly few loan losses, and few states of the world with large recession and substantial losses), it might be better to analyze the impact of diversification at times of deep recession. A standard approach in the management of trading risk is to simulate the impact of a large shock (*stress scenario*) on a portfolio. In Table Fourteen, we report the provisions on loan losses (an imperfect estimate of loan losses) of the banking system of several countries over the recession period 1988-1992. To study the potential benefits of diversification, we simulate the average loss on a GNP-weighted diversified loan portfolio. In the case of the United Kingdom, which experienced severe loan losses during that period, one can observe that diversification would, *ceteris paribus*, reduce the loan losses by fifty percent. Note that this is only a simulation. Part of the diversification benefit could disappear if credit management quality were to worsen in a large international organization.

## **8. X-Efficiency**

In a survey of 130 studies in 21 countries, Berger and Humphrey (1997) showed that inefficiency, i.e., operating with too high cost relative to the best bank, was in the order of 20-30 %, and that

operating efficiency was a much more relevant issue than that of economies of scale. In an international study, Allen and Rai (1996) also report a significant degree of inefficiency (25 %) for European banks. Dietsch and Weill (1998), using a sample of 661 commercial and savings banks, apply Data Envelopment Analysis (DEA)<sup>44</sup> to study the evolution of efficiency over the period 1992-1996. They observe large inefficiencies, but few improvements over time. Vander Venett (2002), with a sample of 2,375 EU banks over the period 1995-1996, also concludes that X-efficiency is a key determinant of profitability and that universal banks exhibit both higher efficiency and higher profits. Vander Venett, in line with US studies, concludes that operational efficiency is the main determinant of profitability. X-efficiency studies have also focused on revenue efficiency (Vander Venett, 2002, and Maudos *et al.*, 2002). In Canhoto and Dermine (forthcoming), we applied DEA to study banking efficiency in Portugal. This case is interesting because Portugal not only underwent a massive period of deregulation, following entry into the European Community, but also allowed the creation of new banks. Over a five-year period, we report technological improvement of the order of 52 %, and we document that new banks are relatively more efficient.

## 9. Market Power

A long series of studies has attempted to measure the impact of market concentration on margins on loans and deposits. Indeed, the benefits expected from cost efficiency could be offset by concentration which could facilitate collusion, and create higher margins on loans and deposits (the structure-conduct and performance, SCP, paradigm). In their survey of the European and US literature, Carletti *et al.* (2002) conclude that, in general, concentration tends to support the SCP paradigm (higher margin on loans and lower margins on deposits). Bikker and Groeneveld (1998) and Debandt and Davis (2000) report some form of monopolistic competition in European banking markets. Corvoisier and Gropp (2001) provide significant evidence that the loan markets is affected by concentration, but that there is much less impact on the deposit market. Sapienza (2002) reports that mergers in Italy led to an increase in margin on loans to small borrowers, except in those cases where borrowers had access to multiple lenders. An exception to the literature is Vesala (1998) who analyzes the pricing behavior of banks in Finland, a most interesting test case, given the merger of the two largest banks and the sharp reduction in the number of branches from 3,507 in 1986 to 1,708 in 1996. He observes that, over time, the mark-ups on loans (corporate and household) are reduced. This is attributed to competition from other channels such as on-line banking. However, he observes that the pricing of deposits in Finland is affected by collusion.

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<sup>44</sup>Data Envelopment Analysis is a non-parametric linear programming-based technique. It calculates the reduction of inputs that could be achieved by banks if these were operating on the efficiency frontier.

## **10. Defense-based Economies of Scale**

To the best of the author's knowledge, there has been no study on the linkage between size and the probability of bank mergers. However, Boyd and Graham (1998) report that most mergers in the United States involves large banks buying smaller ones.

## **11. The 'quiet life' hypothesis**

Berger and Hannan (1994) do observe that the higher margins caused by concentration often lead to less efficient firms, evidence of the 'quiet life' hypothesis.

Empirical evidence on the potential source of economic benefits (*ex ante* expected gains) derived from bank Mergers & Acquisitions has been reviewed. Additional empirical evidence follows on the realized effects of bank mergers (*ex post* dynamic analysis).

### **The Benefits of M&As, a Dynamic Analysis**

Vander Venet (1996) analyzed 492 takeovers in the EU over the period 1988-1993. The results indicate that domestic mergers among equal size partners significantly improve the performance of the merged banks to reach X-efficiency. A series of studies in the US analyze how M&As have helped banks to improve X-efficiency as well as to reach a better scale or scope. These studies generally report no improvement in efficiency. However, more refined studies have shown that mergers which involve inefficient banks *do* lead to substantial improvement in efficiency (Berger *et al.*, 1999).

Studies that have focused on profit have been able to observe improvement in profitability. In a study on megamergers, Akhavein, Berger and Humphrey (1997) show that these mergers help to improve profitability. This is caused not by an improvement in efficiency, but rather by a change in the output mix in favor of more loans and fewer securities holdings. Also, the larger gains are obtained when the inefficiency of one of the banks is most marked. At a more micro level, Zollo (1998) documents the importance of merger experience and codification as key determinants for future success in mergers.

Another strand of the literature has been to analyze the impact of mergers on the stock market value of firms and the benefits accruing to both the acquiring and the acquired firms (Hawawini and Swary (1990), Pilloff and Santomero (1998)). Most studies fail to find a positive relationship between merger activity and stockholder wealth. Most often, what is observed is a wealth transfer

from the acquiring firm to the acquired firm. These results are consistent both with manager-utility maximization and the *hubris* hypothesis. DeLong (2001) attempts to distinguish between *focused* mergers (same geography and activity) from *non-focused* mergers (different geography and/or activity). She reports that focused mergers create on average a gain of three percent in the combined value of the target and the bidder, while non-focused mergers destroy value. Using a 1988-1997 data base with 54 transactions, Cybo-Ottone and Murgia (2000) report positive return for domestic and insurance mergers in Europe, and no value creation for mergers between commercial banks and securities firms.

Recent studies have examined the relative efficiency of banks at the international level. Bikker (1999) pools all European banks into a single sample, and observe a lower efficiency in France and Spain. However, this assumes a unique production function. When taking into account environmental factors such as population density, Dietsch-Lozano (2000) or Maudos *et al.* (2002) find that the efficiency differential very much disappear. So, Berger *et al.* (2000a, 2000c) propose analyzing relative efficiency of foreign banks and domestic banks within one country. They observe that, on average, foreign banks are less efficient than domestic banks. They attribute this to the difficulty of managing at a distance. They therefore express some doubts about the effects of globalization. However, one should be careful, since our data show that foreign banks have typically a very small market share. One can guess that their business mix is likely to be quite different from that of national banks, so these efficiency studies, using macro data, cannot capture the business mix differential.

### ***3.3 M&As in European Banking, Evaluation and Future Outlook***

The overall convergence of the literature can be summarized as follows. Economies of scale appears to exist up to € 25-100 billion of assets, but the most significant factor of competitive advantage is not scale but operating or revenue efficiency. Indeed, in most studies, for banks of different size, one observes inefficiencies of the order of 25-30 %. In this respect, it has been shown that the acquisition of inefficient banks by efficient ones can lead to improvement in efficiency.

A first critical observation is that, because of limited availability of data, the studies refer to basic banking transactions, loans, deposits, and securities, but have not attempted to study the existence of economies of scale for specific activities, such as credit cards, derivatives, and custody of securities. Second, the benefits of financial diversification are difficult to measure. Indeed, economic crises are very rare events, and there are, therefore, few data points to evaluate the benefits of diversification. But diversification across businesses, such as insurance and banking, do provide diversification benefits. Two key-issues include the ability of management to control a large

complex organization, and the question of whether the benefits of diversification might not lead to a reduction in the capital base, such that the risk of insolvency would remain unchanged. The third point is that empirical studies can only be relevant if they are a good guide for the future. The arrival of the Euro has created the need for larger size to operate in capital markets. Larger size firms, with a large capital base, will facilitate underwriting and trading in specific segments of the capital markets. Finally, the potential existence of economies of scale related to the use of new technology is an open issue. With regard to the latter, one can not fail to be astonished by the fact that the empirical estimates of optimal scale have moved from US\$500 million in the early 1990's to US\$25 billion in most recent studies.

In the light of the above evidence, one can attempt to assess the outlook for M&As in European banking. A strong case can be made that mergers of European banks can at least facilitate an increase in efficiency and help those active in capital markets to reach an optimal size. As efficiency gains can be realized more easily with domestic mergers, one can predict that domestic consolidation will continue in a number of European countries. As the domestic efficiency gains are realized, and as the degree of concentration will soon hit the oligopoly threshold, domestic mergers will be followed by cross-border transactions. With regard to capital market activities, the need for size will imply a continuation of cross-border consolidation. Finally, as banks are looking for growth activities, some will acquire banks in emerging markets. Public policy-makers have to balance the benefits expected from bank mergers with the potential costs. The public policy issues in European banking are discussed in Section 4.

## ***Section 4. Mergers and Acquisition in Europe, Three Public Policy Issues***

Three public policy issues, raised by bank mergers in Europe, will be analyzed. These include protection of investors, safety and soundness (systemic stability), and market power due to concentration.

### ***4.1 Investor Protection***

A first potential source of market failure is imperfect (asymmetric) information, which can prevent the proper functioning of unregulated private markets. For instance, because of opacity, depositors find it costly to evaluate the solvency of their bank. The economic literature (e.g., Kay and Vickers, 1988) recognizes that the inability of consumers to evaluate properly the quality of a product can create a market failure. An inefficiency may arise because the quality of a service is not valued properly by the market and reflected into higher prices so there is insufficient incentives for firms to produce quality. Regulation (e.g., minimal qualifications in the legal or medical profession) is a way of ensuring a minimum level of quality. In banking, imperfect asymmetric information can create the well-known moral hazard. Finance theory (Merton, 1977) has shown that bank shareholders benefit from an increase in risk, such as higher leverage or riskiness of assets. This provides a rationale for to provide protection for the ‘uninformed’ depositors<sup>45</sup>. In international banking and cross-selling of services, an additional issue is raised. The possibility of competitive deregulation raises the question of the need to harmonize international regulations or to create a single regulator (Dermine, 1996<sub>b</sub> ; Dell’Ariccia and Marquez, 2001). The answer is again related to imperfect information. Competition among national regulators is desirable whenever the parties can evaluate the quality of regulatory systems. Harmonization of rules to ensure minimal quality would be necessary only if the market could not discriminate. An alternative to the harmonization of prudential regulation is to grant some supervisory powers to the host state, whenever it is felt that domestic investors are not adequately protected by foreign regulations or supervision. This is precisely the approach adopted by the European Union, for reasons of public interest, which leaves

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<sup>45</sup>Other privately based mechanisms include disclosure of information, creation of risk-free banks, and reputation of banks (Dermine, 2000).

the right to control foreign branches to each host country (Norton, 1991).<sup>46</sup>

#### **4.2 Bank Runs and Systemic Risk**

The second market failure is the potential for bank runs and systemic crisis. Banks are special because the financial contract that emerges -illiquid loans funded by short-term deposits- creates a potential market failure and a need for public intervention (Rajan, 1998 ; Diamond and Rajan, 2002). The liquidity mismatch between assets and deposits and the failure of depositors to coordinate (Diamond and Dybvig, 1983 ; Postlewaite and Vives, 1987 ; Allen and Gale, 1998) create the risk that depositors run to withdraw their funds. A run can be triggered by bad news about the value of bank assets or by any unexplained fear. In both cases, there may be a loss, since illiquid assets will be sold at a discount. Moreover, a bank failure could eventually trigger a signal on the solvency of other banks, leading to a systemic crisis.

This market failure explains the introduction of banking regulations and the creation of safety nets to guarantee the stability of banking markets. They have taken the form of deposit insurance, lender-of-last-resort interventions, and public (treasury-led) bail outs. Deposit insurance funds are unlikely to contribute much to reducing systemic risk because they cover small deposits only<sup>47</sup>. Runs are likely to be initiated by large firms or financial institutions. Therefore, lender-of-last-resort interventions by central banks or public bail out remain the most likely tools in order to avoid bank runs and systemic crises. Banking history shows that public bail out is most often the case, given the need to call on tax-payers to finance credit losses (Goodhart and Schoenmaker, 1993).

In the context of cross-border European banking, five issues need to be identified. These concern, successively, the too-complex-to-fail, the freeze of insured deposits, the ability of some countries to deal with eventual bailout costs, cross-border spillover effects, and the eventual lack of risk diversification. A discussion of the adequacy of current EU institutional structure follows.

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<sup>46</sup>The European Commission has clarified the concept of 'general good' to ensure that it is not used as an excuse to protect local firms from foreign competition (Communication, 26 June 1997).

<sup>47</sup>As documented in Table Fifteen, the coverage is limited to €20,000 in most European countries. Gropp and Vesala (2002) argue that the creation of a formal deposit insurance system in Europe has increased the degree of bank monitoring by non-insured depositors who, in the past, could count on a full bail out.

### **Too-Complex-To-Fail**

First, imagine the case of a large European bank with significant cross-border activities, which runs into financial distress. It would be very difficult to put this bank into receivership. Given the complex web of corporate subsidiaries and the various legal complexities, the uncertainty concerning the costs of a default is likely to be high, and this complexity might create a temptation for a bail out ('too big and too complex to fail').

### **Freeze of deposits**

The second issue relates to costs incurred through bank failures. As the financial distress cases of the major Swedish banks have shown, it appears very difficult to put a large bank into liquidation. The issue is not so much the fear of a domino effect, whereby the failure of a large bank would create the failure of many smaller ones - strict analysis of counterparty exposures has reduced substantially the risk of a domino effect. The fear is, rather, that the need to close a bank for several months to value its illiquid assets would freeze a large part of its deposits and savings, causing a significant negative effect on national consumption. Kaufmann and Seelig (2002) document the timing of the availability of deposits in the case of a winding up. This is reported in Table Fifteen. In several countries, insured deposits could be frozen for a couple of months, and uninsured deposits for even longer.<sup>48</sup> The need to scrutinize more carefully the bankruptcy process for large financial institutions appears timely as a major restructuring trend has reduced the number of banks in a number of European countries to a very few large ones.

### **Bailing out costs : Too big ?**

The third issue is that, in the case of bank failure and partial or complete bail out, this could incur a very high cost for the treasury or deposit insurance system. To assess the potential cost of a bail out, we report in Table Sixteen the level of equity (book value) of seventeen European banks as a percentage of the GDP of the home country. Not surprisingly, the highest figures are found in Belgium, the Netherlands, and Switzerland. The equity to GDP ratio is 12.37 % for the United Bank of Switzerland, 4.09 % for ABN-AMRO, as compared to 1.34 % for Deutsche Bank. For the sake of comparison, the equity of Bank of America and Citigroup represent, respectively, 0.59 % and 0.75 % of US GDP. If one takes as a reference point the fact that the bail out of Crédit Lyonnais has cost the French tax payers twice the book value of its 1991 equity (admittedly, an arbitrary case), the cost of bailing out the largest Swiss bank could amount to 24 % of Swiss GDP, as compared to 2.7% of German GDP in the case of a Deutsche Bank scenario. Moreover, and quite a significant

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<sup>48</sup>Moreover, with the time needed to resolve the uncertainty about the true value of assets, deposits could be exchanged into traded securities to resume liquidity (Dermine, 2000).

observation, it is worth noting the very rapid increase in these numbers over the four-year period 1997-2000, during which, for instance, the ratio of UBS increased from 8.65 % to 12.37 %.

### **Home vs. host country**

The fourth issue concern cross-border spillover. Imagine that a foreign bank buys a Dutch bank. The Dutch treasury could be forced to bail it out for reasons of internal stability, but would not have the right to supervise the branch of a foreign bank because of home country control. Since the lender-of-last-resort and the treasury will be concerned primarily with their domestic markets and banks operating domestically,<sup>49</sup> and since they will bear the costs of a bail out, it is legitimate that the insurers keep some supervisory power on all institutions (branches and subsidiaries) operating domestically. That is, host country regulation could apply to limit the risks taken by financial institutions and the exposure of the domestic central bank or treasury in cases of bailing out.<sup>50</sup> As in this case, the Dutch treasury would keep financial responsibility, it should be able to retain supervisory control. In other words, home country control has to be complemented by some form of host control as long as a the cost of bailing out remains domestic. In this last case, since the default of a large international bank could affect several countries, the decision to bail out could be transferred to the European level, or should at least require coordination among these countries.

### **Corporate subsidiary structure and risk diversification**

The subsidiary structure identified earlier as a common form of cross-border expansion creates an additional problem for supervisors. There is a dynamic consideration to take into account. A financial conglomerate could be pleased with its degree of diversification while each subsidiary could become very specialized in local credit risk. This implies that banks in a given country could find themselves increasingly vulnerable to idiosyncratic shock. One could argue that, for reasons of reputation, the parent company will systematically bailout the subsidiaries as if they were branches. This could be true in many cases, but there will be cases where the balance of financial costs vs. reputation costs may not be so favorable.

Five issues related to financial stability have been analyzed. Let us now review the adequacy of the current EU institutional structure.

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<sup>49</sup>It is well known that the Bank of Italy did not intervene to prevent the collapse of the Luxembourg-based Banco Ambrosiano Holding, because it created little disruption on the Italian financial markets.

<sup>50</sup>Bailing out would occur if the failure of a branch of a foreign bank led to a run on domestic banks.

The EU institutional structure currently in place to deal with financial crises has received a great deal of attention in the last two years (Economic and Financial Committee, 2000 and 2001). There are currently three potential forums for coordination. The *Banking Advisory Committee* (BAC) assists the European Commission in preparing new banking community legislation. At the *EU Groupe de Contact (GdC)*, national supervisors of banks meet regularly to exchange information. At the European Central Bank, the *Banking Supervisory Committee* (BSC) works in the context of the Eurosystem's task of contributing to the smooth conduct of policies pursued by the competent national authorities relating to the supervision of credit institutions and the stability of the financial system (Article 105 (5) of the Treaty on European Union). In the context of the Financial Services Action Plan, the directive on *Winding up of Credit Institutions*<sup>51</sup> was finally adopted, sixteen years after it was first proposed. This is consistent with the home regulator principle. When a credit institution with branches in other member states fails, the winding up process will be subject to the single bankruptcy proceedings of the home country. Note that, although recognized as a significant piece of legislation to avoid the complexity issue, it falls short of solving the subsidiaries issue.

The Brouwer reports (Economic and Financial Committee, 2000 and 2001) have very much validated the current EU institutional structure to deal with a financial crisis. They essentially argue that there would be no legal impediment to the transfer of information across borders, and recommend an additional effort to strengthen cooperation through Memorandum of Understanding (MOU) dealing with crisis situations.

In our opinion, there are three reasons as to why the current state of affairs is not satisfactory. The first one, discussed above, is that the bank with one-license branches, in most cases, is a myth. With subsidiaries subject to different bankruptcy proceedings, a large European bank would fall into the category of large and complex financial institutions (LCFI). In this context, the work of the Brockmeier committee (2001), at the level of the Group of Ten, is a first effort to understand the complexity and the information that would be needed to handle these cases at short notice.

The second reason is that one can easily imagine that conflicts of interest between countries on the decision to close a bank will arise, and that the sharing of the bailing out costs among countries will not be simple. These conflicts of interest could, at times, even limit the cross-border exchange of information among regulators (Holthausen and Ronde, 2001).

The third reason as to why cooperation among national supervisors or national central banks might not be sufficient is that, in most cases, a bail out is a public finance problem, with the cost borne by tax-payers. In this context, it would seem that the appropriate forum to take a decision to bail out an international bank should be a joint meeting of ECOFIN, the European Council of Finance

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<sup>51</sup>Official Journal 125, 05.05.2001

Ministers, and the ECB. A tale of how European supervisory coordination and centralization is likely to develop is as follows. During a week-end, the BSC met in Frankfurt to consider the need to launch the bail out of a large international bank. As it was becoming rapidly clear that the ECB should not increase the money supply to restore the solvency of that bank, and that tax-payers' money would be needed to finance the bad debts, ECOFIN was invited to take the decision to bail it out. On the following Monday, due to a public outcry, that supervision of the problem bank had not been handled properly by the national supervisor, a decision was taken to transfer supervision to a European agency. An alternative development, which we favor, would be to take anticipatory action, that is, to transfer the supervision of international banks to a European regulatory agency.<sup>52</sup> An international bank would be defined either by its size, relative to the GDP of one country (say, 3%), or by its market share in a foreign country (say 10 %).

### ***4.3 Concentration and Market Power***

The third public policy issue concerns the impact of bank mergers on concentration and the pricing of financial services. Data on market shares are available in the 'country' tables at the end of the paper. Not surprisingly, they show a relatively high concentration level in small countries such as Denmark, Finland, Sweden and the Netherlands, with the five largest banks capturing more than 80 percent of the market, as compared to 14 percent in the case of Germany. Corvoisier and Gropp (2001) report that the widely used Herfindahl-Hirschman Index (HHI)<sup>53</sup> has sharply increased across time, exceeding the '1,800 high level concentration' threshold in a number of countries.

To assess the impact of concentration on pricing, one must take into account two factors: the presence of co-operative banks and the degree of contestability (Cetorelli, 1999). As Table Seventeen indicates, several European countries have a very large segment of non-profit oriented financial institutions, savings banks and co-operative banks. In Germany, France and Spain, these institutions, competing for size, tend to reduce the margins charged by private profit-oriented banks. This situation could evolve as these institutions change their legal status, a case observed in the United Kingdom with large building societies becoming *plcs*. Secondly, one has to analyze the degree of contestability, i.e. the ease for a new player to enter a profitable market segment. Deregulation in the 1980's and the creation of money market funds, for instance, reduced the ability

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<sup>52</sup>We do not discuss whether supervision should be done by a central bank or by another institution. See Vives (2001), European Central Bank (2001), Duisenberg (2002) or Kahn and Santos (2002) for a review of arguments leading to opposite recommendations.

<sup>53</sup> The Herfindahl-Hirschman Index (HHI) is the sum of the squared market share of each firm in a market. An index of 10,000 indicates that there is only one firm.

of banks to raise margins on deposits. Similarly, access to capital markets by large firms with commercial paper or bond issues also reduces the potential impact of concentration on loan margins. However, some specific financial services appear to be much less open to contestability. The reviews of the financial services sector in Australia (Wallis, 1997) and Canada (MacKay, 1998) and the reports on competition in UK banking (Cruickshank, 2000 ; the Competition Commission, 2002) all point out that the retail demand for cash and payment services and the access to credit by small and medium size enterprises (SMEs) is primarily served by local branches of banks. Moreover, although diminishing, there is evidence of *clustering*, that is consumers acquiring products in a bundle rather than individually (for instance, 70 % of Canadians buy mortgage and credit cards from the institution through which they do their primary banking transactions). In the United States (Kwast, 1999 ; Amel and Starr, 2001), the primary financial institutions for 93 % of households is a local depository institution; and for small businesses, the primary institution is local<sup>54</sup> for 88 %. Degryse and Ongena (1991) observe that technological developments have barely had any impact on the distance between SMEs and their banks in Belgium over the period 1975-1997.

Five types of empirical evidence can allow one to test the effect of market power. The first approach is to assess the impact of concentration on prices. The second one is to assess the impact of a change in market rate on interest rates (the so-called pass-through effect). The third approach is to observe the degree of interest rate rigidity. The decision to change a rate involves the comparison of the cost of changing to the costs incurred by being out-of-equilibrium. Small elasticity of demand very much reduces these costs, which explains price rigidity (Dermine, 1984 ; Hannan and Berger, 1991). A fourth approach is to observe the level and stability of profitability in a business segment. A fifth one is to observe the market to book value ratio. Market power could lead to a higher stream of future profits, which, in an efficient market, should be discounted in the market value of shares (Dermine and Hillion, 1992).

Corvoisier and Gropp (2001) provide significant evidence that the loan market is affected by concentration, but that there is much less impact on the deposit market. Average contractual rates on customer loans in a banking market with a Herfindahl-Hirschman Index of 3,000 (e.g. the case of Finland) are estimated to be about 120 basis points higher than in a market with an HHI of 1,000 (Portugal, Spain and Belgium). Focarelli and Panetta (2001) analyze the effect of bank mergers on margins on large deposits (larger than €9,000). They observe an increase of margin in the short

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<sup>54</sup>An exception to this literature is Petersen and Rajan (2000), who report for the United States a significant increase in the distance between the location of banks and SMEs during the period 1970 to 1993.

term but a decrease in the longer term, indicative of the fact that the cost efficiency effect of bank mergers dominates the market power effect on the deposit market. These first studies are consistent with the view that the large deposit markets is contestable because of the presence of money market funds, but that the loan market is much less competitive. Sapienza (2002) reports that, in the case of Italy, in-market mergers tend to increase margins on loans to small borrowers.

In Table Eight, we have calculated margins on savings deposits, margins on consumer loans, the 'retail' intermediation margin calculated as the sum of the first two, and margin on corporate loans. It is remarkable to observe that the 'retail' intermediation margin<sup>55</sup> has fallen by fifty percent in most countries (Germany excepted). However, this fall is mostly due to a fall in margins on savings deposits, as margins on loans have increased in several countries. This has likely been driven by the overall fall in the interest rate level rather than by an increase in competition.

As for margins on corporate loans, also reported in Table Eight, these appear to have gone up. But one should be prudent with regard to reported interest rates on corporate loans. Indeed, most often, these data represent some 'average' loan rates. Microdata of a large continental European bank indicate a substantial difference between the reported 'country' loan rates and the rates applied by this bank.<sup>56</sup> Moreover, it appears that margins on these loans are a decreasing function of the size of the transaction. More precise data on interest rates on loans applied by banks for loans of different sizes and risk would be welcome.

G. DeBondt (2002) studies the speed of the pass-through effect over the period 1996-2001 with a VAR framework and observes a one-year adjustment of 68 basis points for time deposits, 44 bp for consumer lending and 76 bp for loans to enterprises<sup>57</sup> and retail real estate loans. The lack of a one-to-one relationship is also indicative of market power in a Klein-Monti type model (Freixas and Rochet, 1997).

In the United Kingdom, the Competition Commission (2002) has produced a very detailed report on the supply of banking services to SMEs. They observe that the four largest clearing banks have a market share of 90 %, a share that has not changed in the last ten years. They believe that there

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<sup>55</sup>The 'retail' intermediation margin is the difference between the loan rate and deposit rate on savings deposits. This measure is preferred to the usual intermediation margin (total interest margin divided by total assets) as it is not affected by a change in business mix in retail, corporate, or treasury activities.

<sup>56</sup>Identity not revealed for agreement of confidentiality.

<sup>57</sup>We emphasize here the impact of competition on margins, not on the availability of funds. Two arguments of the literature argue that monopoly power could increase the availability of funds thanks to the ability to make a profit in the future : These are the hold up effect (Cetorelli, 2001) or investment in information acquisition effects (Fischer (2000)).

are significant barriers to entry due to sunk investment costs. They observe an average after-tax return on equity (ROE) allocated to SMEs between 1998 and 2000 of 24 %, compared to a cost of equity of 10.8%. After a cautious approach to restate equity and take into account the cyclical nature of loan loss provisions, they estimate an adjusted return on equity of 18 %, and conclude that these factors indicate a lack of effective competition. The Competition Commission proposed several behavioral remedies to facilitate competition (e.g., easing the switching from one bank to another and information transparency). Moreover, it proposes forcing the four clearing banks to pay a market-related rate on demand deposits. In Table Eighteen, we report the return on equity and the market to book value ratio of a sub-sample of large banks in the United Kingdom, Germany, France, and Spain. With the exception of Germany, banks seem to earn an ROE largely in excess of the cost of equity. This conclusion is reinforced by the market to book value ratio largely superior to one.

Given the importance of SMEs to employment (fifty percent in most countries, according to Table Nineteen), more effective monitoring of competition in European retail banking appears necessary. Competition reviews should focus on very specific banking services, such as payment (monetary transmission) and credit to SMEs. An interesting corollary of this analysis (and a proposal in the Canadian 1998 MacKay review) is the suggestion to open payment services not only to banks but also to insurance firms and fund managers as a means of reducing concentration and increasing competition. Such a move would blur the remaining differences between banks and other providers of financial services.

An issue important for antitrust specialists is whether price regulations, such as the recent ruling by the European Commission on the cost of cross-border payment, and the proposed remedy by the British Competition Commission, need to complement more traditional measures taken to facilitate entry and competition in banking markets.

A second effect of concentration has been the object of great attention in the United States and Canada. It concerns the fear that the creation of large banks would have a negative impact on the access to bank credit by SMEs. There has also been some concern that takeovers by foreign banks could reduce lending to local firms (Berger, Klapper and Udell, 2001). The perception is that large banks would concentrate their activities on large corporate firms at the expense of small and medium size firms, and that foreign-owned banks, managed by a distant head office, would reduce the supply of loans. Three empirical studies document the impact of bank mergers on small business lending in the United States. They reach a similar conclusion that the impact is unlikely to be significant (Berger *et al.* (1998), Peek and Rosengren (1999) and Strahan and Weston (1999)). In Europe, Cruickshank (2000) reports the absence of credit rationing for small and medium size

British enterprises. In Europe to the best of our knowledge, there is only one study of the impact of bank mergers on the availability of loans. Sapienza (2002) reports, in the case of Italy, that mergers tend to reduce the availability of funds. To the best of our knowledge, no other study exists in Continental Europe, and a task of central banks should be to monitor both the volumes and prices of services to retail clients and small and medium size companies.<sup>58</sup>

Finally, one must mention the competition vs. stability debate. The argument, summarized in Carletti and Hartmann (forthcoming), is that low competition or price regulation will create larger margins and a larger stream of future profits (the *franchise value*). In such a context, management will wish to reduce the riskiness to preserve the franchise value. Keeley (1990) for the United States and Salas and Saurina (forthcoming) for Spain have shown an empirical relation between deregulation, lower bank valuation, and risk-taking. Some have revived the argument of the benefits of deposit rate regulation for banking stability (Hellmann *et al.*, 2000). We do not follow this line of reasoning for the following reasons. First, on empirical grounds, it is not clear what the direction of causality is. Is it from low market value of shares to risk taking, or is it that a recession has created simultaneously a low market value of shares and credit losses. The observed correlation between market value and risk-taking could be spurious. Second, in Dermine (1986), we demonstrate that equity capital can create a similar incentive to reduce risk to that created by deposit rate regulation. The intuition is that shareholders, having more at stake, will be relatively more concerned with the low outcomes of risky positions.<sup>59</sup> Third, oligopoly or deposit rate regulation can create additional effects not taken into account in the literature. Profit can disappear with lower cost control or managerial expense (the ‘quiet life’ hypothesis), competition through costly branches, or trade-union led higher wage demands (Neven, 1993). Indeed banking supervisors should not ignore the incentives created by competition and lower profitability, and they need to reinforce the control of risks and capital adequacy.

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<sup>58</sup>A similar call is expressed by Carletti *et al.* (2002).

<sup>59</sup>Hellmann *et al.* (2000) recognize this point but argue that, in a multi-period setting, costly equity capital can reduce the value of the franchise, so that deposit rate and capital regulations should co-exist. One way to reduce the cost of equity capital is to make it tax deductible. Current international capital regulations limit hybrid securities to 15 % of capital, such as *Reserve Capital Instruments*, the cost of which is tax deductible. The tax deductibility of cost of equity capital could be generalized.

## ***Conclusion***

A twenty-year review of development in the European banking sector has, hopefully, helped to better understand the dynamics of the transformation and the potential future developments. Seven of the main conclusions of the report are as follows:

First, the creation of the single market has been conducive to massive deregulation of the banking sector in all the EU countries and to very rapid growth in this sector. In several countries, the ratio of bank assets to GDP has doubled in the last twenty years, with an almost constant workforce.

A second observation is that the consolidation movement has created banks of very large size, a trend which even accelerated in the years 1997-2001. One of the main implications is that European countries of smaller size, such as the Netherlands and Switzerland, would face severe hardship, should one of their large national banks default.

Third, although European law does allow a single banking license, a single home regulator and single bankruptcy proceedings for banks operating with branches abroad, the reality is that the significant cross-border mergers that have taken place have often resulted in the creation of a holding company structure with branches and subsidiaries. This implies that, in case of winding up, several legal structures would be involved. This increases the complexity of monitoring, and winding up these large and complex financial institutions in cases of bankruptcy. Although further work on European integration will make branches more attractive, the corporate subsidiary structure will not disappear, since some permanent economic factors motivate its existence. From a dynamic credit risk angle, it may well be that these banks are well diversified at the holding company level but not at a national level, since a subsidiary focuses increasingly on its local market. This could increase the insolvency risk of bank subsidiaries in individual countries.

Fourth, as the closure of a large international bank could have substantial cross-border spillovers, it leads to the conclusion of a need for centralization, or at least European-wide coordination of the decision to close or bail out international banks. Furthermore, in order to avoid a liquidity squeeze, bankruptcy proceedings and/or deposit insurance mechanisms need to allow quicker reimbursement to depositors in the case of winding up.

Fifth, international integration concerns mostly banking services to large corporate or financial firms. The retail market -personal or SMEs- is mostly a domestic local market because of asymmetric

information. In many countries, the domestic incumbents have been able to protect their retail market share. More legislative work appears necessary, not only to harmonize consumer protection laws and national supervisory practices, but also to ensure that national corporate or value-added taxes do not hinder the creation of efficient European firms.

Sixth, the intermediation margin on the retail market has been reduced substantially in most countries. Although this could be caused by efficiency gain and increased competition, it is likely that the major cause has been the overall decrease in interest rate levels, brought about by the introduction of the Euro. This has reduced substantially the margins on deposits.

Seventh, and final, observation is that the very large amount of domestic consolidation has increased the level of concentration in several EU countries very considerably. Measures used by antitrust specialists greatly exceed the oligopoly threshold in several countries. Strict monitoring of the degree of competition in the SME market is needed to facilitate the growth of this sector which employs more than fifty percent of the labour force in the European Union.

**Table One: Banking Regulations in 1980**

	B	DE	DK	E	F	GR	I	IRL	L	NL	P	UK
Control of interest rates	•	•	•	•	•	•	•	•	•		•	
Capital controls	•		•	•	•	•	•	•			•	
Stock exchange membership			•	•	•		•				•	•
Branch restrictions					•		•				•	
Foreign bank entry				•		•	•				•	
Credit ceilings			•	•	•	•	•				•	
Mandatory invst requirements				•	•	•				•	•	
Restrictions on insurance		•	•	•	•	•				•	•	
Leasing				•		•					•	

Source: Bingham (1985), Emerson (1988), Bröker (1989), and European Commission (1997).

**Table Two: Minimum Reserve Requirements in Selected Countries in 1990**

<b>Country</b>	<b>Reserve ratio</b>
Belgium	0 %
Denmark	0 %
France	5.5 % on checking account 3 % on savings & time deposits
Germany	12.1 % on checking accounts 4.15 % on time deposits 4.95 % on savings deposits
Italy	22.5 %
Luxembourg	0 %
Netherlands	0%
Portugal	17 %
Spain	5 %
United Kingdom	0.45 % (not used for monetary policy)

Source: Neven-Gual (1993). In 2002, a 2 % reserve coefficient is applied on short-term deposits (less than a year) of banks from the euro zone. These reserves are remunerated at the short-term market rate.

**Table Three: Introduction of Negotiable Money Market Instruments in Selected Countries (1981-1987)**

<b>Country</b>	<b>Instruments<sup>1</sup></b>
Finland	CD, TB, CP
France	CD, CP, TB
Greece	TB
Italy	CD
Netherlands	CD, CP
Portugal	TB, CD
Spain	TB, CP
Sweden	TB, CP
United Kingdom	US dollar-denominated CP

1 Certificate of Deposits (CD), Treasury Bill (TB), Commercial Paper (CP)

Source: Bröker, 1989

**Table Four: Size of Banking Sectors**

<b>Country</b>	<b>1981</b>	<b>2000</b>
<b>Belgium</b>		
Banking assets/GNP (%)	112	313
Bank employees (000)	66	76
<b>Denmark</b>		
Banking assets/GNP (%)	56	176
Bank employees (000)	N/A	N/A
<b>Finland</b>		
Banking assets/GNP (%)	60	86
Bank employees (000)	33	24
<b>France</b>		
Banking assets/GNP (%)	76	265
Bank employees (000)	NA	394
<b>Italy</b>		
Banking assets/GNP (%)	116 (1985)	127
Bank employees (000)	315	311
<b>Germany</b>		
Banking assets/GNP (%)	103	235
Bank employees (000)	501	723
<b>Netherlands</b>		
Banking assets/GNP (%)	98	216
Bank employees (000)	92	129
<b>Spain</b>		
Banking assets/GNP (%)	101	151
Bank employees (000)	252	248
<b>Sweden</b>		
Banking assets/GNP (%)	107	184
Bank employees (000)	NA	NA
<b>United Kingdom</b>		
Banking assets/GNP (%)	100	239
Bank employees (000)	NA	409

Source: country data reported at the end of the paper

**Table Five: Potential Falls (%) in Financial Product Prices as a Result of Completing the Internal Market**

	Belgium	Germany	Spain	France	Italy	Luxembourg	Netherlands	UK
Commercial loans	-4.6	6	19.2	-7.3	8.6	6.0	43.0	45.7
Consumer credit	-41	135.9	38.5	105.1	121	-26.9	30.8	121.5
Credit card	79	60.0	25.7	-29.5	88.6	-12.4	42.9	16.2
Mortgages	31.3	57.3	118.8	78.5	-4.3	36.5	-6.3	-20.7
Letters of credit	21.8	-10	58.9	-7.2	9.1	27.1	16.5	8.1
Foreign exchange draft	6.2	30.9	196.3	55.6	23.5	33.3	-45.7	16.1
Travellers' checks	35.2	-7.4	29.6	38.9	22.2	-7.41	33.3	-7.4

Methodology: A price is compared to the average of the four lowest prices observed in countries of the European Union.

Source: European Commission, 1988<sub>b</sub>.

**Table Six: Charges on Cross-border Payments**

Issuing country	Average charges (€) of payer, (2000)	Average charges (€) to payee (2000)	Total charges (€)	
			2000	1993
Luxembourg	8.15	0.76	8.91	15,75
Netherlands	8.68	1.32	10.0	18,8
Austria	9.56	1.05	10.61	NA
Belgium	13.37	0.0	13.37	23,06
Germany	13.39	0.39	13.78	26,16
France	15.36	1.52	16.88	33,01
Italy	16.1	2.18	18.28	20,88
Finland	19.77	0.34	20.11	NA
Spain	15.48	5.02	20.5	22,04
Ireland	25.61	0.37	25.98	27,13
Portugal	25.13	4.55	29.68	26,75
Average	15.51	1.59	NA	17.1

Methodology: The charge is applied to a standard cross-border transfer of euro 100.

Source: European Commission (1997, 2000).

**Table Seven: Management Fees on French Money Market Funds 1989-2002**

	Assets (€ Mn)				Management Fee (% of assets)			
	Mean	Median	Small	Largest	Mean	Median	Small	Largest
1987	743	NA	30	12,27	0.5	NA	0.05	1
2001	841	218	1.2	16,473	0.68	0.5	0.08	2

Source: Dermine-Röller (1992), Micropal.

**Table Eight: Intermediation Margin<sup>1</sup> (%) 1980-2000**

<b>Belgium</b>	<b>1980</b>	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>
Treasury-Bill	14.4	10.7	10.4	5.36	3.34
Margin on Savings Deposits	9.4	5.7	4.9	0.72	0.75
Margin on Consumer Loans				6.92	3.63
Retail Intermediation Margin				7.64	4.38
Margin on Corporate Loan	0.8	1.04	1.05	1.15	1.14
<b>Netherlands</b>	<b>1980</b>	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>
Treasury-Bill	9.2	6.85	8.13	5.18	3.34
Margin on Savings Deposits	4.2	3.5	5.63	3.13	1.84
Margin on Consumer Loans	5.3	1.65	3.62	2.32	2.91
Retail Intermediation Margin	9.5	5.15	9.25	5.45	4.75
Margin on Corporate Loan	3.05	-0.6	1.12	-0.18	0.41
<b>Finland</b>	<b>1980</b>	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>
Treasury-Bill	13.8	12.8	16.05	5.85	3.34
Margin on Savings Deposits	9.55	7.55	11.55	3.85	1.84
Margin on Consumer Loans	-3.64	-1.1	-0.45	4.09	2.75
Retail Intermediation Margin	5.91	6.45	11.1	7.94	4.59
Margin on Corporate Loan	-3.64	-1.1	-1.29	1.58	0.89

**Table Eight : Intermediation Margin<sup>1</sup> (%) 1980-2000 (cont.)**

<b>France</b>	<b>1980</b>	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>
Treasury-Bill	12.2	9.5	10	5	3.34
Margin on Savings Deposits	5.3	3	5.6	0.66	0.92
Margin on Consumer Loans			5.4	3.03	4.85
Retail Intermediation Margin			11	3.69	5.77
Margin on Corporate Loan		3.83	1.19	2.28	1.75
<b>Germany</b>	<b>1980</b>	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>
Treasury-Bill	8.86	5.87	8.3	5.16	3.34
Margin on Savings Deposits			2.08	1.37	1.31
Margin on Consumer Loans			4.32	8.18	6.84
Retail Intermediation Margin			6.4	9.55	8.15
Margin on Corporate Loan	0.8	2.39	1.31	4.16	4.34
<b>Spain</b>	<b>1980</b>	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>
Treasury-Bill	12.2	12	14	8.33	3.34
Margin on Savings Deposits	8.45	8.25	11.58	5.58	2.37
Margin on Consumer Loans	2.57	5.03	3.18	5.62	4.67
Retail Intermediation Margin	11.02	13.28	14.76	11.2	7.04
Margin on Corporate Loan	-3.64	-1.1	-1.29	1.58	0.89

<sup>1</sup> Methodology:

Margin on savings deposits : treasury bill rate - rate paid on savings deposits

Margin on consumer loans : rate charged on loan - treasury bill rate

Retail intermediation margin : rate charged on consumer loans - rate paid on savings deposits

Margin on corporate loans : rate charged on loans - treasury bill rate

Source: ECB, OECD, Banca de Espana, Bank of Finland.

**Table Nine: Market Share of Foreign Banks in 1999 (% of Total Assets)**

	From EEA countries		From Third countries		Total		
	Branches	Subsidiaries	Branches	Subsidiaries	1999	1988	1983
Austria	0.7	1.6	0.1	1.0	3.3	NA	NA
Belgium	9.0	19.2	6.9	1.2	36.3	35.2	33.9
Finland	7.1	0.0	0.0	0.0	7.1	NA	NA
France	2.5	...	2.7	...	9.8	13.5	10.1
Germany	0.9	1.4	0.7	1.2	4.3	1.8	1
Ireland	17.7	27.8	1.2	6.9	53.6	21.4	27
Italy	3.6	1.7	1.4	0.1	6.8	3	2.6
Luxembourg	19.4	65.7	1.4	8.1	94.6	91	NA
Netherlands	2.3	3.0	0.5	1.9	7.7	13	10.7
Portugal	2.5	6.8	0.1	1.0	10.5	4.2	NA
Spain	4.8	3.4	1.6	1.9	11.7	11	7.3

Source: European Commission (1997), Belaish *et al.* (2001).

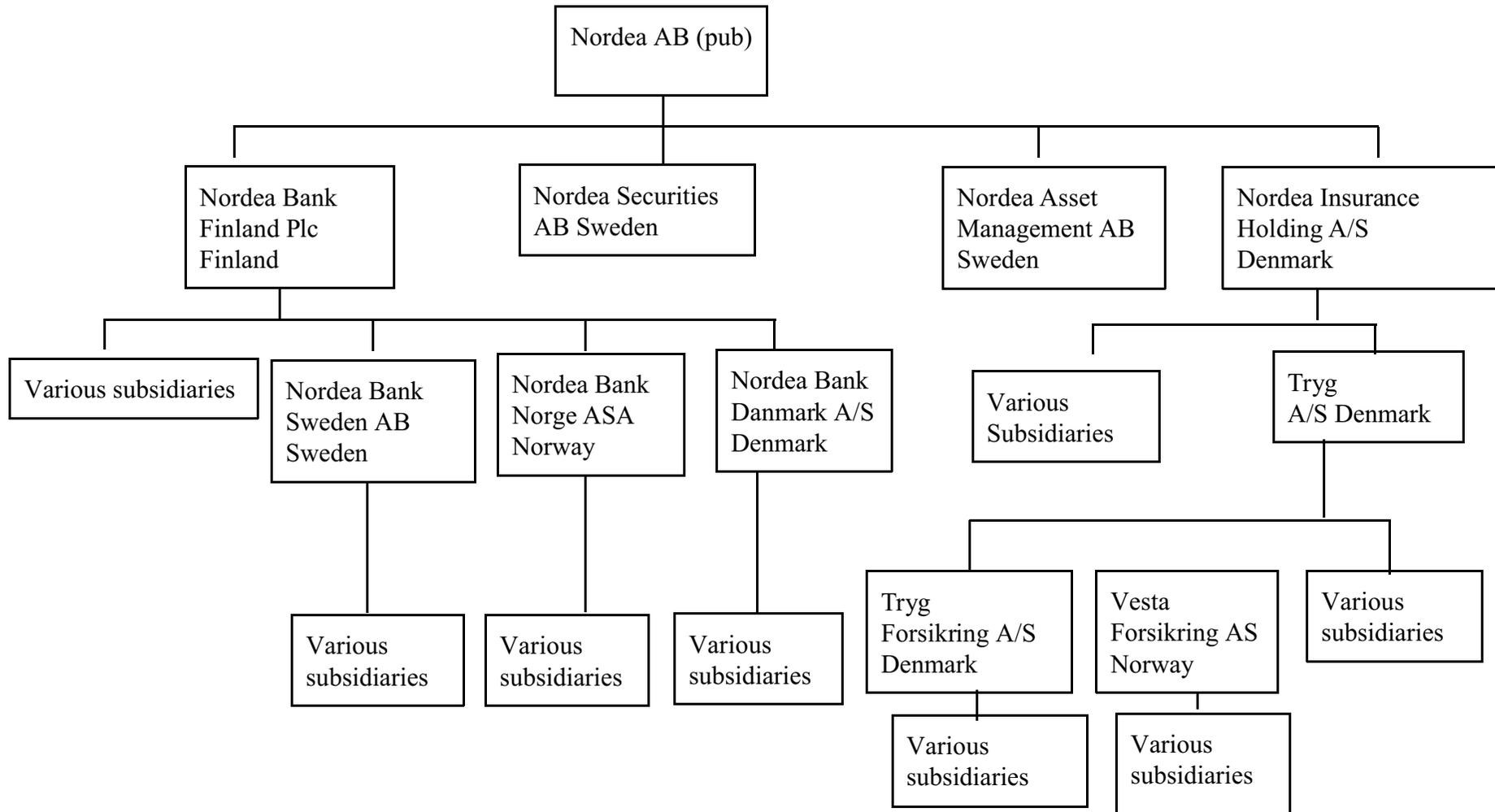
**Table Ten: Number of Foreign Branches and Subsidiaries  
(% market share of domestic assets)**

Country	EEA	Third Countries	Total
Austria # branches # subsidiaries	6 (0,7) 20 (1,6)	2 (0,1) 11 (1)	8 (0,8) 31 (2,6)
Belgium # branches # subsidiaries	25 (9) 16 (19,2)	15 (6,9) 15 (1,2)	40 (15,9) 31 (20,4)
Denmark # branches # subsidiaries	14 (NA) NA (NA)	NA (NA) NA (NA)	14 (NA) NA (NA)
Finland # branches # subsidiaries	9 (7,1)	0 (0)	9 (7,1)
France # branches # subsidiaries	46 (NA) 118 (NA)	43 98	89 216
Germany # branches # subsidiaries	46 (0,9) 31 (1,4)	31 (0,7) 45 (1,2)	77 (1,6) 76 (2,6)
Greece # branches # subsidiaries	14 (11,1) 3 (1,8)	9 (7,9) 3 (1)	23 (19) 6 (2,8)
Ireland # branches # subsidiaries	18 (17,7) 21 (27,8)	3 (1,2) 7 (6,9)	21 (19,9) 28 (34,7)
Italy # branches # subsidiaries	36 (3,6) 4 (1,7)	17 (1,4) 4 (0,1)	53 (5,0) 8 (1,8)
Luxembourg # branches # subsidiaries	61 (19,4) 97 (71,1)	7 (1,4) 46 (8,1)	68 (20,8) 143 (79,2)
Netherlands # branches # subsidiaries	11 (2,3) 8 (3)	11 (0,5) 19 (1,9)	22 (2,8) 27 (4,9)
Portugal # branches # subsidiaries	11 (2,5) 6 (6,8)	2 (0,1) 3 (1,0)	13 (2,6) 9 (7,8)
Spain # branches # subsidiaries	33 (4,8) 21(3,4)	20 (1,6) 6 (1,9)	53 (6,4) 27 (5,3)
Sweden # branches # subsidiaries	14 (1,3) 0 (NA)	3 (0,1) 1 (0,2)	17 (1,4) 1 (0,2)
United Kingdom # branches #subsidiaries	106(22,5) 18 (1)	149 (23) 114 (5,6)	255 (45,5) 132 (6,6)

total # branches	450	312	762
#subsidiaries	363	372	735

Source: ECB 1999.

**Table Eleven: Nordea AB, Group Structure**



Source: Nordea AB.

**Table Twelve : M & A in European Banking (Number of deals classified by country and sector of target firm)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Total
within-border/ within-industry	51	181	174	137	159	132	157	123	141	181	1436 (56 %)
within-border/ cross-industry	25	47	48	45	60	70	70	59	36	59	519 (20 %)
cross-border/ within-industry	24	28	31	31	41	56	49	61	62	52	435 (17 %)
cross-border/ cross-industry	10	16	11	9	15	16	17	21	25	19	159 (6 %)

Source: Source Group of Ten (2001).

**Table Thirteen<sub>a</sub> : A Selection of Major Domestic Mergers in Europe**

<b>Belgium</b>	1992	CGER-AG (Fortis)
	1995	Fortis-SNCI
	1995	KB-Bank van Roeselaere
	1997	BACOB-Paribas Belgium
		CERA-Indosuez Belgium
	1998	KBC (KB-CERA-ABB)
<b>Denmark</b>	2001	Dexia-BACOB
	1990	Den Danske Bank
		Unibank (Privatbanken, Sparekassen, Andelsbanken)
	1999	Unibank - TrygBaltica
<b>Finland</b>	2000	Danske Bank -RealDanmark
	1995	Merita Bank (KOP-Union Bank of Finland)
<b>France</b>	1996	Crédit Agricole-Indosuez
	1999	BNP-Paribas
<b>Germany</b>	1997	Bayerische Vereinsbank-
	2001	Hypo-Bank (HBV)
		Allianz-Dresdner
<b>Italy</b>	1992	Banca di Roma (Banco di Roma, Cassa di Risparmio di Roma, Banco di Santo Spirito)
		San Paolo- Crediop
	1995	Credito Romagnolo (Rolo)-Credit Italiano (UniCredito)
	1997	Ambroveneto-Cariplo (Intesa)
	1999	San Paolo-IMI
		Intesa-BCI
		SanPaoloIMI-Banca di Napoli
	2000	Banca di Roma-Bipop (Capitalia)
<b>Netherlands</b>	1990	ABN - AMRO
	1991	NMB-PostBank-ING
<b>Portugal</b>	1995	BCP-BPA
	2000	BCP-BPSM
<b>Spain</b>	1988	BBV( Banco de Vizcaya-Banco de Bilbao)
	1989	Caja de Barcelona-La Caixa
	1992	Banco Central-Banco Hispano
	1994	Santander-Banesto
	1999	Santander-BCH BBV-Argentaria (BBVA)

**Table Thirteen<sub>a</sub> (cont.): A Selection of Major Domestic Mergers in Europe**

<b>Sweden</b>	<b>1993</b>	<b>Nordbanken-Gota Bank</b>
<b>Switzerland</b>	<b>1993</b>	<b>CS-Volksbank-Winterthur</b>
	<b>1997</b>	<b>SBC-UBS</b>
<b>United Kingdom</b>	<b>1995</b>	<b>Lloyds-C&amp;G-TSB</b>
	<b>2000</b>	<b>RBS-NatWest</b>
	<b>2000</b>	<b>Barclays-Woolwich</b>
	<b>2000</b>	<b>Abbey Nat.-Scottish Provident</b>
	<b>2001</b>	<b>Halifax-Bank of Scotland (HBOS)</b>

**Table Thirteen<sub>b</sub>: A Selection of Cross-border Acquisition of Merchant Banks**

<u>BUYER</u>	<u>TARGET</u>
Deutsche Bank	Morgan Grenfell
ING Bank	Barings
Swiss Bank Corp	Warburg, O'Connor, Brinson, Dillon Read
Dresdner	Kleinwort Benson
ABN-AMRO	Hoare Govett
UNIBANK	ABB Aros
Merrill Lynch	Smith New Court FG (Spain), MAM
Morgan Stanley Dean Witter	AB Asesores
CSFB	BZW (equity part)
Société Générale	Hambros
Citigroup	Schroder
Chase	Robert Fleming
ING	Chaterhouse Securities

**Table Thirteen<sub>c</sub>: A Selection of Cross-border Acquisition of Commercial Banks**

<u>BUYER</u>	<u>TARGET</u>
DEXIA (B, F)	Crédit Communal (B), Crédit Local (F), BIL (L), Crediop (I), BACOB (B)
BACOB (B)	Paribas (NL)
ING (NL)	BBL (B), BHF (G)
GENERALE BANK (B)	Crédit Lyonnais (NL), Hambros (UK, corporate)
FORTIS (B, NL)	AMEV+Mees Pierson (NL) / CGER/SNCI (B)/Generale Bank (B)
NORDBANKEN (S)	Merita (F), Unidanmark (DK), Christiania (N)
BSCH (E)	Champalimaud (P)
HSBC (UK)	CCF (F)
Hypovereinsbank (D)	Bank Austria-Creditanstalt (A)

**Table Fourteen: International Diversification of Credit Risk, a Simulation Exercise**  
**Loan Loss Provisions as Percentage (%) of Total Loans**

	1988	1989	1990	1991	1992
Austria	0.32	0.35	0.39	0.54	0.76
Belgium	1.38	1.35	0.64	0.88	1.09
Denmark	2.2	<b>1.69</b>	<b>2.38</b>	<b>2.66</b>	<b>3.2</b>
Finland	<b>0.64</b>	<b>0.54</b>	<b>0.47</b>	<b>0.45</b>	<b>3.2</b>
France	0.46	0.33	0.3	0.49	0.74
Germany	0.4	0.82	0.83	0.6	0.69
Greece	1.09	1.28	1.4	2.5	1.24
Italy	0.46	1.23	1.21	1.12	1.12
Luxembourg	1.48	1.55	2.17	1.72	1.62
Netherlands	0.39	0.34	0.39	0.46	0.43
Portugal	3.44	4.25	4.02	4.45	4.52
Spain	1.27	0.7	0.65	1.1	1.34
Sweden	<b>1.72</b>	<b>1.51</b>	<b>0.75</b>	<b>3.2</b>	<b>6</b>
United Kingdom	<b>0.51</b>	<b>2.57</b>	<b>1.53</b>	<b>2.16</b>	<b>2.13</b>
<b>Diversified portfolio<sup>1</sup></b>	<b>0.65</b>	<b>1.15</b>	<b>0.93</b>	<b>1.15</b>	<b>1.35</b>

1. The diversified portfolio is a weighted-portfolio of loans of banks from each country, the weights being the 2000 GNP.

Source: OECD and Pesola (2001)

**Table Fifteen: Deposit Insurance Systems in Selected Countries (1990 and 2002)**

Country	Coverage (ECU, 1990)	Coverage (euro, 2002)	Funds Availability	
			Insured	Non-insured
Austria	13,7	20	3Mo	5-6Mo
Belgium	12,4	20	1Mo	several Mo
Denmark	32,94	40		
Finland	NA (100 %)	25		
France	60,88	60	3Mo	NA
Germany	30 % of equity per deposit	(20,000; 90 % of deposits up to maximum euro 20,000)	3Mo	NA
Greece	NO	20	6 Mo	NA
Ireland	12,6	(20,000 ; 90 %)		
Italy	100% for first 105,000 and 75 % for next 420,000)	103,291	3Mo	NA
Luxembourg	12,4	20		
Netherlands	18,4	20	3Mo	NA
Norway	NA	236,243		
Portugal	NA	25		
Spain	10,273	20	1Mo	12 Mo
Sweden	No	25		
United Kingdom	75% of deposits (ceiling of 19,800)	22000 ; 90 %	3Mo	NA

Source: Belaish *et al.* (2001), Kaufman and Seelig (2002), Huizinga and Nicodeme (2002).

**Table Sixteen: Bank Size**

<u>Country</u>	<u>Bank</u>	Equity (book value) (€Million, 2000)	<u>Equity/GDP</u> (2000)	Equity/GDP (1997)
UK	RBS	37,649	2.43 %	0.51%
UK	HSBC	35,06	2.26 %	2.00 %
CH	UBS	31,364	12,37 %	8.65 %
DE	Deutsche Bank	29,476	1,34 %	0.9 %
NL	ING Groep	28,98	6.65 %	5.94 %
Spain	Santander-CH	28,415	4.3 %	1.75 %
CH	Crédit Suisse	26,752	10,55 %	5.63 %
F	Crédit Agricole	26,646	1,86 %	1.55 %
F	BNP-Paribas	24,194	1,69 %	0.8 %
UK	Barclays	23,519	1.52 %	1.28 %
DE	HVB	21,777	1.0 %	0.42 %
NL	ABN AMRO	17,809	4.09 %	3.88 %
NL	Rabobank	16,258	3.73 %	2.84 %
F	Société Générale	16,605	1,16 %	0.89 %
DE	Dresdner	15,15	0.69 %	0.65 %
B	Fortis <sup>1</sup>	15, 989	2,27 %	1.33 %
B	KBC	7,668	2.85 %	1.28 %
USA	Bank of America	56,008	0,59 %	0,24 %
USA	Citigroup	70,518	0,75 %	0.5 %

1. In the case of the Belgian-Dutch Fortis, the ratio is Equity to the sum of GDPs from Belgium and the Netherlands.

Source: Thomson Analytics, author's calculations.

**Table Seventeen: Market Shares (%) per Type of Institutions in Selected Euro-Area Countries (end-1998)**

	In Percent of Total Assets	In Percent of Total Deposits	In Percent of Total Loans
France			
Commercial banks	54.1	38.4	43.5
Savings and cooperative banks	28.4	60.1	36.5
others	17.5	1.5	20
Germany			
Commercial banks	47.9	43.9	47.3
Savings & Cooperative banks	27.8	50.2	33
Others	24.2	5.9	9.2
Spain			
Commercial banks	55.7	48.6	52.7
Savings & Cooperative banks	38.7	48.1	40.2
Others	5.6	3.3	7.1
Italy			
Commercial banks	81.1	83.2	85
Savings & Cooperative banks	13.3	15.7	13.6
Others	5.6	1.1	1.4

Source: Belaish *et al.* (2001).

**Table Eighteen: Bank Profitability and Valuation Multiple**

	1996	1997	1998	1999	2000	2001	2004 <sup>2</sup>
Barclays MV/BV <sup>1</sup> ROE	2.2	3.6	3.7	3.6	2.7	2.69	20 (9%)
Lloyds-TSB MV/BV ROE	4.73	7.49	7.9	6.8	4.25	4.02	NA (9.3)
Deutsche MV/BV ROE	1.29	2.2	2.5	1.5	2.3	1.62	14 (9.7)
Dresdner MV/BV ROE	1.3	2.34	2.75	2.43	2.3	1.45	11 (9.8)
BNP-Paribas MV/BV ROE	1.12	1.05	0.85	1.23	1.92	2.92	17 (9.5)
Societe Générale MV/BV ROE	0.97	1.4	2.4	2.2	2.16	2.6	19 (9.6)
BSCH MV/BV ROE	2.14	3.66	5.9	5.3	2.99	2.99	20 (9.6)
BBVA MV/BV ROE	2.13	4.3	7.4	5.6	4.4	3.15	36 (10)

Source: Thomson Analytics

<sup>1</sup> Market value of shares (MV) divided by the book value of equity (BV).

<sup>2</sup> ROE forecast. The estimate of the cost of equity is given in parentheses (source : Schroder Salomon Smith Barney, 2001).

**Table Nineteen: EU Employment in Small & Medium Size Enterprises (SME) by Country**

Country	Total	SME as % of total
Austria	2,586,923	61
Belgium	3,678,610	53
Denmark	1,552,039	63
Finland	1,066,169	52
France	15,335,260	55
Germany	30,032,770	55
Greece	1,731,406	59
Ireland	695,832	64
Italy	13,979,206	69
Luxembourg	179,967	66
Netherlands	5,218,848	55
Portugal	2,857,252	68
Spain	10,933,530	59
Sweden	2,109,808	56
United Kingdom	20,124,117	45
Total	112,081,737	56

Source: Karmel and Bryon (2002).

**COUNTRY TABLES :**

**Belgium**

**Denmark**

**Finland**

**France**

**Germany**

**Italy**

**Netherlands**

**Spain**

**Sweden**

**United Kingdom**

**General Statistics, Belgium**

	1981	1985	1990	1995	1999/2000
Population(10 <sup>6</sup> )	9.834	9.857	9.968	10.137	10.254
GDP(Euro10 <sup>9</sup> )	89	123	166	204	250
Number of banks	120	120	115	143	117
Total banking assets (as % of GDP)	112	252	273	304	313
Claims on non-residents (% of asset)					
BIS total <sup>1</sup>		42	36	31	36
BIS non-bank		12	10	9.6	14
Liabilities to non-residents (% of asset)					
BIS total <sup>1</sup>		38	39.5	24	35
BIS non-bank		4.5	6.6	7.9	11
Number of branches	3,688	3,656		7,668	6,61
Number of employees (000)	66	71	79	77	76
Concentration: <sup>2</sup>					
C5	53.4		48	59.9	71.6
C10	69.4		65.4	75.7	82.5
Concentration: <sup>3</sup> Herfindahl				985,8	1770

Average inflation rate over previous five years	6.32	7	2.1	2.4	1.5
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<sup>1</sup>The Bank for International Settlements (BIS) reports the external position vis-à-vis all sectors (BIS total) and vis-à-vis the non-bank sector (BIS non-bank).

<sup>2</sup> C5 (C10) is the market share (% of total assets) of the five (10) largest banks.

<sup>3</sup> The Herfindahl-Hirschman Index (HHI) is the sum of the squared market share of each firm in a market. An index of 10,000 indicates that there is only one firm.

Source: BIS, OECD, Group of Ten (1991), Corvoisier and Gropp (2001).

**General Statistics, Denmark**

	1980	1985	1990	1995	1999
Population (10 <sup>6</sup> )	5.1	5.1	5.14	5.2	5.32
GDP (Euro 10 <sup>9</sup> )	55	91	118	144	176
Number of Banks	197	166	124	122	100
Total banking assets (as % of GDP)	56	91	95	118	140
Claims on non-residents (% of assets)					
BIS total <sup>1</sup>					
BIS non-bank			1.6	7.2	7
Liabilities to non-residents (% of assets)					
BIS-total <sup>1</sup>					
BIS non-bank			2	6	5.7
Number of branches		3,302	2,884	2,215	
Number of employees (000)		55	55	47	
Concentration: <sup>1</sup>					
C5	62	61	76	74	73
C10					
Concentration: <sup>2</sup>					
Herfindahl					
Average inflation rate over previous five years	10.4	7.9	3.9	2.0	2.1

<sup>1</sup>The Bank for International Settlements (BIS) reports the external position vis-à-vis all sectors (claim BIS) and vis-à-vis the non-bank sector (claim BIS non-bank).

<sup>2</sup>C5 (C10) is the market share (% of total assets) of the five (10) largest banks.

<sup>3</sup> The Herfindahl-Hirschman Index (HHI) is the sum of the squared market share of each firm in a market. An index of 10,000 indicates that there is only one firm.

Source: OECD, BIS, IFS, ECB (1999), Danmark NationalBank.

**General Statistics, Finland**

	1980	1985	1990	1995	1999
Population (10 <sup>6</sup> )	4.780	4.902	4.986	5.108	5.176
GDP (Euro 10 <sup>9</sup> )	35	60	80	101	140
Number of banks	655	635	523	351	347
Total banking assets (as % of GDP)	60	86	135	117	86
Claims on non-residents (% of assets)					
BIS total <sup>1</sup>		12.1	6	10	22
BIS non-bank		1.3	2.2	1.3	7
Liabilities to non-residents (% of assets)					
BIS total <sup>1</sup>		18.2	23	13.6	19
BIS non-bank		1.3	1.4	0.4	3.8
Number of branches	2,723	2,934	2,821	1,612	1,,268
Number of employees (000)	32.8	37	46.1	30.6	24.4
Concentration: <sup>2</sup> C5 (deposits only)				65 %	90%
Concentration: <sup>3</sup> Herfindahl				3277,9	3410,9

Average inflation rate over previous five years	10.6	8.3	5.0	2.2	1.3
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<sup>1</sup>The Bank for International Settlements (BIS) reports the external position vis-à-vis all sectors (claim BIS) and vis-à-vis the non-bank sector (claim BIS non-bank)

<sup>2</sup> C5 (C10) is the market share (% of total assets) of the five (10) largest banks

<sup>3</sup> The Herfindahl-Hirschman Index (HHI) is the sum of the squared market share of each firm in a market. An index of 10,000 indicates that there is only one firm.

Source: BIS, OECD, Group of Ten (1991), Suominen (2001), Corvoisier and Gropp (2001).

**General Statistics, France**

	1980	1985	1990	1995	1999
Population (10 <sup>6</sup> )	55.226	56.665	58.026	59.326	60.431
GDP (euro 10 <sup>9</sup> )	439	727	1009	1182	1405
Number of banks	391	360	419	421	366
Total banking assets	76	98	216	240	265
Claims on non-residents (% of assets)					
BIS total <sup>1</sup>		33	16	16.7	16.3
BIS non-bank		11	3	4.2	6
Liabilities to non-residents (% of assets) (as % of assets)					
BIS total <sup>1</sup>		27	18	16.5	16.4
BIS non-bank		3	1.7	1.5	1.5
Number of branches			26,124	26,606	26,101
Number of employees (000)			440	408	394
Concentration: <sup>2</sup>					
C5			51.9 (65) <sup>3</sup>	52 (65)	54 (63)
C10			65.6 (73)	62 (73)	69 (71)
Concentration: <sup>4</sup> Herfindahl				398.4	536.3

Average inflation rate over previous five years	10.4	9.8	3.0	2.3	1.1
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<sup>1</sup>The Bank for International Settlements (BIS) report the external position vis-à-vis all sectors (claim BIS) and vis-à-vis the non-bank sector (claim BIS non-bank).

<sup>2</sup> C5 (C10) is the market share (% of total assets) of the five (10) largest banks.

<sup>3</sup> Market share of total bank deposits.

<sup>4</sup> The Herfindahl-Hirschman Index (HHI) is the sum of the squared market share of each firm in a market. An index of 10,000 indicates that there is only one firm.

Source: BIS, OECD, Group of Ten (1991), Commission Bancaire, Corvoisier and Gropp (2001).

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**General Statistics, Germany**

	1980	1985	1990	1995	1999
Population (10 <sup>6</sup> )	78.303	77.668	79.364	81.661	82.168
GDP (Euro 10 <sup>9</sup> )	923	1,147	1,483	1,915	2,153
Number of banks	3087	4439	3913	3500	2833
Total banking assets as % of GDP)	103	117	133	169	235
Claims on non-residents (% of assets)					
BIS total <sup>1</sup>		11.5	12	13.5	17.2
BIS non-bank		2.9	3	3.9	7.5
Liabilities to non-residents (% of assets)					
BIS total <sup>1</sup>		6.8	10	13	17.2
BIS non-bank		1.9	2.3	3.6	5.6
Number of branches	33,871	38,867	39,576	44,012	40,934
Number of employees (000)	501	546	664	724	723
Concentration: <sup>2</sup>					
C5			17.1	15.8	19
C10					
Concentration: <sup>3</sup>					
Herfindahl				148.4	601.1

Average inflation rate over previous five years	4	3,8	1,3	3,6	1,2
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<sup>1</sup>The Bank for International Settlements (BIS) report the external position vis-à-vis all sectors (claim BIS) and vis-à-vis the non-bank sector (claim BIS non-bank).

<sup>2</sup>C5 (C10) is the market share (% of total assets) of the five (10) largest banks.

<sup>3</sup> The Herfindahl-Hirschman Index (HHI) is the sum of the squared market share of each firm in a market. An index of 10,000 indicates that there is only one firm.

Source: BIS, OECD, Group of Ten (1991). Corvoisier and Gropp (2001).

**General Statistics, Italy**

	1980	1985	1990	1995	1999
Population (10 <sup>6</sup> )	56.434	56.593	56.719	57.300	57.728
GDP (Euro 10 <sup>9</sup> )	211	448	727	984	1,242
Number of banks		422	379	271	237
Total banking assets (as % of GDP)		116	117	135	127
Claims on non-residents (% of assets)					
BIS total <sup>1</sup>		10	7.1	11	11.8
BIS non-bank		0	0.3	2	3.5
Liabilities to non-residents (% of assets)					
BIS total <sup>1</sup>		10.6	11	15.6	15.7
BIS non-bank		0.4	0.9	0.8	1
Number of branches		11,626	14,715	20,839	24,048
Number of employees (000)		315	331	337	311
Concentration: <sup>2</sup>					
C5				33.89	39.3
C10				49.7	56.7
Concentration: <sup>3</sup>					
Herfindahl				323.6	402.2
Average inflation rate over previous five years	16,3	13,8	5,6	5,1	2,4

<sup>1</sup>The Bank for International Settlements (BIS) report the external position vis-à-vis all sectors (claim BIS) and vis-à-vis the non-bank sector (claim BIS non-bank).

<sup>2</sup> C5 (C10) is the market share (% of total assets) of the five (10) largest banks.

<sup>3</sup> The Herfindahl-Hirschman Index (HHI) is the sum of the squared market share of each firm in a market. An index of 10,000 indicates that there is only one firm.

Source : BIS, OECD, Group of Ten (1991), Corvoisier and Gropp (2001). .

**General Statistics, Netherlands**

	1980	1985	1990	1995	1999
Population (10 <sup>6</sup> )	14.148	14.488	14.947	15.46	15.809
GDP (Euro10 <sup>9</sup> )	170	212	273	322	427
Number of banks	86	84	180	174	162
Total banking assets (as % of GDP)	98	115	178	216	
Claims on non-residents (% of assets)					
BIS total <sup>1</sup>		46.7	31	22	20
BIS non-bank		12	8	6	7.6
Liabilities to non-residents (% of assets)					
BIS total <sup>1</sup>		35	27	22	23
BIS non-bank		9	8	6	4
Number of branches	5,577	4,786	7,992	6,729	6,792
Number of employees (000)	92	92	123	111	129

Concentration: <sup>2</sup>					
C5			73.7	76.1	82.2
C10			84	85.6	90.8
C4 payment services households					93
C4 consumer credits					90
C4 payment service/loans SME					97
Concentration: <sup>3</sup>				2058	1916.6
Herfindahl					
Inflation rate	6	4.2	0.7	2.7	2.0

1The Bank for International Settlements (BIS) report the external position vis-à-vis all sectors (BIS total) and vis-à-vis the non-bank sector (BIS non-bank)

2 C5 (C10) is the market share (% of total assets) of the five (10) largest banks

3 The Herfindahl-Hirschman Index (HHI) is the sum of the squared market share of each firm in a market. An index of 10,000 indicates that there is only one firm.

Source: BIS, OECD, Group of Ten (1991), Canoy *et al.* (2001), Corvoisier and Gropp (2001). .

**General Statistics, Spain**

	1980	1985	1990	1995	1999
Population (10 <sup>6</sup> )	37509	38419	38850	39223	39927
GDP (Euro 10 <sup>9</sup> )	102	189	368	467	649
Production					
Number of banks	357	364	327	318	290
Total banking assets (as % of GDP)	101	130	116	159	151
Claims on non-residents (% of assets)					
BIS total <sup>1</sup>		8.9	5.9	15.7	12.3
BIS non-bank		3.1	2	3.1	4.2
Liabilities to non-residents (% of assets)					
BIS total <sup>1</sup>		8.2	9.8	12.1	20.1
BIS non-bank		3.7	4	4.4	7.8
Number of branches	25,89	32,7	35,505	36,405	39,091
Number of employees (000)	252,3	243,486	251,587	249,023	248,081
Concentration: <sup>2</sup>					
C5	38.1		38.3	48.2	
C10	56.4		60.2	62	61.8
Concentration: <sup>3</sup>					
Herfindahl				376	568,2

Average inflation rate over previous five years	18.7	12.2	6.4	5.3	2.3
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<sup>1</sup>The Bank for International Settlements (BIS) report the external position vis-à-vis all sectors (claim BIS) and vis-à-vis the non-bank sector (claim BIS non-bank).

<sup>2</sup> C5 (C10) is the market share (% of total assets) of the five (10) largest banks.

<sup>3</sup> The Herfindahl-Hirschman Index (HHI) is the sum of the squared market share of each firm in a market. An index of 10,000 indicates that there is only one firm.

Source: BIS, OECD, Group of Ten (1991), Banco de Espana, Corvoisier and Gropp (2001).

**General Statistics, Sweden**

	1980	1985	1990	1995	1999
Population (10 <sup>6</sup> )	8,311	8,35	8,566	8,827	8,858
GDP (Euro 10 <sup>9</sup> )	64	108	171	207	243
Production					
Number of banks	598		498	116	126
Total banking assets (as % of GDP)	107	122	173	152	184
Claims on non-residents (% of asset)					
BIS total <sup>1</sup>		7	8.5	10	12
BIS non-bank		1.6	3.6	2.8	3.4
Liabilities to non-residents (% of asset)					
BIS total <sup>1</sup>		10	24	15	17
BIS non-bank		1	3	2.2	2.2
Number of branches					
Number of employees					
Concentration: <sup>2</sup>					
C5			6276	8492	8490
C10					
Concentration: <sup>3</sup>					
Herfindahl					

Average inflation rate over previous five years	10.5	9	6,3	4,4	0,6
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<sup>1</sup>The Bank for International Settlements (BIS) report the external position vis-à-vis all sectors (BIS total) and vis-à-vis the non-bank sector (BIS non-bank).

<sup>2</sup>C5 (C10) is the market share (% of total assets) of the five (10) largest banks.

<sup>3</sup> The Herfindahl-Hirschman Index (HHI) is the sum of the squared market share of each firm in a market. An index of 10,000 indicates that there is only one firm.

Source: BIS, OECD, IFS, Group of Ten (1991).

**General Statistics, United Kingdom**

	1980	1985	1990	1995	1999
Population (10 <sup>6</sup> )	56,33	56,,685	57,561	58,612	59,756
GDP (Euro 10 <sup>9</sup> )	373	571	898	1,16	1,521
Number of banks	346		507	484	418
Total banking assets (as % of GDP)	100	167	217	237	239
Claims on non-residents (% of assets) BIS total <sup>1</sup> BIS non-bank					
Liabilities to non-residents (% of assets)	67	71	49	51	50
Number of branches (large banks)			12,994	10,601	11,274
Number of employees (large banks)			411,5	382,7	409,825

Concentration: <sup>2</sup>					
C5			43.5	43.6	35.3
C10			55.7	61.5	58.9
C4 money transmission household					74 %
C4 current account					68 %
C4 credit card					78 %
C4 liquidity mgt SME					91 %
C4 loan SME					84 %
Concentration: <sup>3</sup>					
Herfindahl SME					2,410
Average inflation rate over previous five years	14,3	7,2	5,9	3,4	2,6

<sup>1</sup>The Bank for International Settlements (BIS) report the external position vis-à-vis all sectors (claim BIS) and vis-à-vis the non-bank sector (claim BIS non-bank).

<sup>2</sup> C5 (C10) is the market share (% of total assets) of the five (10) largest banks.

<sup>3</sup> The Herfindahl-Hirschman Index (HHI) is the sum of the squared market share of each firm in a market. An index of 10,000 indicates that there is only one firm.

Source: BIS, OECD, IFS, Group of Ten (1991), Cruickshank (2000), Competition Commission (2002).

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