

European Banking with a single Currency

1. Introduction

The Maastricht Treaty on European Union provides for the introduction of a single currency by January 1, 1999 at the latest. Although a large series of papers and conferences have been concerned with the timing and sequencing of the introduction of the new currency and with an estimate of the costs that would be incurred, very few published studies have attempted to evaluate the likely impact of a single currency on European banks. The purpose of the paper is to identify the various ways in which a single currency will alter fundamentally and permanently the European banking markets. No attempt will be made to analyse the short term significant changes brought by the introduction of the currency, but the focus will be entirely on the medium and long term impact. One question is being addressed: Once a single currency is in place, what is likely to change in European banking markets? This is a complex question for two main reasons. Firstly, there is no

equivalent historical episode one can rely on to draw conclusions; secondly, banking markets are already affected by major forces, such as deregulation, institutional savings, information technology and globalization of corporate clients. One needs to take into account these forces of change to evaluate the specific impact of the single currency. To address this issue, references to a wide economic literature will be made, ranging from the theory of market microstructure to international monetary economics. Throughout the analysis, no attempt will be made to identify those countries likely to adopt the single currency. Therefore, the conclusions of the paper are mostly relevant for banks of the participating countries.

The analysis developed in the paper will attempt to show how, besides an obvious fall in revenue from intra-European currencies trading, a single European currency will change fundamentally and permanently the sources of competitive advantage of financial institutions. Indeed, an analysis of the structure of the banking industry raises the question of the importance of a currency factor. For instance, the markets for pensions funds and mutual funds management, or the Euro-Francs and Euro-Lira bond markets are quite fragmented with domestic institutions capturing a very large market share. Although this fragmentation is explained in part by regulations and history, it could reflect the importance of national currencies. Another example is the leading role of American in-

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stitutions in the dollar-denominated Eurobond market. Will the emergence of a new world currency competing with the US dollar help the competitiveness of European banks? The purpose of the paper is to answer these questions by showing how the introduction of a common currency is likely to change the sources of competitive advantage in various markets such as those of government bonds and their fast growing appendices the interest rate derivative markets, of corporate bonds and equities, of foreign exchange, and of fund management.

Seven impacts are identified; they concern mostly wholesale and corporate banking. It is the author's view that the single currency per se will not change much the nature of retail banking in the medium run, except for the very important fact that a single currency will render irreversible the creation of a single banking market. A more predictable environment will facilitate the exploitation of economies of scale and the optimal location of processing units.

The paper is structured as follows. Sections Two and Three review briefly the origin of European Monetary Union (EMU) and the current discussion on the introduction of a single currency. The third section summarizes the current forces driving the transformation of the European banking industry, namely deregulation, institutional savings, information technology, and globalization of corporate clients. The core of the paper is in Sections Five to Eight. Section Five presents the impact of a single currency on European capital and banking markets. The government bond markets, the corporate bond and equity markets, the fund management industry, the Euro-deposit markets, the market for foreign exchange, and the role of London as an international financial center will be successively analysed. Section Six will assess the prospect for *euro* as an international currency and evaluate the likely benefits for European banks. Section Seven will evaluate the impact of a single currency on credit risk and make an argument for an increased international diversification of loan portfolios. Finally, Section Eight concludes the

paper and summarizes the effects that a common currency will have on European Banking.

2. The Origin of EMU, a Reminder

Ten years ago in 1985, the European Commission published the *White Paper on the Completion of the Internal Market* which provides for the free circulation of persons, goods, and capital in the European Union. 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 February 1992 Maastricht Treaty on European Union. Stage I running from July 1, 1990 to December 31, 1993 provides 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 is to prepare the monetary institutions and the European System of Central Banks. Finally, Stage III will lead to European Monetary Unification (EMU). Article 109J of the treaty is quite specific on the timing. At the latest in December 1996, the Council of Heads of State or government with qualified majority decides if a majority of States qualify, decides to start Phase III, and if it is the case fixes the starting date (at the latest January 1, 1999). If no decision has been taken by the end of 1997, the starting date will be January 1, 1999. Before July 30, 1998, the Council will decide which countries will join EMU[1].

The economic benefits and costs of EMU were discussed in a European Commission's study *One Market, One Money* (EMERSON, 1990). The report cited four major benefits arising from the introduction of a single currency: Reduction in transaction costs, reduction in risk, increased competition, and emergence of an international currency competing with the US dollar. The first benefit is the obvious reduction of transaction costs linked to a reduced need of exchanging intra-European currencies. With intra-European

trade representing sixty percent of the international trade of the European Union, the savings was estimated in the EMERSON study at ECU 13.1–19 billion[2], representing 0.3 to 0.4% of European Gross Domestic Product. This reduction of transaction costs is coming at the expense of financial institutions providing the foreign exchange service; it would represent around five percent of banks' value added[3]. The second benefit attributed to EMU is a reduction of foreign exchange risk and of substantial changes in relative prices. The reduction of transaction costs and foreign exchange risk will presumably facilitate the realization of the single market programme, allowing firms to choose the appropriate size and optimal location, facilitating restructuring, investment and economic growth. The third identified benefit is derived from the use of a single denomination measure which will make price comparison easier, increasing competition and consumers' welfare. Finally, the fourth benefit of EMU is the creation of a world currency competing with the US dollar and the assumed (but unidentified) benefits of an international currency status.

A potential cost of EMU was mentioned by several economists. It is the sacrifice of national

monetary autonomy and the possibility of adjusting exchange rates to restore competitiveness. In his review of European Monetary Unification, B. EICHENGREEN (1993) expressed doubts that the four benefits alone can outweigh the cost linked to the loss of monetary autonomy. In his view, the major benefit of EMU can be argued if a single currency is a necessary concomitant of the single market programme the benefits of which are likely to be substantial. Resistance to the creation of the market would be reduced if the single currency could prevent 'beggar-thy-neighbour' type of competitive devaluations. EMU is therefore the cement of the single market which by integrating previously fragmented markets will allow firms to realize gains in productivity and competitiveness.

For reference, Table One documents[4] the relative economic importance of the European Union of fifteen countries (EU15) in the world. The EU15 population amounts in 1993 to 370 millions (vs 258 millions in the United States, and 125 millions in Japan), Gross Domestic Product to ECU bn 5,798 (vs ECU bn 5,663 in the USA, and ECU bn 3,780 in Japan), and the exports to non EU-countries to ECU bn 483 (vs total export of ECU bn 415 in the USA, and ECU bn 322 in Japan).

Table 1: Macroeconomic Statistics (end-of-1993)

	Austria	Belgium ¹	Denmark	Finland	France	Germany	Greece
Population (million)	8	10.3	5.2	5.08	57.7	81.2	10.4
GDP (ECU bn)	162.2	180.8	115	74.8	1080	1453	60.24
Import (ECU bn)	43.35	94.14	27.27	16.1	180.7	306	19.6
(from EU15)	(30.04)	(71.5)	(17.7)	(9.31)	(111.3)	(171.7)	(12.35)
Export (ECU bn)	35.85	105	33.2	20.96	185.6	339.4	8.5
(to EU15)	(23.5)	(79)	(20.8)	(11.9)	(115.8)	(199)	(5.7)
Public Debt (ECU bn)	63.63	227.3	13.7	26.78	365.8	414.2	76.88
ECU rate	14.6	40.29	7.59	6.42	6.57	1.936	278.2

Source: International Financial Statistics (IMF), Government Finance Statistics Yearbook 1994 (IMF), Eurostat.

¹ The Export and Import figures include the external trade of Luxembourg.

Table 1: Macroeconomic Statistics (cont.)

	Ireland	Italy	Luxemb.	Netherl.	Portugal	Spain	Sweden
Population (million)	3.55	57.07	0.39	15.3	9.9	39.14	8.75
GDP (ECU bn)	40.7	832.6	8.4	264.5	57.5	417.2	155.2
Import (ECU bn)	19.5	122.7	–	100.62	21.6	74.14	38.22
(from EU15)	(11.4)	(72.9)		(61.8)	(16.06)	(47.7)	(23.9)
Export (ECU bn)	25.3	140	–	113.7	13.74	56.3	44.5
(to EU15)	(19.5)	(80)		(85.7)	(11)	(39.8)	(26.4)
Public Debt (ECU bn)	40.8	927.5	0.32	165.3	36	196.6	95.91
ECU rate	1.26 ¹	1908.4	40.29	2.17	197.2	146	9.29

Source: International Financial Statistics (IMF), Government Finance Statistics Yearbook 1994 (IMF), Eurostat.

¹ ECU per £.

Table 1: Macroeconomic Statistics (cont.)

	UK	EU15	USA	Japan	Switzerland	World
Population (million)	57.9	370	258	125	6.9	
GDP (ECU billion)	896	5,798	5,663	3,780	229	21,052
Import (ECU billion)	192.4	1,256	518	215	54	3,333
(from EU15)	(101)	(759)	(102.7)	(29.4)	(43)	
Export (ECU billion)	168.9	1,291	415	322	54	3,368
(to EU15)	(92.2)	(808)	(90.6)	(54.4)	(35)	
Public Debt (ECU billion)	268.6	2,919	3,028.6	1,935	46	
ECU rate	1.32 ¹		1.12	124	1.5	

Source: International Financial Statistics (IMF), Government Finance Statistics Yearbook 1994 (IMF), Eurostat.

¹ ECU per £.

3. Issues with the Introduction of a Single Currency

Since early 1994, there has been a series of papers and conferences on the way to replace national currencies by a European one and on the implementation costs[5]. The practical issues mentioned in those studies refer to changes in computer programmes, accounting and payment systems (including ATM/POS, coins/notes), and the legal issues linked to the status of all financial contracts denominated in national currencies with maturity overlapping the date of introduction of the single

currency. The total cost incurred by the introduction of a single currency have been estimated by the Banking Federation of the European Union (1995) at ECU 8–10 billion, the equivalent of two percent of banks' operating expenses, repeated over three or four years. The estimate for single banks vary widely with figures ranging from ECU 100–150 million for large banks[6] (AMUE, 1994) to an estimate of ECU 6 million for a Belgian bank (SWINGS, 1994). These studies have referred to the very practical problem caused by decimalisation, as the conversion from national rounded prices into *euro* prices is unlikely to be

equally rounded. As LEVITT (1994) puts it nicely: „Management of exchange rates is not normally undertaken to facilitate mental arithmetic“. Not only the public will need to adapt to decimals, but, apparently, computers as well. An expert from Euroclear is quoted saying: „It should not be taken for granted that all bond-related securities system can accommodate decimal figures for nominal amounts“ (DINNE, 1995). Besides references to arbitrage opportunities⁷, these studies on the practical aspects of the introduction of a single currency have referred to two historical experiences: The United Kingdom and Germany. The Decimal Currency Board in Great Britain planned the decimalisation over a six years period from 1966 to 1971 (BISHOP, 1994 and LEVITT, 1994). But, German Monetary Unification took place in a much shorter period. From the proposal for monetary union in February 1990, via the treaty signed in May 18, 1990, to the effective change of currency in the first week of July 1990, it took five months (SCHRÖDER, 1994).

A large part of the most recent discussion has centered on the sequencing of events and whether there would be a big bang in which all denomination, payment systems and means of exchanges will be converted in *euro* in a very short period, or whether there will be a dual-currency process where *euro* and national currencies would co-exist. In May 1995, the European Commission building on the results of the Maas Committee's report published a consultative Green Paper (European Commission, 1995, and BISHOP, 1995) which sketches the framework. It proposes a „mounting wave“ approach with three phases spread over four years. In November 1995, the European Monetary Institute presented a proposal for *The Changeover to the Single Currency* (EMI, 1995_a). The plan was endorsed by the EU heads of state or government at the Madrid summit held in December 1995.

Period 1: The Launch of EMU. Early May 1998, the decision to launch EMU is taken at a qualified majority and the participating countries are nominated. The heads of state or government will

make their decision on the basis of the recommendation of the Council of Ministers, taking due account of the reports submitted by the European Commission and the EMI[8] (EMI, 1995_b).

Period 2: January 1, 1999. The exchange rates of the participating countries will be irrevocably fixed. To create a significant volume of transactions in *euro*, the monetary policy including foreign exchange interventions with third countries currencies, bank reserves management and open market policies will be run in *euro*. New government debt would be issued in *euro*. And the wholesale interbank market for real value transfers operating through TARGET will be run in *euro*. Phase B would last a maximum of three years ending with Period 3 in 2002. *Conversion facilities* will translate amounts from European into national monetary units and vice versa, at the irrevocably fixed conversion rates. In principle, these facilities will be set up in financial institutions. However, for those institutions which have not been able to equip themselves with the necessary conversion facilities, the national central banks could provide such facilities.

Period 3: On January 1st, 2002 at the latest, European banknotes and coins are introduced, and a dual currency system involving *euro* and national currencies will be run. Six months later (1st July 1992 at the latest), national banknotes and coins lose their legal tender and *euro* becomes the sole currency.

The launching date of EMU (January 1st, 1999) created its first impact on financial markets in March 1996 when German investors concerned with uncertainty expressed a clear preference for short maturity bonds, and when the London Financial Futures Exchange (Liffe) perceived the need to clarify the status of short term interest rate contracts with a delivery date for March 1999[9].

It appears clearly from the early work on the introduction of a single currency that there is no technical impediment to the introduction in 1999, and that the costs are bearable. Therefore, an assessment of the likely impact of a single currency

on European banking is a highly relevant and timely exercise.

Before evaluating the specific impact of the single currency on European banking markets, we first summarize the current forces driving the transformation of the European banking industry. This will allow to evaluate the specific impact of a single currency in the likely restructuring of the banking industry.

4. Current Forces Shaping the Transformation of the European Banking Industry

As the move to a single currency will be in many ways an additional force driving the transformation of European banking, it is useful to identify the existing forces: Worldwide deregulation, demographic change with an institutionalization of savings, revolution in information technology, and the globalization of corporate clients.

4.1 Deregulation

Over the last fifteen years, the European banking industry which used to be heavily regulated has been freed. Deregulation has concerned abandon of credit controls, interest rate setting agreements, and cross-border capital controls. The powers of many financial institutions such as savings banks have been enlarged, so that the institutional distinction between different categories of financial services firms is increasingly blurred. The stock exchange business has been deregulated and the universal banking model has allowed the creation of large diversified financial houses. Deregulation in Europe is partly driven by 'free market' forces, but also by the process chosen for European integration. Indeed, since the 1992 single market programme had entailed a very minimal harmonization of existing regulations[10], forces for competitive deregulation are at work, each country trying to enhance the attractiveness of its home markets. For instance, money market funds were

progressively allowed in most European countries, and reserve requirements on bank deposits have been reduced significantly. The impact of deregulation has been profound because it has altered the form of competition observed in retail banking markets. Competition through prices and product differentiation are progressively replacing branch network competition. Moreover, the regulatory rents which were partly captured by labor (NEVEN, 1993) disappear progressively under the competitive pressure. In various countries, deregulation has led to rationalization of the branch network, partly through domestic mergers. Table Two illustrates some of the major domestic mergers which have taken place in Europe. This should not hide the flow of cross-border mergers, and in particular the purchase of British merchant banks by commercial banks[11]. Finally, deregulation has altered fundamentally the nature of counterparty risks. While European banking had been widely preserved from bank failures since the Second World War, various leading institutions have in recent years needed a public safety net in Finland, France, Norway, Spain and Sweden.

4.2 Demographics and the Institutionalization of Savings

Table Three documents the rapid increase expected for the *Elderly Dependency Ratio*, that is the ratio of retirees as a percentage of the working population. For instance, this ratio is expected to increase in Italy from thirty percent to forty five percent in the year 2020. The very rapid change expected in demographics has raised the need for funded pension schemes, and substantial increase are expected in institutionalized savings, pension funds or life insurance policies. If cross-country comparison is a guide, one can expect a major increase in this type of savings. Indeed, as Table Four documents, life pension assets represent 107 percent of Gross Domestic Product in the Netherlands for only 12 percent in Italy[12].

The anticipated change in demographics has two major implications. The first one is that the financial resources raised traditionally by banks under the form of deposit will have to be replaced by life insurance reserves and/or pension funds. The successful move by banks into life insurance is a testimony of the need to access a growing market. The second implication is that pension funds are sophisticated investors likely to invest domestically and internationally in the capital (bond/equity) markets. One can therefore anticipate an enormous growth in the size of capital markets in Europe[13]. In a very competitive environment in which performances of funds are evaluated almost daily through marking-to-market rules, these institutional investors contribute to the pressures exercised on management of firms, and banks in particular, to move away from market share to value-based management strategies.

Table 2: Domestic Mergers in Europe¹

Belgium	1992	CGER-AG (Fortis)
	1995	Fortis-SNCI
Denmark	1995	KB-Bank van Roeselaere
	1990	Den Danske Bank Unibank (Privatbanken, Sparekassen, Andelsbanken)
Finland	1995	KOP-Union Bank of Finland (Merita Bank)
France	1996	Crédit Agricole-Indosuez
Italy	1992	Banca di Roma (Banco di Roma, Cassa di Risparmio di Roma, Banco di Santo Spirito)
	1995	IMI - CariploSan Paolo - Crediop
		Credito Romagnolo (Rolo) -Credit Italiano
Netherlands	1990	ABN - AMRO
	1991	NMB-PostBank-ING
Portugal	1995	BGP-BPA
Spain	1988	BBV(Banco de Vizcaya-Banco de Bilbao)
	1989	Caja de Barcelona-La Caixa
	1992	Banco Central-Banco Hispano
	1994	Santander-Banesto
Sweden	1993	Nordbanken-Gota Bank
Switzerland	1993	CS-Volksbank
United K.	1995	Lloyds-C&G-TSB

¹ Not complete. For illustration only.

Table 3: Elderly Dependency Ratio

(Number of Persons Aged 65 & Over as Percentage of the People Aged 25-59)

	1990	2020
Austria	24%	33%
Belgium	31	43
Denmark	33	45
Finland	27	48
France	30	43
Germany	29	40
Ireland	28	38
Italy	30	45
Netherlands	26	40
Portugal	29	37
Spain	30	38
Sweden	38	48
United Kingdom	34	40
USA	27	36
Japan	24	55

Source: POORTVLIET and LAINE, 1994 (author's calculation).

4.3 Information Technology

Some fundamental and permanent functions of banks entail the bookkeeping, transfer of wealth, and identification, measurement and management of risks, all functions dealing with the storage, manipulation and transformation of informations. As a consequence, the rapid progress in information technology is transforming the banking industry in several dimensions: less paper-based work, new instruments (such as derivatives), access to new international securities markets, new channels of distributions (home banking, direct banking), and dematerialisation of securities which transform custodial business. Technology has allowed the entry of new non-bank competitor such as ATT and it universal credit card or Reuters and Telerate in spot currency trading (ARONSON, 1995).

Table 4: Life-Insurance and Pension Fund-Assets (as a percentage of GDP)

Country	1980	1990
Denmark	19	–
France	7	13 ¹
Germany	14	22
Italy	3	12 ²
Netherlands	63	107
Sweden	51	63
UK	46	97
USA	42	68
Japan	12	41
Switzerland	70	82 ³

Source: DAVIS, 1995.

¹ 1988

² 1987

³ 1985

4.4 Globalization of Corporate Clients

The creation of the single market in Europe, the realization of the North-American Free Trade Agreement, the successful conclusion of the Uruguay Round of the GATT negotiation in 1994, and the rate of economic growth in South-East Asia contribute massively to the globalization of the manufacturing business. This has put pressure on banks to deliver services for these international clients in terms of trade financing or international cash management. An indirect impact of globalization is that the treasury-finance activities of international firms are increasingly centralized in a location that needs to be accessed by financial institutions.

European banks have gone through significant restructuring in the last fifteen years. This was led primarily by deregulation, but also by changes in savings, information technology, and the globalization of large corporate clients. It is in this context that we attempt to evaluate the impact of a single currency on the European banking industry.

5. European Money and Capital Markets with a Single Currency

In view of the large increase in the size of capital markets fuelled by demographic changes and institutional savings, the impact of the single currency on capital markets is first evaluated. We shall analyse successively the government bond market, the corporate bond and equity market, institutional fund management, the Euro-deposit and loan market, the market for foreign exchange, and finally the role of London as a European financial center.

Table 5 documents the relative importance of capital markets in Europe. In 1993, the capitalized stock market to GDP ratio stood at 44% in Europe, compared to 73% in the United States and 79% in Japan. Within Europe, this ratio varies greatly with on one side the United Kingdom at 107% and on the other side Austria at 16%. Similar ratio for a bond market dominated by public debt stands at 68% in Europe, compared to 85% in the United States and 42% in Japan. Within Europe, there is wide a difference with Denmark at 180% and the United Kingdom at 30%.

5.1 The Government Bond Market

The first observation is that the arrival of a common currency will create the need for a single risk free-interest rate yield curve matching interest rates to maturities to act as an anchor for the pricing of securities. A unique characteristic of the single European market is the absence of a federal debt the price of which could help to derive a yield curve. It will be left to market forces to choose the national government bonds that will qualify as risk-free bonds. Country ratings provided in Table 6 show that six out of the fifteen countries have today a AAA status[14], with an additional two with a AA1 status (Belgium, Denmark). Together in 1993, these six AAA-countries represented 44% of outstanding European public debt. One will notice the particular place of the

A1-rated Italy whose public debt amounts to 32% of total European debt.

A first and very likely rapid impact of the creation of a European risk-free yield curve will be the consolidation of the fast growing derivative industry. Indeed, as very few instruments are needed to ride a yield curve in a particular market, the single currency implies that there will be a need for only a few *euro*-based interest rate instruments. Table 7 shows that the number of interest rate future contracts traded in Europe in 1996 reached 154 millions, fairly close to the 158 millions contracts traded in the USA. The European interest rate derivative market is quite fragmented with Liffe having a market share of 55%, compared to 21% for Matif, and 14% for DTB. With few exceptions, the derivative instruments are traded in a place close to the cash bond market. If the American case is a guide, there is little doubt that the twenty European interest rate future contracts will be replaced by a few (three or four) *euro*-rate contracts. Indeed, we do not observe in the United States the creation of contracts competing with those already established. Moreover, since the economics of clearing houses is based on netting of positions and pooling of counterparty risks, it will be efficient to merge the different clearing houses into one to facilitate the accounting, netting and clearing mechanisms.

A second observation about the government bond market in Europe is that, in many countries, it is very much a fragmented market with domestic players capturing a large market share. This raises the question of the sources of competitive advantage for local banks. The economics of underwriting of securities and secondary trading typically refer to three potential sources of comparative advantage:

- Long term historical access to customer
- Credit risk evaluation
- National currency denomination which facilitates the understanding of national monetary policy, the placement power with access to investors, and the understanding of trade (demand/supply) flow patterns.

As concerns the underwriting of government risk-free bonds, FELDMAN-STEPHENSON (1988), a Federal Reserve study (1991), and FOX (1992) show that the dominance of local players is the result of three main factors. The first is historical with local players having a privileged access to the public debt; the second is domestic currency denomination which facilitates the access to a large investor home base, providing a significant advantage not only in placing, but also in understanding the demand/supply order flows. Finally expertise in the domestic monetary environment provide essential information to operate on the secondary bond market[15]. Will these sources of competitive advantage survive with a single currency?

As domestic currency denomination, the main source of competitive advantage identified for local banks in the literature, will disappear, it is quite likely that we shall observe the emergence of a truly integrated European bond market. If access to information on the supply/demand order flows seems essential for secondary trading, then very likely operations at the European-wide level will become a necessity. As a tentative base for comparison, it is symptomatic to observe from Table 8 that the top ten American underwriters of municipal debt control 64% of the market.

5.2 The Corporate Bond and Equity Markets

As is the case for government bonds, a key issue concerns the sources of competitive advantage of local institutions in corporate bond and equity underwriting and secondary trading. As explained earlier, customer relationship, assessment of credit risk, and currency of denomination are critical sources of competitive advantage[16]. The Euro-bond market presents an interesting case. A study by the Federal Reserve Bank of New York (1991) reports a strong correlation for non-dollar issues between the nationality of investors and the lead bank manager. This is confirmed by Tables 9 to 12 which show that with very few exception the lead managers in the Eurobond markets in France, It-

aly, Spain or the United Kingdom were invariably local institutions. The domestic currency denomination facilitating the access to an home-investor base was a key-source of competitive advantage for placement but also for secondary trading. Moreover, an understanding of local monetary policy would give a competitive advantage to understand price movements. On the dollar-denominated issue, the Federal Reserve study reports a strong correlation between the nationality of the issuer and that of the book runner. This is explained by the relative importance of customer relationship and a better assessment of credit risk which seems to dominate the currency and home-investor factors in the case of a well accepted currency. From the overall Eurobond league documented in Table 13, it is symptomatic to observe that no British institutions are in the top ten. Quite illustrative, Warburg left in 1995 the Eurobond market which it helped to create when Sir Siegmund did a fifteen million dollar loan to the Italian road builder Autostrade in July 1963. The leading role of American firms is explained not only by large issues by American companies, by their expertise developed in their home corporate securities markets, but also by the important advantage linked to the dollar denomination of many bonds. Indeed, an understanding of US order flows and US monetary policy provides a decisive advantage in secondary trading as it helps to predict price movements.

A single currency in Europe will change fundamentally the competitive structure of the corporate bond and equity markets as one key-source of competitive advantage, namely home currency, will disappear[17]. Indeed, savers will diversify their portfolio across European markets, the exchange rate risk being eradicated. Moreover, a single currency will suppress the secondary trading advantage for domestic banks derived from a better understanding of order flows and monetary policy in the domestic country. Therefore, the two main sources of comparative advantage remaining for local players will be historical customer relationship and the understanding of credit risk

through a better knowledge of the accounting, legal, fiscal (not to mention language) environment. In our view, whenever the credit risk embedded in corporate securities can be assessed better by domestic banks, it is likely that these players will control underwriting and secondary trading. However, another factor could alter the corporate underwriting business. If manufacturing firms consolidate across Europe and centralize their finance department in the country of the parent, the portfolio of domestic client firms would have to be reviewed.

As concerns competition in the corporate bond and equity market in third non-EU countries, an expansion of the role of *euro* as an international currency[18] will reinforce the position of European banks. That is because very much as is the case today for American firms with dollar-denominated bonds, European banks will enjoy a competitive advantage in the *euro*-denominated securities market.

Finally, as the activities of underwriting of securities and secondary trading have been identified as quite complementary (BREALEY and KAPLANIS, 1994), one has to see whether the trading of domestic securities could migrate to a European exchange located in another country, de facto modifying the competitive advantage of domestic players.

As concerns the competition between securities exchanges, several authors[19] refer to the network externality of a stock market. A market like any communication network is subject to network externalities. The demand for immediacy (liquidity) is more readily satisfied the more traders in the market because the probability of executing an order increases with the number of traders. As a result, a market has a natural monopoly that benefits from being the first mover. One often refers to London as the candidate for a European securities market given its current size or turnover in foreign equities. The Bank of England[20] reports that 587 overseas securities are already quoted on SEAQ International, and that in 1992 more than twenty percent of the overall turnover

in those shares took place on SEAQI. The movement to a single currency would facilitate securities exchange in one market[21]. However, centralization into one market is likely to be defeated by new information technologies that will allow to bypass floor-based trading. With an information technology that disseminates rapidly information and the fact that European exchanges are moving to some form of screen-based trading, the location of an exchange will matter less and less for secondary trading. These authors anticipate a web of interlinked exchanges with efficient transmission of information and centralized clearing and settlement systems[22]. The important implication in the context of this study is that secondary trading can be initiated from any place by the banks developing an expertise in domestic securities. To conclude this analysis of the impact of a single currency on the corporate bond and equity markets, it seems that customer relationship and an understanding of credit risk will remain two sources of strength for domestic firms.

5.3 Fund Management

An important segment of capital markets business is the fund management industry, pensions funds or mutual funds. League Tables 14 and 15 for the United Kingdom and the United States report a fragmented structure of the pension fund industry controlled mostly by domestic firms. Evidence on the importance of economies of scale in the industry is not definitive as one observes the fairly small market share achieved by the five largest fund managers in the United States (13.2%), while the top five in the United Kingdom control 53.3% of the market. Another large segment of the industry is the mutual fund industry. Table 16 documents the structure of the European market. One will notice the relative importance of money market funds in some countries such as France (68% of the market), while equity funds dominate in others countries such as the United Kingdom (93% of market). Country data for France, the United

Kingdom and the United States provided in Tables 17–19 confirm the existence of fragmented markets entirely controlled by local players. In view of this extreme fragmentation, specially in comparison with other segments of the capital markets, one is wondering about the impact of the single currency on the fund management industry. In this case too, an understanding of the main sources of competitive advantage needs to be developed. They concern the retail distribution network, the home-currency preference, and the existence of economies of scale.

The first source of competitive advantage in the retail segment is the control of the distribution network in the hand of local banks (KAY, LASLETT, DUFFY, 1994). Domestic control of distribution is even protected under current European legislation framework which gives to national authorities the right to regulate the marketing of funds into one's territory. Obviously the advantage derived from the control of the distribution network applies to retail investors only, as it will not be a barrier of entry in the institutional market. A second source of competitive advantage was the customer preference for home-currency assets, often imposed by regulation. A single currency will of course eliminate this factor and reinforce the need for European-wide portfolios[23]. A large part of these will be provided by index-tracking investment funds. The existence and relevance of economies of scale for mutual funds is still a debated issue. One of the very few study on the subject demonstrate in the case of France the absence of economies of scale for funds larger than ECU 450 Millions (DERMINE-RÖLLER, 1993). A third source of success is excellence in research-based management. It would seem that domestic expertise in the assessment of risk will still be a source of competitive advantage for local institutions supplying specialized funds.

A single currency will eliminate the obstacle to international diversification. One will observe very likely low cost European index-tracking funds competing with smaller research-based funds. On the retail distribution side, domestic banks will

keep their competitive advantage as long as the branch network remains a significant channel of distribution.

5.4 The Euro-Deposit, Cross-Border Payments, and Euro-Loan Markets

An extremely efficient Euro-deposit market was created thirty years ago to circumvent various forms of domestic regulations[24]. Table 20 documents the success of some countries such as Luxembourg and the United Kingdom in attracting the deposits of foreign non-bank investors. The size and location of the Euro-market is directly related to the relative size of the Net Regulatory Burden imposed by national rules (LEVICH, 1993). An important issue yet to be clarified by the European Monetary Institute concerns the size, the coverage and the eventual remuneration of the reserve requirement in the future. Indeed, foreign deposits are not subject currently to reserve requirements in most countries. More important, but unrelated to the single currency, will be the fiscal treatment of the income earned on these assets in the future (DERMINE, 1995).

Another dimension of Euro-banking is the cross-border payment system and the current role of correspondent banks. The current situation is that international payment are done through the accounts of banks in foreign countries and through the various national clearing systems. The European Monetary Institute (1995_c) has provided some indications on the future European payment system. In essence, it favors a decentralized national-based system complemented by TARGET[25], a linkage between the various national real-time gross settlement systems. Only the payments related to monetary policy will have to pass through TARGET. Other payments will have the choice between the direct route, the traditional correspondent banking system, or competing private systems such as the former ECU Clearing System put forward by the ECU Banking Asso-

ciation (EBA, 1996). If the role of correspondent banking is likely to be altered, it seems that this movement would happen independently of the existence of a single currency for the sole reason of reducing settlement and payment risks.

Finally, as concerns the Euro-loan market, empirical evidence documented in Table 21 confirms the conclusions of the Federal Reserve study (1991) according to which currency denomination is not a key factor in Euro-lending, but that there is a strong correlation between the nationality of the borrower and that of the lead manager. As is the case for corporate bond and equity underwriting, customer relationship and domestic expertise in the assessment of credit risk in Euro-lending remain key sources of competitive advantage for national banks.

5.5 Foreign Exchange Markets

A first observation is that not only intra-European foreign exchange transactions will disappear, but that the competitive advantage of a particular bank in its home currency vis-à-vis third country currencies will go as well. As an example, a Belgian bank operating in New York will not be anymore the Belgian franc specialist, but will compete with other European banks on the *euro* business. As is the case for the government bond markets for which an understanding of the supply/demand order flows is important to assess the direction of price movements, we are likely to observe a consolidation of the commodity-type low cost spot foreign exchange business. Differentiated products based on quality of service or innovations such as options will be another source of competitive advantage.

5.6 Corporate Advisory Service such as M&A

An other dimension of capital markets is the market for advisory services, in particular those related to Merger & Acquisition. Table 22 reports

the league table for deals involving cross-border acquisition of European targets. It seems that currency is not a key factor in this business, but that customer relationship and financial expertise are key sources of competitive advantage explaining the success of Anglo-saxon institutions.

5.7 The City of London

Based on the City Research Project (BREALEY-SORIA, 1993), Table 23 documents the market shares achieved by London in various segments of international capital markets. A question arises as to whether the move to a single currency will enhance further the role of London as a financial center. A subsequent question is whether the co-existence of the pound and the *euro* would slow the process.

As we have argued, there will be very strong forces in favor of consolidation of the commodity-type activities into one market, such as trading of government bonds, interest rate derivatives, and spot currencies. Given its current level of expertise and the international acceptance of the English language, London is a prime candidate to house the government bond, interest rate derivative and currency markets. As concerns the corporate and equity markets, we have argued that individual countries would keep an activity in those securities for which national banks keep a competitive advantage in the assessment of risks. For similar reason, specialized fund management firms can remain local. An additional factor, independent of the currency, which explains the success of a financial center will be the quality and cost of local regulations.

As concerns the effect of a possible non-participation of the Pound in EMU, it seems that the conclusions reached above would not be altered significantly as long as the political consensus for free financial markets remain strong in the United Kingdom.

The conclusion that emerges from the above analysis of European capital markets is that there

will be quite significant changes in some specific segments of the industry. We forecast a rapid consolidation of the commodity-type business, government bonds, interest rate derivatives, and spot currency trading. We believe that domestic expertise in the accounting, legal and fiscal environment gives a competitive advantage to domestic players in the corporate bond and equity markets. On the fund management side, European-wide index-tracking funds will compete with specialized funds. Finally, the rules of monetary and fiscal policies still have to be known to assess the impact of a single currency on the size and location of the Euro-deposit markets.

Table 5: Capital Markets 1993

	Stock Market Capitalization ECU bn (Percentage of GDP)	Bonds Markets ECU bn (Percentage of GDP)
Austria	25.7 (16%)	76 (47%)
Belgium	70 (38.7)	252 (140)
Denmark	47 (41)	207 (180)
Finland	27 (36)	29 (39)
France	392 (36)	577 (53)
Germany	387 (27)	1,287 (89)
Greece	11 (18)	32.9 (168)
Ireland	14.3 (35)	18 (44)
Italy	173 (21)	730 (88)
Luxembourg	9 (107)	2.75 (33)
Netherlands	227 (86)	173 (65)
Portugal	11.3 (20)	24 (42)
Spain	125 (30)	147 (35)
Sweden	97 (63)	157 (101)
United Kingdom	962 (107)	273 (30)
EU15	2,578 (44)	3,916 (68)
United States	4,107 (73)	4,813 (85)
Japan	3,001 (79)	1,594 (42)
Switzerland	245 (107)	176 (51)

Source: Euromoney, World Financial Handbook September 1994

Table 6: Country Ratings

AAA	Austria, France, Germany, Japan, Luxembourg, Netherlands, Switzerland, UK, US
AA1	Bermudas, Belgium, Canada, Denmark, Norway
AA2	Australia, Finland, Ireland, Singapour, Spain, New Zealand
AA3	Sweden, Taiwan
A1	Italy, South Korea, Portugal
A2	Iceland, Malaysia, Malta, Thailand
A3	China, Hong Kong.
Baa1	
Baa2	Chili, Czech Rep.
Baa3	South Africa, India, Indonesia, Greece

Source: Moody's France, January 1995

Table 7: Interest Rate Futures

Instrument	Exchange	1996 volume (000's) (January–August) N of Contracts Traded
Belgian Bond	Belfox	286
90-day Bibor	Belfox	108
German Bund	DTB	10,364
German Bobl	DTB	11,937
German Bund	Liffe	26,399
German Euromark	Liffe	24,907
Danish Medium Bond	Futop	26
Danish Long Bond	Futop	128
Long Gilt	Liffe	9,408
Sterling	Liffe	9,884
Euro-Swiss	Liffe	2,120
Italian Bond	Liffe	7,740
Eurolira	Liffe	4,045
10 Ys Italian	MIF	1,349
10 Ys French	Matif	22,805
Pibor	Matif	9,745
ECU Bond	Matif	378
10 Ys Pesetta	Meff RF	11,241
MIBOR	Meff RF	827
Total EU		154,364
Total USA	CBOT+CME	158,409
Total Japan	TIFFE	29,115

Source: Futures and Option World, October 1996

Table 8: Top Underwriters of Municipal Debt in USA (1993)

Manager	1993 ECU bn	Market Share
Merrill Lynch	31.0	12.1%
Goldman Sachs	30.5	11.9
Smith Barney	20.7	7.2
Lehman Brothers	28.5	7.0
First Boston	16.3	6.3
Bear Stearns	12.9	5.0
Morgan Stanley	12.5	4.9
Paine Webber	11.0	4.3
Prudential sec.	8.6	3.3
JP Morgan	5.3	2.0

Source: Securities Data Co.

Table 9: French Francs Gross Euro-Issues Top 10 Lead Managers, 1993

	ECU bn
Crédit Commercial de France	8.9
Paribas	8.6
Société Générale	7.2
Crédit Lyonnais	6.0
BNP	4.6
CDC	1.0
SBC	0.9
JP Morgan	0.7
Deutsche Bank	0.7
Merrill Lynch	0.5

Source: The Capital Markets Yearbook, Euromoney, March 94

Table 10: Italian Lira Gross Euro-Issue Top 10 Lead Managers, 1993

	ECU bn
San Paolo	1.9
Deutsche Bank	1.8
IMI	1.6
BCI	1.5
Banca di Roma	1.3
Credito Italiano	1.3
BNL	1.2
JP Morgan	0.6
Paribas	0.6
HSBC	0.5

Source: The Capital Markets Yearbook, Euromoney, March 94

**Table 11: Spanish Peseta Euro-Issue
Top 10 Lead Managers, 1993**

	ECU bn
Banco Central	0.8
Banesto	0.8
Argentaria	0.5
BBV	0.4
Santander	0.2
Deutsche Bank	0.1
Bank of Tokyo	0.1
HSBC	0.1

Source: The Capital Markets Yearbook, Euromoney, March 94

**Table 12: Sterling Gross Euro-Issue
Top 10 Lead Managers, 1993**

	ECU bn
Warburg	6.5
HSBC	5.4
BZW	5.1
UBS	4.7
CSFB	4.5
Goldman Sachs	2.9
JP Morgan	2.7
Salomon Bros	2.3
Natwest	1.7
Baring Bros	1.7

Source: The Capital Markets Yearbook, Euromoney, March 94

Table 13: Eurobonds Lead Managers 1994

	Amount ECU bn	% share
Merrill Lynch	29.4	8.92
Goldman Sachs	20.3	6.17
CSFB	19.9	6.07
SBC	16.7	5.07
Nomura	14.8	4.51
Lehman Bros	14.6	4.44
Morgan Stanley	14.0	4.26
JP Morgan	14.0	4.25
UBS	12.3	3.75
Daiwa	12.1	3.68

Source: Euromoney Bondware, Financial Times January 11,95

Table 14: Pension Fund Managers USA 1992

	ECU bn	Market share (%)
Wells Fargo-Nikko	101.5	3.5
Bankers Trust	98.2	3.4
State Street Bank	75.7	2.6
JP Morgan	53.6	1.9
Metropolitan Life	52.9	1.8
Fidelity	52.3	1.8
Prudential	43.9	1.5
Northern Trust	37.2	1.3
Pacific Investment	34.7	1.2
Alliance Capital	32.2	1.1

Table 15: Pension Fund Managers UK 1992

	ECU bn	Market share %
Mercury	24.9	18.8
PDFM	16.7	12.6
Schroder	13.7	10.3
Gartmore	7.8	5.9
BZW	7.6	5.7
Prudential	6.2	4.7
Fleming	5.2	3.9
Baring Bros	4.5	3.4
Morgan Grenfell	4.2	3.2
Henderson	3.4	2.6

The Economist, November 1993

Table 16: The European Mutual Funds Industry (1993)

Country	Assets (ECU bn)	Relative Share of Equity Funds	Relative Share of Money Market Funds
Austria	13.3	3.5%	-
Belgium	9	21.2%	18.2
Denmark	3.2	59.1	-
France	291	8.2	68
Germany	60	17.5	-
Greece	1	48	38.4
Ireland	4.7	31	5.3
Italy	34.4	22	23.7
Luxembourg	151	4	30.1
Netherlands	28.8	39.7	9.8
Portugal	6.6	3.5	29.5
Spain	49.2	0.5	53.3
Sweden	15.3	69.5	-
Switzerland	18	-	-
United K.	83	93.2	0.7
Total	769		

Source: Gestion Collective, sept/oct 1993

Table 17: Mutual Fund (SICAV) Managers in France (March 1993)

	ECU bn	Market Share (%)
Crédit Agricole	49.3	13.9
Société Générale	34	9.6
Caisses d'Epargne	33.7	9.5
BNP	30.9	8.7
CL	26.6	7.5
CDC	22	6.2
La Poste	21.3	6.0
Paribas	18.1	5.1
CIC	14.2	4.0
Banques Populaires	12.8	3.6

Source: Gestion Collective, Sept/oct 1993

Table 18: Unit-Trust Managers UK 1992

	ECU bn	Market Share (%)
Standard Life	4.5	9.4
M&G	3.6	7.3
Schroder	2.1	4.4
Allied Dunbar	2.0	4.2
Barclays Unicorn	1.9	4.0
Save & Prosper	1.8	3.8
Gartmore	1.6	3.4
Mercury	1.6	3.3
Fidelity	1.3	2.7
Prudential	1.2	2.5

The Economist, November 1993

Table 19: Mutual Fund Managers USA 1992

	ECU bn	Market Share (%)
Fidelity	150.4	10.5
Vanguard	89.2	6.2
Merrill Lynch	88.8	6.2
Dreyfus Corp	64.3	4.5
Capital	60.4	4.2
Franklin Advisers	58.1	4.1
Federated Investors	46.0	3.2
Smith Barney Shearson	45.0	3.2
Dean Witter	42.0	2.9
Kemper	39.2	2.7

The Economist, November 1993

Table 20: External Position of Banks in Individual Reporting Countries (all currencies vis à vis the non-bank sector; ECU billion)

	December 1991	September 1996
Austria	6.6	9.7
Belgium	36.2	65.2
Denmark	2.9	7.76
Finland	1.7	0.5
France	40.7	56.8
Germany	52.3	146
Ireland	5.2	16.3
Italy	10.4	12.8
Luxembourg	100	142.3
Netherlands	40	51
Spain	26	36.4
Sweden	11.9	7.76
UK	281	322
Switzerland	194	211.9
Japan	13.6	17.6
US	68.2	85.3
Cayman	142.7	153.5

Source: BIS, International Banking and Financial Developments, February 1997

Table 21: Arrangers of International Loans, 1994

	ECU bn
Chemical Bank	14.2
National Westminster Bank	12.9
Citicorp	10.5
Barclays Bank	10.0
ABN-AMRO	7.6
JP Morgan	6.9
Deutsche Bank	6.6
HSBC	6.4
CSFB/CS	5.8
UBS	5.5

Source: Euromoney Loanware, Financial Times Dec. 28, 1994

Table 22: Advisers on Cross-border Acquisition Involving European Target Companies.

Bank	Nationality	1994(1)–1995(1) ECU bn
Morgan Stanley	US	27.8
Lazard Houses	France/US/UK	25.7
Baring bros	UK	21.1
SG Warburg	UK	18.3
Goldman Sachs	US	16.9
JP Morgan	US	12.0
CS First Boston/CS	CH–US	10.7
Robert Fleming	UK	10.3
Lehman Brothers	US	8.3
Merrill Lynch	US	7.5

Source: Financial Times May 4, 1995 (from IFR Securities Data)

Table 23: World Market Share of London (1991)

	Turnover £ bn	World Market Share
SEAQ-Int	£ 141.5 bn ¹	64% ²
Equ. Options	7,005 contracts	4.7% ³
Equ. Futures	1,727 contracts	4.4% ⁵
Interest Rate fut/op	36,584 contracts	11% ⁶
Commodities fut/op	29,040 contracts	15% ⁷
Forex	44,559	27% ⁸
Swaps	2,617 ⁹	35% ¹⁰
Intl Equity	8,7	65% ¹¹
Underwriting		
ECP	168	90% ¹¹
EMTM	10.2	90% ¹¹
Eurobond	94	65% ¹¹
Underwriting		
Eurobond	1,634	75% ¹²
Trading		
Bank Lending	793 ¹³	18% ¹⁴

Source: BREALEY and SORIA (1993)

Notes.

¹ Equity turnover figures have been halved since the exchange reports both purchases and sales.

² Calculated as the proportion of global cross-exchange trading (transactions in an exchange foreign to the nationality of the security).

³ Calculated as the proportion of the total number of contracts transacted worldwide.

⁴ Calculated as the proportion of trading in futures on 6 major indices.

⁵ Proportion of worldwide turnover in interest rate and currency options transacted worldwide.

⁷ Percentage of world turnover in commodity futures and options.

⁸ 1992 share of worldwide net forex turnover in BIS survey.

⁹ Total notional principal of swaps and related products.

¹⁰ Estimated proportion of worldwide activity.

¹¹ Proportion of international or euro issues.

¹² Share of secondary trading in eurobond.

¹³ Amount of loans outstanding.

¹⁴ Share of foreign and domestic currency loans to non-residents plus foreign currency loans to residents.

6. Euro as an International Currency

One of the asserted benefits of EMU is that the single currency will become a challenger to the US dollar as the dominant international currency used for units of accounts, store of value and means of payments (EMERSON, 1990; ALO-GOSKOUFIS-PORTES, 1991 and 1992; European Commission, 1995). But, one has to realize that contrary to a national currency which is imposed as sole tender by national legislation, the role of an international currency is fixed by demand and supply on world capital markets. Our objective in this section is twofold. Firstly, we document the relative importance of the US dollar as an international currency and evaluate the chance of the *euro* to compete with the dollar. Secondly, we assess the benefits of the international currency status of *euro* for European banks. As is the case for any domestic currency, the role of an international currency is threefold. It serves as:

- A unit of account for measuring and comparing market values.
- A store of value in which assets or liabilities are denominated.
- A mean of exchange for the settlement of financial contracts.

6.1 Unit of Account

Besides the fact that several commodities such as gold or oil are denominated in US dollar, one notices the central role of the dollar in the currency market. Tables 24 and 25 document the volume of spot transactions involving the dollar in London or in the currency option market in Paris. For instance, more than seventy percent of spot trading in London involves the dollar. This is of course the result of an efficient market which by directing demand and supply to a few (dollar-related) contracts creates maximum liquidity in the market. With only $(N-1)$ independent currencies, this is the traditional problem of replacing a constellation of $N(N-1)/2$ pairs of cross rates by only $(N-1)$ independent exchange rates. If the single currency will of course eliminate intra-EU currencies trading, it is doubtful that the pivotal role of the dollar in the foreign exchange market would disappear.

6.2 Store of Value

Whether one looks at the 60% share of dollar-denominated assets in foreign exchange reserves (Table 26), the 36% share of dollar-denominated international bonds (Table 27) or the 52% share of cross-border bank claims (Table 28), one draws the conclusion that the relative importance of the American currency vastly exceeds the relative share of the United States in world exports (12%) or world GNP (27%). But if the international role of the dollar is very strong, one can notice a continuous erosion of the dollar position. For instance, the share of the dollar in foreign exchange reserves has fallen from 84.5 percent in 1973 to 60 percent in 1992, while the share of the DM has risen from 6.7 percent to 16.6 percent.

6.3 Mean of Exchange

The share of the dollar as a mean of exchange in international trade has been documented by EM-

ERSON (1990). Table 29 indicates that 17% of Belgian imports are denominated in dollar, while imports from the United States amount to 5.3% of total Belgian imports.

Whether one looks at the role of the dollar as a unit of account, a store of value, or a mean of payment, it still is today by far the prime international currency. Will the *euro* be able to compete and at what speed?

To assess the chance of the *euro* to accelerate the relative decline in the dollar, it is instructive to have a look at history and the relative fall of sterling and rise of the dollar in the international payment system.

In 1914 on the eve of the First World War, the City of London was indisputably the world's leading international financial center, with the sterling pound the major international currency. According to economic historians [26], the weakness of the pound started with the first world war. The war of 1914–1918 saw the emergence of large bond financing in the USA. This was coupled with the events of 1931 – the insolvency of the Creditanstalt in Vienna and the inconvertibility of the pound. The development of the second world war succeeded in increasing even more the stature of the dollar which was confirmed in its international role by the 1944 Bretton Woods agreement [27]. One can conclude that the rapid rise of the dollar over a thirty years period was very much helped by the two world wars, and that despite the abandonment of convertibility into gold in 1971 and continuous devaluation, the dollar is still maintaining twenty five years later a leading role as an international currency [28]. Based on the recent two decades which have seen a progressive erosion of the dollar and a slow rise of the Deutsche Mark, in view of the relative economic size of Europe, and building on the potential for growth in the eastern part of Europe, one can extrapolate and forecast that *euro* will replace the D-Mark and be a strong competitor to the dollar. But in the author's opinion, any forecast on the relative importance of the US dollar and the *euro* in the future is premature and beyond our under-

standing. Indeed, for a financial contract involving a non-*euro* country (say a Chilean company borrowing on international market from a Malaysian investor), the choice of currency denomination will be related partly to liquidity (achieved by the dollar and the *euro*), but also by an efficient risk sharing that takes into account the risk and return characteristics of a particular currency. The continuous devaluation of the dollar is clearly not enough to decrease the international role of that currency. Indeed, interest rates can simply adjust to cover the expected rate of devaluation. In any case, based on the financial history of the last eighty years, it is likely that the creation of an international currency competing with the dollar will, unless unforeseen events, take many years to be realized.

What are the implications for banks of having *euro* as an international currency? Three benefits can be identified. The first one is that an increased volume of *euro*-denominated assets or liabilities will ease the foreign exchange risk management of equity. Indeed, a large part of bank assets will be denominated in the same currency as the equity base, easing the control of asset growth and capital management. Secondly, access to a central bank discount window will make the liquidity management of *euro*-based liabilities potentially easier. Finally, if third countries issue assets denominated in *euro* or use the European currency as a vehicle, European banks will be well positioned in secondary trading for the reasons mentioned earlier.

Table 24: Market Share of Total Turnover by Currency Traded in London

£/\$	11%
\$/DM	22
\$/Yen	17
\$/Swiss	6
\$/other	258
DM/Yen	2
DM/other	14
other	4

Bank of England Quarterly Bulletin, November 1995

Table 25: Currency Options in Paris (Stock at September 1994) (billion of ECU)

	Sales	Purchase
with US \$	113.5 (79%)	110 (78%)
FFr/\$	26.8	27.5
DM/\$	31.3	30.3
Yen/\$	39.8	37
£/\$	5.1	4.9
Swiss/\$	5.35	5.5
Other/\$	5.08	4.8
Non-US \$	30.8 (21%)	30.8 (22%)

Table 26: Percentage Share of National Currencies in Foreign Exchange Reserves (All Countries)

	1973	1980	1986	1992
Pound Sterling	5.9	2.9	2.6	3.26
DM	6.7	14.9	14.6	16.6
FFr	1.2	1.7	0.8	2
ECU	–	–	–	2.6
Yen	–	4.4	7.9	9.6
US \$	84.5	68.6	67.1	60

Source: BIS Annual Report 1994, ALOGOSKOUFIS-Portes (1992)

Table 27: International Bonds Outstanding

Currency	ECU bn	%
US \$	262	41.4
Yen	77	12.1
DM	94	14.8
£	45	7
FFr	46	7
Swiss	23	4
Italian	22	3
Dutch	19	3
ECU	3.5	0.6

Source: Financial Times, June 30 1996

**Table 28: Currency Composition of Banks' Cross Border Claims
(Foreign Currencies to All Sectors)**

	1986 (%)	1994 (%)
DM	13	15
FFr	1.1	3
Swiss	6.6	4.6
£	1.9	3.1
Italian lira		
ECU	3.4	4.6
Yen	5	5
US \$	63	52
Total Outstanding Ecu bn	1,675	3,490

Source: BIS International Banking and Financial Markets Development, 1995

Table 29: Invoicing of Trade in Belgium

Imports	BEF	DM	EU 15 Currencies	\$
1993	28%	22%	77.9%	17.2%
1985	28%	18.5%	71.7%	23.4%
Exports	BEF	DM	EU15 Currencies	\$
1993	30.3%	18.9%	80.7%	15.9%
1985	35%	18%	82.7	13.9%

Source: Bulletin de la Banque Nationale de Belgique (1995), OECD Monthly Statistics of Foreign Trade (1995)

For reference, the shares of Belgian imports from Germany, EU15 and the USA are respectively 22%, 76%, and 5.3%. The shares of Belgian exports to Germany, EU15 and the USA are respectively 21%, 75%, and 4.8%.

7. EMU and Loan Credit Risk

Many of the channels which have been identified concerned the money and capital markets. Last but not least in this evaluation of the impacts of the single currency is the potential impact on loan credit risk. There are reasons to believe that the

nature of credit risk could change under a single currency. The argument is based on the theory of optimum currency areas and on the objective of price stability inscribed in the Treaty on European Union.

There is an old debate on the economic rationale leading a group of countries to adopt a common currency (the theory of the Optimum Currency Areas[29]). This debate has been revived by the proposal to introduce a single currency in Europe (EMERSON 1990, von HAGEN-NEUMAN, 1994, and EICHENGREEN, 1994). The story is the following. The more countries are subject to asymmetric economic shocks, the more they would appreciate monetary autonomy to cancel the shock. Indeed, with symmetric shock 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 to all the members of the union[30]. The loss of monetary autonomy is often regarded as the major cost of European Monetary Union. Recent economic developments have strengthened the argument. The 1994 Annual Report of the Bank for International Settlements shows that the 1993 exports of the countries whose currencies depreciated (Finland, Ireland, Italy, Portugal, Spain, Sweden and the United Kingdom) were able to overcome very sluggish demand conditions in Europe and take advantage of rapidly expanding export markets in North America and South-East Asia. Their export volumes combined rose by 7.5% while the exports from the group of stable currencies (Germany, Austria, Belgium, Denmark, France, the Netherlands and Switzerland) stagnated. How could the introduction of a single currency affect credit risk? If a bank concentrates its business in its home country, and if that country is subject to asymmetric shocks, it is quite possible that monetary policy will not be able to soften the shock. For instance, one can wonder whether the rapid recovery enjoyed by British banks in 1994 has not been helped partly by the devaluation which has reduced somewhat a bad debt problem. An indirect

and interesting 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 the more their home country is likely to be subject to asymmetric (uncorrelated) shocks. This can be achieved through international diversification or the use of credit derivatives.

A second effect of EMU is that the statute of the European Central Bank could prevent laxist and inflationary policies. *Ceteris paribus*, this could increase the potential for losses resulting from default, as one cannot count anymore on a predictable positive drift for the value of collateral assets[31], although an argument can be made that non-inflationary policies would reduce the amplitude of business cycles.

8. Conclusions

The objective of the paper has been to identify the various ways through which a single currency would alter the sources of competitive advantage of European banks. Our analysis has identified various markets which will be significantly affected. Besides the obvious fall in revenue from intra-European currencies trading, the analysis has led to seven main conclusions.

1. The structure of national government bond markets and their fast expanding appendices, the interest rate derivative markets, will change fundamentally. The fragmented national markets will be replaced by a European consolidated market. This is due to the fact that two main sources of competitive advantage for domestic banks which have been identified in the literature, namely access to home-base investors and expertise in national monetary policy, will vanish. Moreover, many of the national interest rate derivative instruments which have been created in recent years will disappear, being replaced by a few *euro*-based instruments.

2. An analysis of the corporate bond and equity markets leads to significant but less fundamental changes. In these currently fragmented markets, three main sources of competitive advantage are client relationship, assessment of credit risk, and currency denomination which may facilitate placing to home-investors and secondary trading through a better understanding of the macro-monetary policy. With a single currency, the benefits derived from a national currency will disappear. The two remaining sources of competitive advantage for domestic players will be historical client relationship and assessment of credit risk of domestic firms. The currently observed correlation between the nationality of the issuer and the nationality of the underwriter will remain strong whenever these two sources of competitive advantage are at work. But the portfolio of domestic clients could be altered if global firms decide to move their financial department to another country.
3. The fast growing, currently fragmented, institutional fund management industry will change permanently. Index-tracking funds will operate at the European level, competing with funds build on research-based expertise in specific industries or countries.
4. The Euro-deposit and the cross-border payment system will be affected by the introduction of a single currency. As the location of the Euro-deposit market is affected by the relative size of the net regulatory and fiscal burden, one is waiting to know the tools of European monetary policy, and in particular the level and coverage of the reserve requirement, as well as the fiscal rules that will apply. As concerns cross-border payments and the role of correspondent banking, the European Monetary Institute has advanced plans for a European-wide cross-border payment system, but it seems to the author that this development is unrelated to the single currency and would have happened in any case to accelerate settlement and payment.

5. The role of *euro* as an international currency has often been mentioned as a major benefit of a European Monetary Union. Based on history of the last thirty years with the growing share of the D-mark, one can anticipate that the creation of an euro managed by an independent European central bank will accelerate the competition to the US Dollar. But, as economic history shows, this process is likely to take many years. An international role for the *euro* will facilitate the underwriting and secondary trading of bonds and equities issued in third countries.
6. Currency trading between the euro and other currencies will be altered fundamentally. Indeed, very much as is the case with government bonds, the arrival of a common currency will erase the source of national comparative advantage. Very likely, there will be a consolidation of foreign exchange activities to benefit from scale economies.
7. The last impact of a single currency considered in this paper concerns credit risk. The creation of a single currency will change the nature of domestic credit risk, as domestic recessions might not be softened by flexible national monetary policies. This should encourage further the diversification of credit risk through international lending or credit swaps.

banking, it is a clear conclusion that the introduction of a single currency will not only make the creation of a single market irreversible, but that it will, besides the obvious fall in revenue from intra-European currencies trading, alter fundamentally the nature of several businesses. This will be particularly the case in the money and capital markets. If this challenge is met successfully by European banks, there is little doubt that it will reinforce the competitiveness of European banks operating in the capital markets of third countries such as those of the United States, and of the rapidly expanding Asia.

The seven impacts which have been identified concern mostly wholesale and corporate banking. It is the author's view that the single currency per se will not change much the nature of retail banking in the medium run, except for the very important fact that a single currency will make irreversible the creation of a single banking market. A more predictable environment will facilitate the exploitation of economies of scale and the optimal location of processing units. This conclusion applies to retail banking as long as the branch network remains a significant channel of distribution. The objective of the 1992 single market programme was to reinforce the efficiency and competitiveness of European firms. As concerns

Footnotes

- [1] The single European currency will replace national currencies in those countries meeting the macro-economic convergence criteria. The United Kingdom and Denmark have kept their option to join open.
- [2] Although the single currency will be named the *euro*, we shall follow the current practice of keeping the *ECU* as the unit of account throughout the paper.
- [3] Gross revenue before provisions and operating expenses.
- [4] Tables are to be found at the end of each section.
- [5] Association for the Monetary Union of Europe (1994), ECU Banking Association (1994), LEVITT (1994), MAAS (1994), Banking Federation of the European Union (1995), and European Commission (1995).
- [6] This cost would increase by 50% if, instead of a 'big bang' a dual currency involving the ECU and national currency is put in place. Note the criticism of Mr Ruding of Citibank who worries about the cost of having to run in parallel a dual currency system (1995).
- [7] Financial analysts of the transition period have pointed out the potential arbitrage opportunities between DM-bond and ECU-denominated bond priced currently with a spread of 1% over the DM interest rate. Indeed when EMU will take place, the frozen-weight ECU basket will be replaced with the new currency on a one to one basis with an interest rate likely lower than today's ECU rate (Financial Times_a, 1995, ARTUS-LENOIR, 1995).
- [8] According to the German Ratification Act on the Maastricht treaty, the vote of the Federal Chancellor in the European Council is subject to the approval of the upper and lower chambers of the German parliament (Bundestag and Bundesrat) as regards the strict examination of the convergence criteria. This was confirmed explicitly by the Federal Constitutional Court (Deutsche Bank, 1995).
- [9] Financial Times_{b,c} 1996.
- [10] Such as regulation on capital or large credit exposure.
- [11] The Bank of England (1993) has identified 247 European cross-border alliances in the financial world over the period 1987–1993. Morgan Grenfell, Barings, Warburg, Kleinwort Benson, and Smith New Court have been recently purchased by respectively Deutsche Bank, ING-Bank, Swiss Bank Corporation, Dresdner and Merrill Lynch.
- [12] Cross-country comparisons are an imperfect guide to the future because tax differentials can have an important effect on the relative size of pension funds.
- [13] Expansion facilitated further by the privatization of large state-owned companies.
- [14] Austria, France, Germany, Luxembourg, Netherlands, and the United Kingdom.
- [15] The other factor, credit risk evaluation, is less applicable in the case of European government bonds.
- [16] A fourth factor, financial sophistication, can also be mentioned. An example from France is the successful role of Bankers Trust in the privatization of Rhone Poulenc with the design of synthetic options to protect the value of employees' shares.
- [17] This will be even more the case if effective Chinese walls between departments prevent the use of the home-based clientele to place underwritten issues.
- [18] The role of *euro* as an international currency is analysed in Section Five.
- [19] Such as STOLL (1990), AMIHUDEMENDELSON (1991), SCOTT-QUINN (1992), or HAWAWINISKILL (1992).
- [20] Bank of England Quarterly Bulletin, March 1993.
- [21] But a recent study by DE JONG, NIJMAN and ROELL (1995) fails to identify significant lower spreads on SEAQ International for small trades.
- [22] For a discussion of the problem of clearance and settlements systems in Europe, see GIDDY, SAUNDERS and WALTER, 1995.
- [23] KAY et al. (1994), or JORION (1994).
- [24] ALIBER (1976) or DUFÉY-GIDDY (1994).
- [25] TARGET: Acronym for Trans-European Automated Real-Time Gross Settlement Express Transfer system.
- [26] DEHEM (1972), KINDLEBERGER (1984), MCKINNON (1993), or ROBERTS (1994).
- [27] According to MCKINNON (1993), a key factor increasing the role of the dollar was the European payment Union established in september 1950 for clearing payments multilaterally, using the US dollar as the unit of account and as the mean of payment.
- [28] It is interesting to compare the pre-1914 period to the current world. While in pre-1914, the Pound was the international vehicle and the strong currency, London being the financial market place, we observe today an unbundling of these functions, with on one hand the weak dollar still as a reserve currency, the D-Mark and the Yen as the strong currencies, and London and New York as the international financial centers.
- [29] MUNDELL (1961), MCKINNON (1963).
- [30] This theory assumes essentially rigid prices and a relatively immobile workforce. Tentative empirical work by VON HAGEN and NEUMANN (1994) suggests that Austria, Benelux, France, and Germany do form an homogeneous zone, but that Denmark, Italy and the United Kingdom are subject to asymmetric economic shocks.
- [31] For sake of completion, one can point out that an independent central bank policy committed to fight inflation will produce lower nominal interest rates, reducing the traditional margins earned on retail deposits.

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