

**EUROPEAN CAPITAL MARKETS  
WITH A SINGLE CURRENCY, AN OVERVIEW**

**by**

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February 1998**

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## **Abstract**

At the Madrid summit in December 1995, the EU heads of state or government endorsed a three-phase plan for the introduction of the single currency. The purpose of this introductory chapter is to identify the various ways through which a single currency could alter fundamentally and permanently European capital markets. A common currency will likely 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. The potential benefits derived from the creation of a leading international currency are discussed, and the impact of a single currency on credit risk is evaluated.

## *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, few published studies have attempted to evaluate the medium term impact of a single currency on European capital markets. The purpose of the introductory chapter is to identify the various ways through which a single currency could alter fundamentally and permanently the European capital markets. 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 capital markets ? 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 are mostly relevant for financial institutions of the participating countries. The chapters which follow discuss in great depth the various channels identified in this introductory chapter.

The analysis will attempt to show how, besides an obvious fall in revenue from intra-European currencies trading, a single European currency could change fundamentally and permanently the sources of competitive advantage of financial institutions. Indeed, an analysis of the structure of the financial 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-Guilder 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 a national currency factor. Another example is the leading role of American institutions 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 this chapter is to show 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.

The chapter is structured as follows. The first two sections review briefly the origin of European Monetary Union (EMU) and the current issues with the introduction of a single currency. The core of the paper is in Sections Three to Six. Section Three presents the impact of a single currency on European capital markets. The government bond markets, the corporate bond and equity markets, the fund management industry, the Euro-deposit markets and the market for foreign exchange will be successively analysed. Section Four will assess the prospect for *euro* as an international currency and evaluate the likely benefits for European banks. Section Five will evaluate the impact of a single currency on credit risk and make an argument for an increased international diversification of credit risk in asset portfolios. Section Six questions the need for the creation of pan-European banks. Finally, Section Seven concludes the chapter and summarizes the effects that a common currency could have on European capital markets.

### ***Section One : The Origin of EMU, a Reminder***

Twelve 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 that ran 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. Finally, Stage III will lead to European Monetary

Unification (EMU). Article 109J of the treaty is quite specific on the date of January 1 1999. 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<sup>1</sup>. Recently, it has been announced that the nomination of countries will take place in May 1998.

The potential economic benefits and costs of EMU were discussed in a European Commission's study *One Market, One Money* (Emerson, 1990, 1992). 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 one percent of the international trade of the European Union, the savings was estimated in the Emerson study at ECU 13.1-19 billion<sup>2</sup>, 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 foreign exchange services ; it would represent around five percent of banks' value added<sup>3</sup>. 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

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<sup>1</sup>The single European currency will replace national currencies in those countries meeting the macroeconomic convergence criteria (see the complete discussion by Gros-Lannoo in chapter Two). The United Kingdom and Denmark have kept their option to join open. Sweden has announced that it will not be part of the first wave.

<sup>2</sup>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 chapter.

<sup>3</sup>Gross revenue before provisions and operating expenses.

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 controlling interest rates or adjusting exchange rates to restore competitiveness. In their review of European Monetary Unification, B. Eichengreen (1993) and D. Currie (1997) expressed doubts that the four benefits alone can outweigh the cost linked to the loss of monetary autonomy. In their views, 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 single 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 1 documents<sup>4</sup> the relative economic importance of the European Union of fifteen countries (EU15) in the world. The EU15 population amounts in 1995 to 372 millions (vs 263 millions in the United States, and 125 millions in Japan), Gross Domestic Product to ECU 6,602bn (vs ECU bn 5,789 in the USA, and ECU bn 3,371 in Japan), and the exports to non EU-countries to ECU 591bn (vs total export of ECU bn 465 in the USA, and ECU bn 353 in Japan).

Table 2 documents the relative importance of capital markets in Europe. In 1996, the capitalized stock market to GDP ratio stood at 54 % in Europe, compared to 116 % in the United States and 71 % in Japan. Within Europe, this ratio varies greatly with on one side the United Kingdom at 146 % and on the other side Austria at 15 %. Similar ratio for a bond market, dominated by public debt, stands at 91 % in Europe, compared to 156 % in the United States and 115 % in Japan. Within Europe, there is wide a difference with Denmark at 172 % and Ireland at 46 %. European capital markets are expected to grow because of changes in demographics, the creation of pension funds, and the privatization of large state-owned companies.

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<sup>4</sup>Tables are to be found at the end of each section.

Table 3 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 4 documents, pension assets represent 92 percent of Gross Domestic Product in the Netherlands for only 3 percent in Italy<sup>5</sup>.

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 deposits 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. As is documented in Table 4, the degree of international diversification of pension funds vary significantly, with 27 % of assets invested in international securities in the United Kingdom and 4 % in France. One can therefore anticipate an enormous growth in the size of capital markets in Europe and cross-border trading.

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<sup>5</sup>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.

Table 1 : Macroeconomic Statistics (end-of-1995)

	<u>Austria</u>	<u>Belgium<sup>1</sup></u>	<u>Denmark</u>	<u>Finland</u>	<u>France</u>	<u>Germany</u>	<u>Greece</u>
<b>Population (million)</b>	8.5	10.0	5.2	5.11	58.0	81.6	10.46
<b>GDP (ECU bn)</b>	172.2	197.9	135.6	94	1168	1778	87.16
<b>Import (ECU bn) (from EU15)</b>	51.9 (37.6)	122.3 (92.6)	33.72 (23.66)	23.5 (13.6)	222.9 (142.6)	353.8 (193.5)	20.77 (11.6)
<b>Export (ECU bn) (to EU15)</b>	45.7 (29.9)	134 (101.3)	37.9 (24.57)	32.2 (13.6)	225.1 (145)	405.9 (231.7)	8.8 (5.35)
<b>ECU rate</b>	13.66	40.1	7.45	5.81	6.56	1.946	303.85

Source : International Financial Statistics (IMF), OECD.

<sup>1</sup> The Export and Import figures include the external trade of Luxembourg.

Table 1 : Macroeconomic Statistics (cont.)

	<u>Ireland</u>	<u>Italy</u>	<u>Luxemb.</u>	<u>Netherl.</u>	<u>Portugal</u>	<u>Spain</u>	<u>Sweden</u>
<b>Population (million)</b>	3.58	57.2	0.39	15.45	9.9	39.2	8.83
<b>GDP (ECU bn)</b>	51.8	857.4	14.4	292.6	70.8	531.5	201.1
<b>Import (ECU bn)</b>	25.8	165.5	-	111.8	26.8	91.6	49.2
<b>(from EU15)</b>	(14.5)	(100.1)		(66.4)	(19.9)	(59.9)	(34)
<b>Export (ECU bn)</b>	34.9	187.6	-	127	18.6	73.1	61.8
<b>(to EU15)</b>	(25.2)	(106.7)		(96.2)	(15.06)	(52.9)	(36.2)
<b>ECU rate</b>	1.342 <sup>1</sup>	1914	40.1	2.17	194.3	131.28	8.13

Source : International Financial Statistics (IMF), OECD.

1 ECU per £.

Table 1 : Macroeconomic Statistics (cont.)

	<u>UK</u>	<u>EU15</u>	<u>USA</u>	<u>Japan</u>	<u>Switzerland</u>	<u>World</u>
<b>Population (million)</b>	<b>58.3</b>	<b>372</b>	<b>263.03</b>	<b>125.2</b>	<b>6.9</b>	
<b>GDP (ECU billion)</b>	<b>949.4</b>	<b>6,602</b>	<b>5,789</b>	<b>3,371</b>	<b>216.1</b>	
<b>Import (ECU billion) (from EU15)</b>	<b>207.7 (113)</b>	<b>1,507 (923)</b>	<b>593.4 (105.3)</b>	<b>268.1 (39.0)</b>	<b>63.8 (50.9)</b>	<b>3,333</b>
<b>Export (ECU billion) (to EU15)</b>	<b>190.1 (108.6)</b>	<b>1,583 (992)</b>	<b>465.3 (98.6)</b>	<b>353.4 (56.2)</b>	<b>65 (40.5)</b>	<b>3,368</b>
<b>ECU rate</b>	<b>1.356<sup>1</sup></b>		<b>1.253</b>	<b>142.6</b>	<b>1.687</b>	

Source : International Financial Statistics (IMF), OECD.

1 ECU per £

Table 2 : Capital Markets (1996)

	Stock Market Capitalization ECU bn (Percentage of GDP)	Private Bonds Market ECU bn (Percentage of GDP)	Public Bonds Market ECU bn (Percentage of GDP)
Austria	25.7 (14.9 %)	57 (33.1)	59.8 (34.7)
Belgium	95.8 (48.4)	106 (53.6)	225 (113.7)
Denmark	57.3 (42.3)	140 (103.2)	94 (69.3)
Finland	49.4 (52.6)	30 (31.9)	42.8 (45.5)
France	472 (37.4)	457 (36.2)	565 (44.8)
Germany	531.6 (29.9)	825 (46.4)	684 (38.5)
Greece	19 (21.8)	0.1 (0)	78.5 (90.1)
Ireland	27.7 (53.5)	1.3 (2.5)	22.3 (43.1)
Italy	207 (24.1)	320 (37.3)	1019 (119)
Luxembourg	26 (180.6)	8.8 (61)	0.8 (5.6)
Netherlands	302.4 (103.3)	52.8 (18.1)	164 (56)
Portugal	19.7 (27.8)	14.3 (20.2)	35.8 (50.6)
Spain	195 (36.7)	35.6 (6.7)	228 (42.9)
Sweden	194 (96.5)	130 (64.6)	120 (59.7)
United Kingdom	1383 (145.7)	172 (18.1)	346 (36.4)
EU15	3,606 (54.6)	2,350 (35.6)	3,685 (55.8)
United States	6,750 (116.6)	3,453 (59.6)	5,559 (96)
Japan	2,397 (71.1)	1,160 (34.4)	2,721 (80.7)
Switzerland	322 (149)	126 (58.3)	48.6 (22.5)

Source : Federation of European Stock Exchange, International Federation of Stock Exchange, BIS.

**Table 3 : Elderly Dependency Ratio**  
**(Number of Persons Aged 65 & Over as Percentage of the People Aged 25-59)**

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

**Source : Poortvliet and Laine, 1994 (author's calculation).**

**Table 4 : Assets of Pension Funds (1995)**

	<b>Stock of Assets ECU bn (% of GDP)</b>	<b>Pension Funds Holdings in Domestic Equities (%)</b>	<b>Pension Funds Total Domestic Holdings (%)</b>
<b>Austria</b>	<b>1.6 (1 %)</b>	<b>2</b>	<b>78</b>
<b>Belgium</b>	<b>7.98 (4 %)</b>	<b>17</b>	<b>63</b>
<b>Denmark</b>	<b>24.7 (18 %)</b>	<b>21</b>	<b>92</b>
<b>Finland</b>	<b>13.57 (14 %)</b>	<b>9</b>	<b>NA</b>
<b>France</b>	<b>39.1 (3 %)</b>	<b>6</b>	<b>96</b>
<b>Germany</b>	<b>101.4 (6 %)</b>	<b>6</b>	<b>94</b>
<b>Greece</b>	<b>2.4 (3 %)</b>	<b>10</b>	<b>97</b>
<b>Ireland</b>	<b>20.8 (4 %)</b>	<b>23</b>	<b>61</b>
<b>Italy</b>	<b>23.1 (3 %)</b>	<b>3</b>	<b>95</b>
<b>Luxembourg</b>	<b>NA</b>	<b>20</b>	<b>82</b>
<b>Netheralnds</b>	<b>268.2 (92 %)</b>	<b>11</b>	<b>77</b>
<b>Portugal</b>	<b>6.4 (9 %)</b>	<b>9</b>	<b>94</b>
<b>Spain</b>	<b>14.4 (3 %)</b>	<b>4</b>	<b>97</b>
<b>Sweden</b>	<b>56.7 (28 %)</b>	<b>19</b>	<b>89</b>
<b>United Kingdom</b>	<b>646.5 (68 %)</b>	<b>55</b>	<b>73</b>

**Source : Merrill Lynch (1997)**

**NA : Not available**

## *Section Two : 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<sup>6</sup>. 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 financial contracts denominated in national currencies with maturity overlapping the date of introduction of the single currency. The total costs incurred by the introduction of a single currency has 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 (AMUE, 1994) to an estimate of ECU 6 million for a Belgian bank (Swings, 1994). Estimates of the costs of the changeover for securities firms appear much lower, from a high of ECU 8 million to a low of ECU 110,000 (Scobie, 1997). 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)<sup>7</sup>. Besides references to arbitrage opportunities, 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

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<sup>6</sup>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).

<sup>7</sup>For instance, the French treasury has announced that the redenomination of bonds will be rounded to the nearest euro (with a cash payment to compensate the loss of the decimal part).

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 discussion had 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) which sketches the framework. It proposed 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<sub>a</sub>). 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<sup>8</sup> (EMI, 1995<sub>b</sub>).

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 polices 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*

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<sup>8</sup>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).

*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.

Once the single currency is created, the collection of national central banks will be replaced by a new structure : The European System of Central Banks (ESCB).

The European System of Central Banks comprises a European Central Bank (ECB) located in Frankfurt and the national central banks (NCB) of each country participating in the euro. The Governing Council of the ESCB will formulate the monetary policy. It is made up of the governors of each central bank participating in the euro and of the members of the executive board of the European Central Bank (four to six persons). The Executive Board of the European Central Bank will implement the monetary policy, giving the necessary instructions to the national central banks.

The final choice of the conversion rates and the timing of its announcement has attracted a lot of attention recently. Not only must the timing be right to avoid disturbances in capital markets ; it must be come early enough to facilitate the operational changeover to the euro<sup>9</sup>. At the September 1997 meeting in Mondorf (Luxembourg), the EU finance ministers have agreed that bilateral conversion rates would be announced in May 1998.

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.

It appears clearly from the 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. The legal validity of

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<sup>9</sup>The choice of conversion rates is discussed by Gros and Lannoo in Chapter Two.

financial contracts extending beyond 1999 has been questioned. Norton Rose (1996) concludes that EU legislation will create legal certainty in all fifteen members of the European Union. However, there is still an uncertainty to be tested eventually in court in third countries, such as the United States, where a party could call for the termination of the contract as a result of the *legal theory of frustration*. However, legal experts point out that the rules of international public law state that each state is entitled to sovereignty over its own currency and that the sovereign rights of a state are entitled to recognition by all other states.

Although there is much reference to January 1 1999 or to 2002 as the relevant dates, it will come clear from the following analysis that it is May 1998 and the decision to fix irrevocably exchange rates that will generate most of the impact of the single currency.

### ***Section Three : European Money and Capital Markets with a Single Currency***

The impact of the single currency on capital markets is systematically reviewed in this section. We shall analyze successively the government bond market, the corporate bond and equity market, institutional fund management, the Euro-deposit market, and the market for foreign exchange.

#### ***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 5 show that six out of the fifteen countries have today a AAA status<sup>10</sup>, with an additional three with a Aa1 status (Belgium, Denmark, Finland). Together in 1995, these six AAA-countries represented 53 % of outstanding European public debt. One will notice the particular place of the Aa3-rated Italy whose public debt amounts to 28 % 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 6 shows that the number of interest rate future contracts traded in Europe in 1996 reached 238 millions, ahead of the 221 millions contracts traded in the USA. The European interest rate derivative market is fragmented with Liffe having a market share of 55 %, compared to 21 % for Matif, and 15 % for DTB. If the American case is a guide, there is little doubt that the nineteen 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 link the exchanges and clearing houses to facilitate the accounting, netting and clearing mechanisms<sup>11</sup>.

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 institutions. The economics of underwriting of securities and secondary trading typically refer to four potential sources of comparative advantage in securities markets :

- Long term historical access to customer
- Credit risk evaluation expertise
- National currency denomination which facilitates the placement power with access to local

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<sup>10</sup>Austria, France, Germany, Luxembourg, Netherlands, and the United Kingdom.

<sup>11</sup>A complete discussion of European interest rate derivatives is developed by Steinherr in Chapter 6. A discussion of the economics of credit spreads on government bonds is available in Chapter 4 by Nielsen..

investors, the understanding of national monetary policy, and the understanding of trade (demand/supply) flow patterns.

- Financial sophistication with the design of structured products.

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 public issues ; 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<sup>12</sup>. 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<sup>13</sup>. 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.

### ***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, currency denomination and financial sophistication<sup>14</sup> are critical sources of competitive advantage. The Eurobond market presents an interesting case. A study by the Federal Reserve Bank of New York (1991) reported

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<sup>12</sup>The second factor, credit risk evaluation, is less applicable in the case of European government bonds.

<sup>13</sup>Complete integration will require further work to harmonize market practices (European Commission, 1997 ; Federation of European Stock Exchanges, 1997 ; LIBA, 1997).

<sup>14</sup> 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.

a strong correlation for non-dollar issues between the nationality of investors and that of the lead bank manager. This is confirmed in a study by White-McCauley (1997). Table 7 shows that the lead managers in the Eurobond markets in French Francs, Dutch Guilders or German Marks 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 widely accepted currency.

The overall Eurobond league documents in Table 8 the leading role of American securities firms. This 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<sup>15</sup>. 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

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<sup>15</sup>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.

underwriting and secondary trading. However, two factors call for the necessity of an international coverage. The first is that the credit risk of a particular firm is going to be subject to the competitive dynamics of the international industry in which that firm operates. For instance, Swedish expertise is not sufficient to deal with the Volvo car manufacturer. What matters is international expertise in the automobile industry. A second 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<sup>16</sup> 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<sup>17</sup> 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 has often referred to London as the candidate for a European securities market given its size or turnover in foreign equities. A study by the Bank of England<sup>18</sup> reported that 587 overseas

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<sup>16</sup>The role of *euro* as an international currency is analysed in Section Five of this chapter, and in Chapter Three by Wyplosz.

<sup>17</sup> such as Stoll (1990), Amihud-Mendelson (1991), Scott-Quinn (1992), or Hawawini-Skill (1992). See the complete discussion of the microstructure of equity markets by Biais in Chapter 8.

<sup>18</sup>Bank of England Quarterly Bulletin, March 1993.

securities were quoted on SEAQ International, and that in 1992 more than twenty percent of the overall turnover in those shares took place on SEAQI<sup>19</sup>. However, recent studies by Benos-Crouhy (1996) and Pagano (1997) report that continental bourses have recovered most of the trade from London, thanks to a low cost automated auction system. For instance, trading of French shares in London decline from 25-30 % in 1990-1993 to 5-15 % recently. In the case of a smaller stock exchange, Brussels, and of a large company with multiple listings, 71 % of trading in shares of Petrofina S.A. in the first quarter 1997 took place in Brussels, versus 27 % in London and 2 % in Paris.

Furthermore, 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<sup>20</sup>. 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. If the development of the last seven years put into question the emergence of a single dominant stock exchange, the issue of the size of members firms in a particular market can be raised. Data for France in Table 9 show a fairly low level of concentration with the five largest firms capturing 29 % of the order flows in 1996.

To conclude this analysis of the impact of a single currency on the corporate bond and equity markets, it seems that two forces will play a role. Customer relationship and an understanding of credit risk will remain two sources of strength for domestic firms. But international industry expertise is likely to dominate pure local expertise in the case of large customers.

As was the case for government bonds, the issue of size and international coverage is a central issue. For indication, it is symptomatic to observe from Table 10 that the five largest underwriters in the investment grade US market control 62 % of the market in the USA.

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<sup>19</sup>Several authors (Jacquillat-Gresse, 1995 and Pagano, 1997) have questioned the significance of these trade statistics in a dealer-type market.

<sup>20</sup>For a discussion of the problem of clearance and settlements systems in Europe, see Giddy, Saunders and Walter, 1995, and Steil (1996).

### *Fund Management*

An important segment of capital markets business is the fund management industry, pensions funds or mutual funds. Tables 11 and 12 document the structure of the European mutual fund industry. One will notice the relative importance of money market funds in some countries such as France (45 % of total assets), while equity funds dominate in others countries such as the United Kingdom (88 % of total assets). Moreover, Table 12 confirms the existence of the 'home-country' bias, that is equity funds are mostly invested in domestic equities. Market share data for France and the United Kingdom provided in Tables 13 and 14 confirm the existence of fragmented markets entirely controlled by local players. All top ten players are domestic firms (even if some of them in the United Kingdom, such as Barings or Morgan Grenfell, were purchased by continental European banks). 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<sup>21</sup>. 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<sup>22</sup>. 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

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<sup>21</sup>See the complete discussion by Walter in Chapter Nine.

<sup>22</sup>Kay et al. (1994), Jorion (1994), Solnik et al. (1996) and Baxter-Jermann (1997). See the discussions in Chapters 7 and 8 by Hillion et al. and Biais.

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 regional funds. But international industry expertise will be needed for those supplying specialised sectoral 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 (regional and sectoral). On the retail distribution side, domestic banks will keep their competitive advantage in those countries in which the branch network remains a significant channel of distribution.

### *The Euro-Deposits and Cross-Border Payments*

An extremely efficient Euro-deposit market was created thirty years ago to circumvent various forms of domestic regulations<sup>23</sup>. Table 15 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<sup>24</sup> 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, 1997).

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<sub>c</sub>) has provided some indications on the future European payment system. In essence, it favors a decentralized national-based system complemented by

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<sup>23</sup>Aliber (1976) or Dufey-Giddy (1994).

<sup>24</sup>The arrival of the euro calls for a rapid redenomination of this market.

TARGET<sup>25</sup>, 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 Association (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.

### *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. This conjecture is consistent with the analysis by Tschoegl (1996) of the sources of competitive advantage in the currency market, namely size and the international status of the home currency. Differentiated products based on quality of service or innovations such as options will be another source of competitive advantage.

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 businesses : government bonds, interest rate derivatives, and spot currency trading. We believe that, if domestic expertise in the accounting, legal and fiscal environment gives some competitive advantage to domestic players in the corporate bond and equity markets, an understanding of the international dynamics of an industry will be

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<sup>25</sup>TARGET : Acronym for Trans-European Automated Real-Time Gross Settlement Express Transfer system.

necessary. 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 : Country Ratings

<u>Country</u>	<u>Moody's</u>		<u>Standard &amp; Poor</u>	
	<u>Foreign</u>	<u>Domestic</u>	<u>Foreign</u>	<u>Domestic</u>
Austria	Aaa	nr	AAA	AAA
France	Aaa	Aaa	AAA	AAA
Germany	Aaa	Aaa	AAA	AAA
Luxembourg	Aaa	nr	AAA	AAA
Netherlands	Aaa	Aaa	AAA	AAA
United Kingdom	Aaa	Aaa	AAA	AAA
Belgium	Aa1	Aa1	AA+	AAA
Denmark	Aa1	Aa1	AA+	AAA
Finland	Aa1	Aaa	AA	AAA
Greece	Baa1	A2	BBB-	nr
Ireland	Aa1	Aaa	AA	AAA
Italy	Aa3	Aa3	AA	AAA
Portugal	Aa3	Aa2	AA-	AAA
Spain	Aa2	Aa2	AA	AAA
Sweden	Aa3	nr	AA+	AAA

Source : Mc Cauley-White (1997)

**Table 6 : Interest Rate Futures**

<b><u>Instrument</u></b>	<b><u>Exchange</u></b>	<b><u>1996 volume (000's)</u> <u>(January-November)</u> <u>N° of Contracts Traded</u></b>
Belgian Bond	Belfox	375
90-day Bibor	Belfox	142
Portuguese Bond	BDP	150
German Bund	DTB	16,497
German Bobl	DTB	18,269
German Bund	Liffe	39,802
German Euromark	Liffe	36,231
Danish Bond	Futop	308
Long Gilt	Liffe	15,408
Sterling	Liffe	15,794
Euro-Swiss	Liffe	3,299
Italian Bond	Liffe	12,604
Euroaira	Liffe	6,937
10 Ys Italian	MIF	2,240
10 Ys French	Matif	35,322
Pibor	Matif	14,133
ECU Bond	Matif	550
10 Ys Pesetta	Meff RF	18,536
MIBOR	Meff RF	1,275
Total EU		237,872
Swiss Bond	Soffex	913
Total USA	CBOT+CME	220,603
Total Japan	TIFFE+TSE	41,786

Source : Futures and Option World, February 1997, EFSE.

**Table 7 : Currency and home-country relationship in the choice of the bond bookrunner (1996)**

**Percentage market share won by bookrunners of indicated nationality**

	German bookrunners			French bookrunners	
Borrower	Currency		Borrower	Currency	
	Mark	Other		French Francs	Other
German	44	16	French	86	10
Other	37	2	Other	75	2
All	39	4	All	77	2
	UK bookrunners			Dutch bookrunners	
Borrower	Currency		Borrower	Currency	
	Pound	Other		Guilder	Other
UK	40	21	Dutch	83	26
Other	48	3	Other	85	2
All	44	4	All	84	2
	US bookrunners			Japanese bookrunners	
Borrower	Currency		Borrower	Currency	
	Dollar	Other		Yen	Other
US	86	46	Japanese	75	46
Other	54	13	Other	87	6
All	64	16	All	84	8

Source : McCauley-White (1997)

**Table 8 Eurobond**

<b><u>Manager</u></b>	<b><u>1996 ECU bn</u></b>	<b><u>Market Share</u></b>
<b>Merrill Lynch</b>	<b>41.3</b>	<b>7.66 %</b>
<b>Morgan Stanley</b>	<b>29.6</b>	<b>5.48</b>
<b>SBC Warburg</b>	<b>29.1</b>	<b>5.39</b>
<b>Goldman Sachs</b>	<b>27.2</b>	<b>5.05</b>
<b>JP Morgan</b>	<b>27.0</b>	<b>4.99</b>
<b>CSFB/Crédit Suisse</b>	<b>22.6</b>	<b>4.17</b>
<b>Deutsche Morgan</b>		
<b>Grenfell</b>	<b>22.4</b>	<b>4.14</b>
<b>Lehman Bros</b>	<b>21.6</b>	<b>4.01</b>
<b>Nomura Securities</b>	<b>19.9</b>	<b>3.68</b>
<b>UBS</b>	<b>19.7</b>	<b>3.65</b>

**Source Capital Data Bondware.**

Table 9 : Market Shares of Paris SBF Members, 1996

<u>Ranking (anonymous)</u>	<u>Transactions</u> <u>(ECU Million)</u> <u>(Purchases + Sales)/2</u>	<u>Market Share (%)</u> <u>(Purchases + Sales)/2</u>
1	11,664	6.8 %
2	10,972	6.4
3	9,493	5.5
4	9,147	5.3
5	8,182	4.8
6	8,071	4.7
7	7,740	4.5
8	7,184	4.2
9	7,150	4.2
10	6,212	3.6

Source : SBF, Paris.

**Table 10 : Top Ten Bookrunners of Investment Grade in USA (1996)**

<b><u>Manager</u></b>	<b><u>1996 ECU bn</u></b>	<b><u>Market Share</u></b>
<b>Merrill Lynch</b>	<b>79</b>	<b>18.3 %</b>
<b>Salomon Brothers</b>	<b>54</b>	<b>12.5</b>
<b>Goldman Sachs</b>	<b>46.9</b>	<b>10.8</b>
<b>JP Morgan</b>	<b>45</b>	<b>10.4</b>
<b>Lehman Bros</b>	<b>43.7</b>	<b>10.1</b>
<b>Morgan Stanley</b>	<b>40.8</b>	<b>9.4</b>
<b>CSFB</b>	<b>29</b>	<b>6.7</b>
<b>Bear Stearns</b>	<b>29</b>	<b>3.1</b>
<b>Smith Barney</b>	<b>12.8</b>	<b>3.0</b>
<b>NationsBank</b>	<b>12.3</b>	<b>2.8</b>

**Source Securities Data Co.**

Table 11 : The European Mutual Funds Industry (1996)

<u>Country</u>	<u>Assets</u> <u>(ECU bn)</u>	<u>Relative Share of</u> <u>Equity Funds</u>	<u>Relative Share of</u> <u>Money Market</u> <u>Funds</u>
Austria	32	5.7	0
Belgium	22	34.1	9.7
Denmark	8	46.7	0
Finland	2	31.5	40.6
France	426	10.9	45.3
Germany	110	26.7	16
Greece	13	2	59.3
Ireland	6	37.1	2.3
Italy	104	16.7	36.4
Luxembourg	272	17.8	27.4
Netherlands	54	53.8	10.1
Portugal	13	5.5	32.6
Spain	114	2.8	50.8
Sweden	28	74.6	0
United Kingdom	159	88.4	0.5
Total EU	1363		
Switzerland	38.4	62	0

Source : FEFSI, April 1997.

Table 12 :The European Mutual Funds Industry (1996)

	Equity funds (100 %)			Bond Funds (100 %)		
	<u>Domestic</u> (%)	<u>European</u> (%)	<u>Internat.</u> (%)	<u>Domestic</u> (%)	<u>European</u> (%)	<u>Internat.</u> (%)
Austria	7	-	93	72	-	28
Belgium	49	20	31	58	19	23
Denmark	20	-	80	74	-	26
Finland	78	-	22	100	-	-
France	64	-	36	87	-	13
Germany	62	12	26	53	-	47
Greece	95	-	5	97	-	3
Ireland	25	-	75	100	-	-
Italy	57	8	34	92	-	8
Luxemb.	-	-	-	-	-	-
Netherl.	16	-	84	33	-	67
Portugal	76	-	24	99	-	1
Spain	96	-	4	98	-	2
Sweden	77	-	23	99	-	1
United Kingdom	59	10	31	78	-	22
EU						
Switzerl.	17	-	83	1	-	99

Source FEFISI, 1997.

Table 13 : Mutual Funds (OPCVM) Managers in France (December 1996)

	<u>ECU bn</u>	<u>Market Share (%)</u>
Société Générale	31.3	7.4
Crédit Agricole	25.1	5.9
Crédit Lyonnais	24.1	5.7
BNP	23.96	5.68
CDC-Trésor	18.5	4.4
La Poste	16.3	3.9
CIC-Banque	14	3.3
Caisses d'Épargne	12.9	3.1
Banques Populaires	12.3	2.9
Paribas	8.2	1.95

Source : EuroPerformance, AFG-ASSFI.

Table 14 : UK League of Fund Managers

<b>Total Assets Under Management</b>	
	<b>ECU bn (Market share %)</b>
Prudential	123.4 (9.6 %)
Schroder	119.3 (9.3 )
MAM	116.6 (9.1)
Morgan Grenfell	93.6 (7.3)
Commercial Union	92.2 (7.2)
Fleming	78.6 (6.1)
Invesco	78.6 (6.1)
PDFM	77.3 (6)
Gartmore	69.2 (5.4)
Standard Union	65 (5)

Excludes the assets managed by Wells Fargo Nikko, the US fund management arm of Barclays.

**Table 15 : External Position of Banks in Individual Reporting Countries**  
**(all currencies vis à vis the non-bank sector ; ECU billion)**

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

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

### *Section Four : 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 ; Alogoskoufis-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<sup>26</sup>. 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.

#### *Unit of Account*

Besides the fact that several commodities such as gold or oil are denominated in US dollar, one notice the central role of the dollar in the currency market. This is of course the result of an efficient market which by directing demand and supply to a few (dollar-related) contracts create 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.

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<sup>26</sup>A complete discussion of the international role of the euro is available in Wyplosz, Chapter Three.

### *Store of Value*

Whether one look at the 41.4 % share of dollar-denominated international bonds (Table 16) or the 46.7 % share of cross-border bank claims (Table 17), one draws the conclusion that the relative importance of the American currency vastly exceeds the relative share of the United States in world exports (14 %). 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 56.4 percent in 1995, while the share of the DM has raised from 6.7 percent to 13.7 percent.

### *Mean of Exchange*

The share of the dollar as a mean of exchange in international trade has been documented by Emerson (1990). For instance, 17 % of Belgian imports are denominated in dollar, while imports from the United States amounts to 5.3 % of total Belgian imports.

Whether one look 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<sup>27</sup>, 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 statute of the dollar which was confirmed in its international role by the 1944 Bretton Woods agreement<sup>28</sup>. One can conclude that the rapid rise of the dollar over a thirty years period was very

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<sup>27</sup>Dehem (1972), Kindleberger (1984), McKinnon (1993), or Roberts (1994).

<sup>28</sup>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.

much helped by the two world wars, and that despite the abandon of convertibility into gold in 1971 and a large volatility, the dollar is still maintaining twenty five years later a leading role as an international currency. 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.

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 16 : International Bonds Outstanding**

<b>Currency</b>	<b>ECU bn</b>	<b>%</b>
<b>USD</b>	<b>262</b>	<b>41.4</b>
<b>Yen</b>	<b>77</b>	<b>12.1</b>
<b>DM</b>	<b>94</b>	<b>14.8</b>
<b>£</b>	<b>45</b>	<b>7</b>
<b>FF</b>	<b>46</b>	<b>7</b>
<b>Swiss</b>	<b>23</b>	<b>4</b>
<b>Italian</b>	<b>22</b>	<b>3</b>
<b>Dutch</b>	<b>19</b>	<b>3</b>
<b>ECU</b>	<b>3.5</b>	<b>0.6</b>

**Source : Financial Times, June 30 1996.**

**Table 17 : Currency Composition of Banks' Cross Border Claims.  
(Foreign Currencies to All Sectors)**

	<u>1994 (%)</u>	<u>1996 (%)</u>
DM	14.3 %	14.9
FF	2.6	3.1
Swiss	4.6	4.8
£	2.4	2.4
ECU	4.3	3.6
Yen	4	4.3
US \$	52	46.7
<b>Total Outstanding</b>	<b>1,018</b>	<b>1,083</b>
<b>Ecu bn</b>		

**Source : BIS International Banking and Financial Markets Development, 1996.**

### *Section Five : 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<sup>29</sup>). 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<sup>30</sup>. The loss of monetary autonomy is often regarded as the major cost of European Monetary Union. Recent economic developments have strengthen 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

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<sup>29</sup>Mundell (1961), McKinnon (1963).

<sup>30</sup> 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.

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 will prevent inflationary policies. *Ceteris paribus*, this could increase the potential for losses resulting from default, as one cannot count anymore on a predictable positive drift for the value of collateral assets<sup>31</sup>. The inability of a country to devalue and the very strict anti-inflationary policy of the ECB imply that, whenever a need to restore competitiveness will arise in a particular region, the only tool available will be a reduction of nominal wage and prices. This will change fundamentally the nature of credit risk as firms and individuals cannot rely anymore on the nominal growth of their revenue to reduce the real value of their debt. This new world call for innovative techniques to handle potential deflations<sup>32</sup>.

### ***Section Six : The pan-European Bank***

In the last ten years in Europe, one has observed a very large series of domestic mergers. Table 18 documents this series. These are often defensive mergers that did allow a substantial reduction in the number of branches or staff. Few international mergers have taken place yet, although a wave could be on its way<sup>33</sup>. As table 19 documents, international mergers essentially

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<sup>31</sup> Although an argument can be made that non-inflationary policies would reduce the amplitude of business cycles.

<sup>32</sup>A tool could be the creation of securities indexed on regional prices.

<sup>33</sup>Significant cross-border mergers include Dexia, a merger between the Belgian Crédit Communal and the French Crédit Local, Fortis, a merger between the Dutch AMEV/Mees Pierson and the Belgian AG/CGER/SNCI, the Scandinavian merger between the Merita Bank of Finland and Nordbankern of Sweden, and the purchase of the Belgian Banque Bruxelles-

did involve the purchase of merchant banks in London, such as the acquisition of Barings by ING, or Morgan Grenfell by Deutsche Bank.

The key issue is whether the arrival of the euro will precipitate the creation of pan-European banks. The analysis developed in this chapter has shown that size and international coverage will likely be very important in some specific segments of the industry, such as bonds or equities markets, fund management or foreign exchange. This seems to indicate a need for size and international coverage for those firms wanting to be successful in those markets. But for other activities, such as retail banking, local expertise could allow the survival of local firms. This will be particularly valid as long as the branch network allows to capture a clientele. Whenever consumers start to trade financial services on the telephone or Internet, then the importance of the branch network will disappear and, very likely, a large size will also be required to establish a strong national or European brand name. As the need for cross-border restructuring becomes necessary, a second issue will arise. Should this international restructuring occur along specific lines of business, such as fund management, corporate and investment banking, or should it take the form of a large diversified international universal bank<sup>34</sup> ?

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Lambert by the Dutch ING.

<sup>34</sup>See the complete discussion on strategic positioning by Walter and Smith in Chapters 9 and 10.

Table 18 : Domestic Mergers in Europe<sup>1</sup>

Belgium	1992	CGER-AG (Fortis)
	1995	Fortis-SNCI
	1995	KB-Bank van Roeselaere
	1997	BACOB-Paribas Belgium CERA-Indosuez Belgium
Denmark	1990	Den Danske Bank
		Unibank (Privatbanken, Sparekassen, Andelsbanken)
Finland	1995	KOP-Union Bank of Finland
France	1996	Crédit Agricole-Indosuez
Germany	1997	Bayerische Vereinsbank- Hypo-Bank
Italy	1992	Banca di Roma (Banco di Roma, Cassa di Risparmio di Roma, Banco di Santo Spirito)
		IMI - Cariplo
		San Paolo- Crediop
		Credito Romagnolo (Rolo)- Credito Italiano
		Ambroveneto-Cariplo
Netherlands	1990	ABN - AMRO
	1991	NMB-PostBank-ING
Portugal	1995	BCP-BPA
Spain	1988	BBV( Banco de Vizcaya-Banco de Bilbao)
		Caja de Barcelona-La Caixa
	1992	Banco Central-Banco Hispano
	1994	Santander-Banesto
Sweden	1993	Nordbanken-Gota Bank
Switzerland	1993	CS-Volksbank
United Kingdom	1995	Lloyds-C&G-TSB

<sup>1</sup> Not complete. For illustration only.

**Table 19 : International Mergers in Europe<sup>2</sup>**

<b><u>BUYER</u></b>	<b><u>TARGET</u></b>
<b>Deutsche Bank</b>	<b>Morgan Grenfell</b>
<b>ING Bank</b>	<b>Barings</b>
<b>Swiss Bank Corp</b>	<b>Warburg, O'Connor, Brinson, Dillon Read</b>
<b>Dresdner</b>	<b>Kleinwort Benson</b>
<b>ABN-AMRO</b>	<b>Hoare Govett</b>
<b>UNIBANK</b>	<b>ABB Aes</b>
<b>FORTIS</b>	<b>Mees Pearson</b>
<b>Merrill Lynch</b>	<b>Smith New Court (UK)</b>
	<b>FG (Spain)</b>
<b>Crédit Suisse</b>	<b>BZW (equity part)</b>

**2 Not complete. For illustration only.**

## ***Section Seven : 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 financial firms. 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 nine 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, international sectoral coverage will also be a necessity.

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.

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. Another impact of the single currency 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 derivatives. Financial innovations will be required to deal with potential regional deflations.

8. The creation of pan-European banks could be necessary to achieve size and international coverage.

9. Finally, a fundamental impact of the euro is that it will make irreversible the creation of the single market. A more predictable environment will facilitate the exploitation of economies of scale and the optimal location of processing units.

The objective of the 1992 single market programme was to reinforce the efficiency and competitiveness of European firms. As concerns 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 those operating in the capital markets of third countries such as those of the United States, and of the rapidly expanding Asia and Latin-America.

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