



Background Material—Part II

Selected Issues



Annex IV

European Monetary Union: Institutional Framework for Financial Policies and Structural Implications

This annex begins with a brief description of the potential size of the domestic euro capital markets in a European Economic and Monetary Union (EMU) and the role of existing European currencies in international capital markets. An analysis of the institutional framework for financial markets in EMU, including the payments system, the European System of Central Banks (ESCB), and the framework for other financial policies (financial supervision and regulation, lender-of-last-resort functions, and deposit insurance) follows. The next section discusses the catalytic role of the euro. The structural implications of EMU for European and international securities markets, including the possible evolution of EMU markets for repurchase agreements (repos), interbank funds, bonds, equities, and derivatives are then evaluated. The annex concludes by examining implications for wholesale and retail banking markets and the remaining impediments to cross-border competition in banking and financial services.¹

Potential Size of EMU Financial Markets

In absolute terms, and compared with any reasonable benchmark, the introduction of the euro has the potential for creating the largest domestic financial market in the world. At end-1995, *the market value of bonds, equities, and bank assets* issued in EU countries amounted to more than \$27 trillion (Table 12), roughly the same order of magnitude as world GDP (94 percent of world GDP).² By comparison, the market value of assets in North America—with roughly the same population and GDP as the European Union—amounted to about \$25 trillion (\$23 trillion in the United States). If the initial union includes only Austria, Belgium, France, Germany, Luxembourg, the Netherlands, Ireland, and Finland (the EU-8), the domestic euro market would equal the size of Japan's domestic market (\$16 trillion). If the union includes in addition Italy, Portugal, and Spain (EU-11), it would

roughly equal the size of the U.S. domestic market. An interesting aside is that the value of bonds, equities, and bank assets is roughly three times the respective GDPs in the European Union, the United States, and Japan (about 320 percent in the European Union and Japan and about 315 percent in the United States).

EU private entities overwhelmingly have tended to finance their activities through bank loans rather than through bond and equity financing, and U.S. entities have relied more heavily on bond and equity financing. In the EU-11, bank assets represented 54 percent of all outstanding financial assets at end-1995. By contrast, U.S. bank assets accounted for only 22 percent of total assets outstanding.

In contrast to government securities markets, European private debt securities markets are segmented, with all but the largest firms borrowing solely from a domestic investor base. In the EU-11, for each dollar of bank borrowing, private firms borrowed, on average, only 50 cents through private securities issues. By contrast, in the United States, for each dollar of borrowing from banks, U.S. firms borrowed slightly more than two dollars through debt securities issues. Japanese private entities were much closer to their EU, than to their U.S., counterparts.

Although the amount of EU private bonds outstanding appears to be sizable enough to suggest a reasonably large market for corporate bonds (roughly three-fourths the size of the U.S. market), the bulk of these bonds were issued by European financial institutions. From the point of view of corporate balance sheets, as of end-1994, bonds accounted for a relatively small share of the total liabilities of nonfinancial firms in France (5.7 percent) and in Germany (less than 1 percent); by contrast, they accounted for 18.8 percent of the total liabilities of U.S. nonfinancial firms.³ The low share of debt financing by European companies extends to the short end of the maturity spectrum as well, because European companies tend to rely on bank financing for short-term funds. U.S. corporate entities tend to rely more heavily on short-term financing because of their access to the very liquid and highly developed commercial paper market, which accounts for more than half of the world's outstanding

¹This annex draws on the analysis in Prati and Schinasi (1997).

²This total is meant to be a measure of the size of net wealth stored in capital market instruments. It should be considered a proxy and may involve some double counting, as in the case of securities issued by banks. Consolidating the balance sheets of the financial institutions of each country would yield a more precise estimate.

³OECD and Deutsche Bundesbank.

Table 36. Amounts Outstanding of International Debt Securities by Currency and Country of Nationality, March 1997¹*(In billions of U.S. dollars)*

	Amounts Outstanding
By currency	
U.S. dollar	1,301.4
Japanese yen	499.6
Currencies of European Union (EU) countries ²	1,107.9
Other ³	331.8
Total	3,240.7
By country of nationality	
EU countries	1,478.2
Austria	64.4
Belgium	50.2
Denmark	32.0
Finland	53.8
France	211.6
Germany	356.4
Greece	20.0
Ireland	17.4
Italy	92.2
Luxembourg	11.8
Netherlands	124.4
Portugal	12.6
Spain	43.7
Sweden	116.3
United Kingdom	275.5
North America	647.2
Canada	183.7
Mexico	45.4
United States	418.1
Japan	344.6
Others	770.7
All countries	3,240.7

Source: Bank for International Settlements, *International Banking and Financial Market Developments* (May 1997).

¹Euronotes and international bonds.

²Currencies of Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom; plus ECU.

³Currencies of Australia; Canada; Hong Kong, China; New Zealand; Norway; and Switzerland; plus other currencies.

commercial paper. These observations about the use of debt securities reflect the greater historical reliance by firms in the United States on direct intermediation through the corporate debt securities markets, the heavy reliance in Europe on bank financing, and the relatively undeveloped European corporate securities markets.

Another way of assessing the potential importance of the euro from a purely quantitative perspective is to examine the use of existing European currencies as currencies of denomination in *international financial transactions*. In international bond markets, 35 percent of the outstanding stock of international debt securities was denominated in EU currencies at end-September 1996 (Table 36). Although this is a

substantial share of international issues outstanding, and is a close second to the amount of dollar international issues outstanding, EU countries themselves issued more than 45 percent of all international bonds outstanding. In addition, in the five-year period ending in December 1995, only a minor share of developing country debt was issued internationally in EU currencies.

Still another way to gauge the potential role of the euro is to examine daily turnover in the global *foreign exchange markets*. According to the most recent Bank for International Settlements (BIS) survey, as of April 1995 the dollar was involved in at least one side of a transaction about 42 percent of the time, the deutsche mark 18.5 percent, the yen 12 percent, and the pound sterling 5 percent. EMS currencies combined were involved in at least one side of a transaction about 35 percent of the time, including European cross-currency trading (Table 37). In related derivative markets, the dollar, EU currencies, and the yen accounted for shares of trading that are roughly equivalent to the relative sizes of their economies (in terms of GDP), but most of this activity actually involved U.S. and U.K. financial institutions. Transactions involving currency swaps were clearly tilted toward the dollar, reflecting its now dominant position in international finance and as a reserve currency (Table 38).

In summary, although the EU currencies command a significant share of activity in international financial markets, they do not now command shares in line with either the size of the EU economy or the relative size of their domestic financial markets.

Institutional Framework for Financial Markets

Between now and the start of EMU, countries of the European Union will implement a new institutional framework for EMU financial policymaking. The main parts of this framework are the new EU-wide payments system, the institutional framework for conducting the single EMU monetary and exchange rate policy, and a still-evolving institutional framework for implementing and coordinating financial supervision and regulation across European financial markets, including the management of systemic risk. Each of these important elements of the new framework is discussed in this subsection.

TARGET Payments System

TARGET (Trans-European Automated Real-Time Gross Settlement Express Transfer) is a payments system designed to process cross-border transactions denominated in euros after the start of Stage III of EMU on January 1, 1999. TARGET has two main objectives. The first objective is to provide a safe payments

Table 37. Use of Selected Currencies on One Side of Foreign Exchange Transaction, April 1989, April 1992, and April 1995¹*(As a percentage of global gross foreign exchange market turnover)*

Currency	April 1989	April 1992	April 1995
U.S. dollar	90	82	83
Deutsche mark ²	27	40	37
Japanese yen	27	23	24
Pound sterling	15	14	10
French franc	2	4	8
Swiss franc	10	9	7
Canadian dollar	1	3	3
Australian dollar	2	2	3
European currency unit (ECU)	1	3	2
Other European monetary system (EMS) currencies	3	9	13
Currencies of other reporting countries	3	3	2
Other currencies	19	8	8
All currencies	200	200	200
<i>Memorandum item:</i>			
EMS currencies including ECU	48	70	70

Source: Bank for International Settlements, *Central Bank Survey of Foreign Exchange and Derivatives Market Activity 1995* (May 1996).

¹Numbers of reporting countries are 21 in 1989 and 26 in 1992 and 1995. Data for 1989 and data for Finland in 1992 include options and futures. Data for 1989 cover local currency trading only, except for the U.S. dollar, deutsche mark, Japanese yen, pound sterling, Swiss franc, and ECU. The figures relate to gross turnover because comparable data on a "net-gross" or "net-net" basis are not available for 1989.

²Data for April 1989 exclude domestic trading involving the deutsche mark in Germany.

mechanism within the euro area based on real-time gross settlement (RTGS) procedures that will insulate the payments system across Europe from the effects of liquidity and payment difficulties experienced by a single institution.⁴ The second goal is to create an efficient system of cross-border payments that will integrate the money markets of the participating countries and support the implementation of the single monetary policy in Stage III.⁵

Participation

The TARGET system is composed of one RTGS system in each of the EMU countries and the payments mechanism of the European Central Bank

⁴In RTGS systems, payments orders are processed one by one on a sequential basis. As long as there are sufficient funds or overdraft facilities available in the sending institution's account with the central bank, there will be immediate and final settlement of all payments. The receiving institution does not bear any credit or liquidity risk on the payments orders received since its account is credited only after the account of the sending institution is debited.

⁵Within TARGET the delay between the debiting of the account of the sending institution and the crediting of the account of the receiving institution should be a matter of seconds. Banks will then be able to move funds across borders immediately and at low cost, responding very rapidly to arbitrage opportunities. As a result, a single interbank rate is likely to prevail in all EMU countries and the liquidity impact of European Central Bank operations will be uniform across EMU.

(ECB) connected by common infrastructures and procedures forming the Interlinking system (a communications network) (Figure 54).⁶ Only the ECB and national central banks (NCBs) will be allowed to use the Interlinking system, but any participant in any RTGS system connected to TARGET will be allowed to send payments via TARGET. Because TARGET is designed to process only euro transactions, RTGS systems of EU countries not in EMU will be allowed to connect to TARGET only if they are able to process euros. Remote access to domestic RTGS systems will be granted on a nondiscriminatory basis to credit institutions licensed in other EU states either through their local branches or directly from another EU country. (At the start of EMU, however, remote access to monetary operations will not be available.) To facilitate the operations of large-value net settlement systems working in euros through TARGET, net settlement systems will be allowed to open a special account with the ECB or a national central bank that must be used exclusively for settlement purposes and must have a zero balance at the beginning and at the end of the day.

⁶While the Interlinking procedures will be identical in all countries, the payments services for end users may differ reflecting local conditions under which RTGS systems have been developed in each country (e.g., some systems may include queuing facilities or cash management facilities).

Table 38. Notional Principal Value of Outstanding and New Interest Rate and Currency Swaps, 1995*(In billions of U.S. dollars)*

	Amounts Outstanding	New Swaps
Interest rate swaps	12,810.7	8,698.8
U.S. dollar	4,371.7	2,856.5
Japanese yen	2,895.9	2,259.3
Currencies of European Union (EU) countries ¹	4,620.9	3,160.9
Of which:		
Deutsche mark	1,438.9	984.5
French franc	1,219.9	1,113.5
Italian lira	405.4	217.3
Netherlands guilder	101.8	62.3
Pound sterling	854.0	433.4
Spanish peseta	163.7	91.9
ECU	223.1	96.4
Other	922.4	422.1
Of which:		
Swiss franc	331.7	159.2
Currency swaps ²	2,394.8	910.2
U.S. dollar	837.8	307.9
Japanese yen	400.0	164.5
Currencies of EU countries ¹	684.7	248.1
Of which:		
Deutsche mark	238.0	78.1
French franc	81.4	41.6
Italian lira	72.6	18.5
Netherlands guilder	28.1	13.0
Pound sterling	91.5	23.4
Spanish peseta	27.5	22.4
ECU	83.0	28.2
Other	472.3	189.8
Of which:		
Swiss franc	150.6	29.7

Source: Bank for International Settlements, *International Banking and Financial Market Developments* (November 1996).

¹Includes the currencies of Belgium, Denmark, France, Germany, Italy, the Netherlands, Spain, Sweden, and the United Kingdom; plus ECU.

²Not adjusted for reporting on both sides.

Structure

TARGET is designed as a decentralized system in which payments messages are exchanged on a bilateral basis among national central banks, according to the “central banking correspondent model,” without any central counterparty. It remains to be decided whether the ECB will have its own payments mechanism connected to TARGET. This may not be necessary because the national central banks will implement most monetary policy operations, in agreement with the principle of decentralization underlying monetary policy in EMU. Even if the Governing Council of the ECB decides to retain the execution of fine-tuning operations and foreign exchange intervention, the settlement of transactions for both operations may

remain decentralized and the ECB may still not need to access the payments system.⁷

The ECB will neither monitor nor receive information on inter-NCB payments orders during the day. At the end of the day, the ECB will perform specific control operations with the aim of checking the correctness of cross-border payments exchanged during the day and the resulting inter-NCB balance positions. The European Monetary Institute (EMI) has not yet decided on the clearing and settlement modalities (frequency of settlement, degree of centralization, means of payment) of outstanding balances among national central banks.

In the U.S. Federal Reserve System, the Board of Governors, like the ECB, does not monitor the settlement positions of each federal reserve bank during the day. At the end of each business day, the reserve bank’s Integrated Accounting System settles the cross-district financial transactions by debiting or crediting as appropriate each reserve bank’s Interdistrict Settlement Account. This daily clearing process is known as the “gold wire process.” The board coordinates once a year (in April) the settlement of the balances on the Interdistrict Settlement Accounts by means of transfer of Gold Certificate assets among reserve banks. The amount settled is equal to the daily average balance in the Interdistrict Settlement Account over the previous year. No such clearing process has been decided upon in the European System of Central Banks, and this opens up the possibility of one national central bank accumulating large claims against another national central bank with no mechanism for settling them.⁸

Transactions Processed

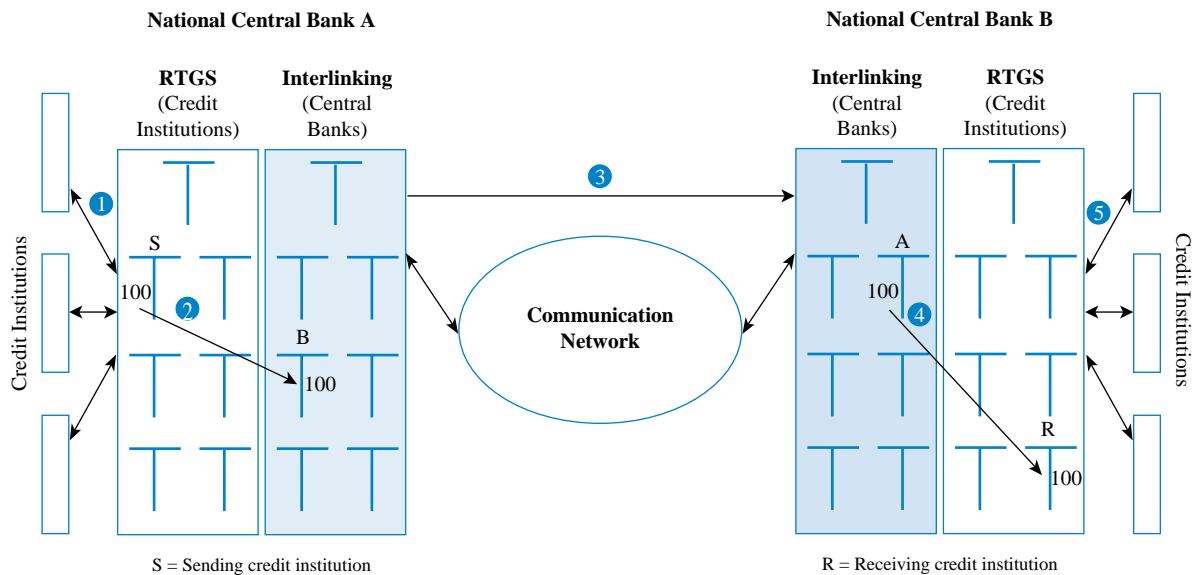
In accordance with the objective of facilitating the implementation of a single monetary policy, credit institutions will be required to use TARGET for payments directly connected with monetary policy operations. Furthermore, large-value net settlement systems are likely to use TARGET to perform their settlement operations because they are bound to settle in central bank money⁹ and therefore in euros. Credit institutions will decide whether to use TARGET for other categories of payments, and there will be no upper or lower limits to the amounts transferred besides those in the domestic RTGS systems. Nevertheless, the European Monetary Institute has indicated that TARGET is expected to process mainly large-value payments

⁷There are only two other instances in which the ECB may need to connect its own payment system to TARGET. First, a net settlement system may open a special account with the ECB. Second, international organizations may keep their accounts at the ECB.

⁸See the papers by Bishop (1997), Dooley (1997), Garber (1997), and Kenen (1997).

⁹According to Principle 5 of the report on “Minimum Common Features for Domestic Payments Systems” released by the Committee of Governors in November 1993.

Figure 54. Cross-Border TARGET Payment



Source: European Monetary Institute (1997).

between credit institutions, whereas private systems are expected to process small-value payments.¹⁰

Intraday Liquidity

Participants in RTGS systems may experience a liquidity shortfall whenever they need to send a payments order before receiving one. In this instance, payments may be blocked or queued until sufficient funds become available either through incoming payments or by borrowing in the market; in the limit, settlement may be delayed and gridlock may take place with systemic implications (i.e., payments cannot be processed because of a lack of sufficient funds). To avoid such events, EMU national central banks will allow intraday mobilization of reserve requirements and will provide participants in their RTGS systems with fully collateralized intraday credit in the form of daily overdrafts or repurchase agreements.

No decision has been made on whether non-EMU national central banks will be allowed to grant intraday credit in euros to participants in their RTGS systems linked to TARGET. The Governing Council of the ECB will have to choose one of the three mechanisms currently being prepared by the European Mon-

etary Institute with the aim of preventing intraday credit granted by non-EMU national central banks from spilling over into overnight credit and thus from having a monetary impact. The first mechanism would set a limit—possibly zero—to the intraday credit in euros that the ECB would provide to non-EMU national central banks (for participants in their RTGS systems) and would impose penalty rates on spillovers. The second would just impose penalty rates. The third would require non-EMU participants to complete their operations before the closing time of TARGET, so that they would have time to avoid spillovers by borrowing euros in the money market.

If non-EMU national central banks are not granted access to intraday credit or are penalized, institutions making cross-border payments to the euro area could adapt their behavior in a number of ways. In some instances they would still channel payments through the TARGET system; in others they would not. First, non-EMU national central banks could borrow euros in the market to provide intraday credit to participants in domestic RTGS systems for cross-border payments to the euro area; in this instance, systemic risks could be reduced as much as they would be reduced with direct access to ECB's intraday credit. Second, non-EMU banks could channel cross-border payments in euros through branches and subsidiaries in the euro area that have access to both intraday and overnight credit; the

¹⁰See European Monetary Institute (1996), p. 7.

potential risk reductions associated with TARGET would be fully captured in this second instance. Third, non-EMU institutions could decide to make cross-border payments to the euro area through private net settlement systems, thus reducing the number of transactions across TARGET; in this instance, some of the systemic risk reductions that could be achieved through TARGET would not be realized.

Operating Hours and Pricing Policies

The operating hours of TARGET will be from 7:00 a.m. to 6:00 p.m. and domestic RTGS systems will be allowed to open earlier to process domestic payments. One hour before closing time, participants in RTGS systems will stop processing customers' payments in euros and only interbank payments will be allowed. These hours will allow for a longer overlap between TARGET and the payments systems in North America and the Far East in an effort to reduce cross-currency settlement risk.

TARGET pricing policy will be directed at cost recovery but also at (1) maintaining a level playing field between participants; (2) contributing to risk-reduction policies by preventing institutions from using a less secure payments mechanism; and (3) avoiding transaction charges that would discourage interest rate arbitrage and hinder the integration of the money market.

Framework for EMU Monetary Policy

Decentralization is the key principle underlying the operational framework for monetary policy in Stage III. According to the European Monetary Institute, "the ECB should have recourse to the NCBs to carry out operations 'to the extent deemed possible and appropriate'" in accordance with Article 12 of the statute of the ESCB. The agreed goal is to "rely as much as possible on the existing infrastructure and on the NCBs' experience, provided that the application of this principle does not conflict with the other guiding principles." The latter include operational efficiency; conformity to market principles; equal treatment to all financial institutions accessing the ESCB's facilities; simplicity, transparency, and cost efficiency; conformity with the decision-making process of the ESCB, which requires the Governing Council of the ECB to be able to control the overall stance of monetary policy at all times; and harmonization of the instruments across countries to the extent necessary "to ensure a single monetary policy stance across the euro area, as well as the equal treatment of counterparties and the avoidance of regulatory arbitrage."¹¹

¹¹European Monetary Institute (1997), p. 18.

Monetary Policy Instruments and Procedures

Open market operations will be the main monetary policy instrument of the ESCB. In addition, there will be standing facilities, and in particular a marginal lending and a marginal deposit facility. The option has been left open to rely on minimum reserve requirements, and a final decision on this will be taken by the ECB.

Open market operations are expected to take mainly the form of reverse transactions (repos), but four other instruments are envisaged: outright transactions, issuance of debt certificates, foreign exchange swaps, and collection of fixed-term deposits. To conduct open market operations, the ECB will be able to choose between three procedures: standard tenders, quick tenders, and bilateral procedures. These operations will be executed by the national central banks, which—in the case of tenders—will collect all the bids and transmit them to the ECB; the latter will then sum them up and select the winning bids. Most refinancing to the financial sector will be provided through regular weekly reverse transactions (repos) with a maturity of two weeks (Table 39).

To steer interest rates in the event of unexpected liquidity fluctuations, the ESCB will use fine-tuning operations. These will be executed primarily as reverse transactions but they may also take the form of outright transactions, foreign exchange swaps, or collection of fixed-term deposits. The European Monetary Institute established that "fine-tuning operations will normally be executed by the NCBs through quick tenders or bilateral procedures. The ECB Governing Council will decide if, under exceptional circumstances, fine-tuning operations may be executed in a centralized or decentralized manner by the ECB."¹²

Longer-term refinancing operations with a monthly frequency and a maturity of three months are also foreseen, but they would not be used to send signals to the market. Finally, reverse or outright transactions and debt certificates will allow the ECB to affect the structural liquidity position of the system.

Standing facilities (a marginal lending and a marginal deposit facility) will allow counterparties to obtain overnight liquidity or make overnight deposits with EMU national central banks. The interest rates on these two facilities should determine the ceiling and the floor of a corridor within which overnight rates are expected to fluctuate. Under normal circumstances, the access to these two facilities will not be restricted so that any eligible counterparty will be able to obtain an unlimited credit from the lending facility as long as it has enough eligible collateral.

The European Monetary Institute has indicated three possible rationales for the introduction of minimum average reserve requirements. First, average requirements would help to stabilize short-term in-

¹²European Monetary Institute (1997), p. 19.

Table 39. European System of Central Banks: Open Market Operations and Standing Facilities

Monetary Policy Operations	Types of Transactions		Maturity	Frequency	Procedure
	Provision of liquidity	Absorption of liquidity			
Open market operations					
Main refinancing operations	Reverse transactions (repos)	n.a.	Two weeks	Weekly	Standard tenders
Longer-term refinancing operations	Reverse transactions (repos)	n.a.	Three months	Monthly	Standard tenders
Fine-tuning operations	Reverse transactions (repos)	Reverse transactions (repos)	Nonstandardized	Nonregular	Quick tenders
	Foreign exchange swaps	Foreign exchange swaps			Bilateral procedures
	Outright purchases	Outright sales			n.a.	Nonregular	Bilateral procedures
Structural operations	Reverse transactions (repos)	Issuance of debt certificates	Standardized/nonstandardized	Regular and nonregular	Standard tenders
	Outright purchases	Outright sales	n.a.	Nonregular	Bilateral procedures
Standing facilities					
Marginal lending facility	Reverse transactions (repos)	n.a.	Overnight	Access at the discretion of counterparties	Access at the discretion of counterparties
Deposit facility	n.a.	Deposits	Overnight	Access at the discretion of counterparties	Access at the discretion of counterparties

Source: European Monetary Institute (1997).

terest rates. Second, reserve requirements could be used to create or enlarge a structural liquidity shortage in the money market. Third, they could help to stabilize monetary aggregates. By stabilizing short-term rates, average reserve requirements would reduce the amount and frequency of fine-tuning operations, which in a decentralized operational framework could become cumbersome. The institute indicated that terms and conditions for reserve requirements would be harmonized in the euro zone, but it did not specify whether reserve requirements would be remunerated.

Eligible *counterparties* of the ESCB for monetary policy operations will be either institutions established in the euro area subject to at least one form of EU supervision or branches of non-EMU institutions that have their head office in an EU or European Economic Area (EEA) country. These institutions must be financially sound and the ESCB will have the authority to suspend temporarily or permanently their access to monetary policy instruments on prudential grounds. Branches of institutions from third countries could be counterparties only in bilateral outright operations involving purchases or sales of securities.

All ESCB liquidity-providing operations will be based on adequate *collateral* as required by Article 18.1 of the statute of the ESCB. Both public and private assets denominated in euros will be eligible as collateral. Tier I collateral will include assets that fulfill eligibility criteria specified by the ECB for the

whole euro area; Tier II collateral will include other assets that EMU national central banks may consider eligible in accordance with ECB guidelines (Table 40). Both Tier I and Tier II assets will be eligible in the whole euro area, but, whereas the default risk related to Tier I paper will be borne by the ESCB as a whole, default risk related to Tier II paper will be borne by the EMU national central bank that proposed it.¹³ To avoid the “cheapest to deliver” problem (counterparts delivering the lowest-quality collateral), the ECB could impose margins (“haircuts”) or additional guarantees on Tier II assets with a lower credit standing. A list of Tier II assets was deemed necessary because several national central banks have traditionally accepted sizable amounts of nonmarketable private bills and loans as collateral; to assess the related counterparty risk, some national central banks employ a considerable number of people (about 500 in France, 300 in Germany, and 100 in Austria).

The ESCB will have the capacity to conduct *foreign exchange intervention* from the start of Stage III by

¹³Cross-border use of collateral (i.e., the possibility of a counterparty located in one country of the euro area receiving credit from its national central bank using assets located in another country of the euro area) is envisaged. Given the incomplete coverage of international linkages between central securities depositories for this purpose, the European Monetary Institute is implementing a scheme that would allow the relevant transfer of information to take place across the ESCB itself.

Table 40. European System of Central Banks: Eligible Assets

Criteria	Tier I	Tier II
Type of asset	European System of Central Banks debt certificates. Other marketable financial obligations.	Marketable financial obligations. Nonmarketable financial obligations. Equities traded on a regulated market.
Settlement procedures	Assets must be centrally deposited in book-entry form with a national central bank or a Central Securities Deposit fulfilling European Central Bank minimum standards.	Assets must be easily accessible to the national central bank that has included them in its Tier II list.
Type of issuer	European System of Central Banks. Public sector. Private sector. International and supranational institutions.	Public sector. Private sector.
Financial soundness	The issuer (guarantor) must be financially sound.	The issuer/debtor (guarantor) must be financially sound.
Location of issuer	European Economic Area	Euro area. Location in other European Economic Area countries can be accepted subject to European Central Bank approval.
Location of asset	Euro area	Euro area. Location in other European Economic Area countries can be accepted subject to European Central Bank approval.
Currency of denomination	Euro	Euro. Other European Economic Area or widely traded currencies can be accepted subject to European Central Bank approval.
<i>Memorandum item:</i> Cross-border use	Yes	For "domestic" assets: yes. For "foreign" assets: possibly restricted.

Source: European Monetary Institute (1997).

means of reserves transferred from the EMU national central banks to the ECB, totaling a maximum amount of 50 billion euros (Article 30 of the statute of the ESCB). The management of foreign reserves that remain with the EMU national central banks will be subject to guidelines issued by the ECB (Article 31.3) to ensure that such operations will not interfere with the monetary and exchange rate policies of the ECB. Exchange rate policy cooperation between the euro area and other EU countries is envisaged within the framework of a new exchange rate mechanism called ERM2 (see Box 7). The ECB will make decisions related to foreign exchange intervention, but it has not yet been decided whether the ECB or the EMU national central banks will implement them; this decision is left to the Governing Council of the ECB. Counterparties for foreign exchange intervention will need to satisfy a number of prudential and efficiency criteria.

Monetary Policy Operating Procedures in Other Industrial Countries

Monetary policy operating procedures in industrial countries seem to be guided by two alternative para-

digms (Table 41).¹⁴ On the one hand, the central banks of the United States, Japan, the United Kingdom, Canada, and Australia play an active role in their domestic money markets by intervening daily. This reflects a relatively volatile demand for liquidity, owing in part to their more developed securities markets. On the other hand, most continental European central banks intervene infrequently, relying mainly on average reserve requirements to smooth liquidity shocks.¹⁵

Like the ECB, most central banks use reverse transactions, in the form of repos or reverse repos, as their main monetary policy instrument. Only in Canada are reverse transactions not the main monetary policy instrument; there the central bank transfers government deposits between its balance sheet and that of clearing banks. In the United Kingdom, since 1994 the Bank of England has increasingly used repos alongside the traditional outright purchases of commercial bills; this trend has continued with the opening of the private repo market in January 1996.

¹⁴See Borio (1997), pp. 286–368.

¹⁵In the United States, the growing use of so-called sweep accounts is increasingly reducing the buffer role of reserve requirements.

Box 7. ERM2

The Treaty of Maastricht does not specify the exchange rate arrangement between EMU and the EU countries that are not initial members. To eliminate this uncertainty, in December 1995, the European Council in Madrid announced that the current ERM will be replaced by a new exchange rate mechanism, called ERM2, whose main features were agreed on in the Resolution of the Amsterdam European Council in June 1997.

The main objective of ERM2 will be to support the single market by avoiding the disruption of trade flows resulting from real exchange rate misalignments or excessive nominal exchange rate volatility. Participation will be voluntary but expected, especially by countries planning to join EMU with a delay. To allow for different degrees and strategies of convergence, the structure of ERM2 will be flexible. Target fluctuation bands vis-à-vis the euro will be wide: plus or minus 15 percent. Narrower bands between the ECB and non-EMU national central banks are foreseen, but they will be “without prejudice to the interpretation of the exchange-rate criterion” of the Maastricht Treaty. Also, bilateral fluctuation bands and intervention arrangements between two non-EMU national central banks will be possible. Intervention at the margin should be automatic and unlimited, but the ECB and the EMU national central banks will be en-

titled to suspend intervention if the primary objective of price stability is threatened. Intramarginal intervention will remain discretionary. The Very Short Term Financing Facility (VSTF) of the current ERM will be available also in ERM2 “broadly on the basis of the present arrangements.”

The main uncertainty about the functioning of ERM2 regards the commitment of the ECB to support a currency of the system under attack. This commitment seems to be limited by the provision that intervention could be suspended “if this were to conflict with the primary objective of price stability.” Threats to price stability, however, are likely to be much rarer than in the present ERM because the large scale of EMU will allow easier sterilization of any ERM2-related intervention; in addition, the latter will have a much more limited impact on the liquidity of the euro area. At the same time, intervention by a non-EMU national central bank will not be very effective in stabilizing its parity with the much larger euro zone. Thus, non-EMU countries can reasonably be expected to exercise their obligation for stabilizing ERM2 parities primarily through the maintenance of appropriate monetary, fiscal, and structural policies, rather than through foreign exchange market intervention.

The two-week maturity and the weekly frequency selected for the ECB’s operations are identical to those of the reverse transactions in Germany. The maturity of reverse transactions is shorter in most other countries. There is a clear-cut distinction between the higher frequencies of intervention (up to three times a day in the United Kingdom) in the United States, the United Kingdom, Canada, Australia, and Japan, and the lower (generally weekly) frequencies in all other countries, especially those that are likely to be inaugural members of EMU. Additional irregular fine-tuning operations are used in every country with the exceptions of Germany and Austria. Also fairly common are long-term refinancing operations, though these are not used in Canada, Australia, Spain, and Sweden.

Most countries also have marginal lending and marginal deposit facilities. Where a formal standing facility does not exist, similar arrangements are in place. In the United Kingdom, there are several facilities charging escalating rates aimed at limiting the rise in the overnight rate. In Canada, discretionary reverse transactions operate as quasi-standing facilities. In Germany, issuance of short-term paper plays the role of a deposit facility. Although some countries still maintain a subsidized below-market facility (discount window), it has generally not been used in recent years for liquidity management purposes.

Average reserve requirements exist in Australia, Austria, Canada, France, Germany, Italy, Japan, the

Netherlands, Spain, Switzerland, and the United States, but they are remunerated only in Australia, Italy, the Netherlands, and Switzerland. To reduce the volatility of the overnight rates, some countries without reserve requirements have introduced averaging provisions. In Canada, for example, there is a “zero” reserve requirement with averaging and banks are penalized when they have negative average settlement balances on a one-month period. In the United Kingdom, reserve requirements have been replaced by a small cash deposit ratio, but without averaging.

Although frequent interventions have not been ruled out, the announced framework for the ECB’s monetary policy appears much closer to the continental European model than to that of one of the other industrial countries. Key decisions remain, however, and events could force the ECB to play a more active role.

Framework for General Financial Policies***Banking Supervision and Functions of Lender of Last Resort***

Among the industrial countries, there is no clear tendency to combine banking supervision functions with monetary policy functions (Table 42). About half of the countries combine the two functions within the central bank. The other countries separate these func-

Table 41. Key Monetary Policy Operating Procedures in Industrial Countries and in the European Central Bank

	European Central Bank	Austria	Belgium	France	Germany	Italy	Netherlands	Spain	Sweden	United Kingdom	Australia	Canada	Japan	Switzerland	United States
Main operation	RT	RP	RP ¹	RP	RP	RT	CL	RP	RT	OT	RT	RT	RT	FXS	RT
Maturity (days)	14	7	7–15	7	14	≤30	2–8	10	7	1–33	av. 7	1	1–90	80–120	1–15
Frequency	1/wk	1/wk	1/wk	2/wk	1/wk	≥1/wk	1/4d	1/10d	1/wk	≤3/d	1/d	1/d	≤3/d	≈1/wk	≈1/d
Fine-tuning operations	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Long-term refinancing operations	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Yes
Standing facility															
Lending	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	2	Yes	Yes ³	No	Yes	No
Deposit	Yes	Yes	Yes	No	No ⁴	No	No	No	Yes	No	Yes	3	No	No	No
Below market	No	Yes	Yes	No	Yes	Yes	Yes	No	No	No	No	No	Yes ⁵	No	Yes
Reserve requirements	⁶	Yes	No	Yes	Yes	Yes	Yes	Yes	No	7	Yes	Yes ⁸	Yes	Yes	Yes
Remuneration	⁶	No	No	No	No	Yes	Yes	No	No	No	Yes	No	No	Yes	No

Source: Borio (1997).

Notes: RT = reverse transaction (repo or reversed repo); RP = repo (reversed purchase); OT = outright transaction, secondary market; CL = collateralized loan; FXS = foreign exchange swap (purchase or sale).

¹Or collateralized loans, depending on assets backing the transaction.

²A number of facilities aimed at limiting the rise in the overnight rate.

³Mainly overdraft loans. In addition, discretionary reversed transactions operated on occasions as a quasi-standing facility.

⁴Discretionary issuance of short-term paper operated on occasions as a standing facility.

⁵Inactive since July 1995.

⁶Not yet decided.

⁷Cash ratio deposit.

⁸Requirement that average settlement balances before overdrafts be non-negative.

Table 42. Monetary and Supervisory Agencies

	Monetary Agency	Supervisory Agency	Notes
Australia	Reserve Bank of Australia (CB)	Reserve Bank of Australia (CB)	C
Austria	National Bank of Austria (CB)	(Federal) Ministry of Finance (MF)	S
Belgium	National Bank of Belgium (CB)	Bank and Finance Commission	S
Canada	Bank of Canada (CB)	Office of the Superintendent of Financial Institutions (MF)	
Denmark	Danmarks Nationalbank (CB)	Financial Supervisory Agency (MEA)	S
Finland	Bank of Finland (CB)	Financial Supervision Authority (CB)	S
France	Bank of France (CB)	Bank of France (CB) Banking Commission	C
Germany	Deutsche Bundesbank (CB)	Federal Banking Supervisory Office Deutsche Bundesbank (CB)	S
Greece	Bank of Greece (CB)	Bank of Greece (CB)	C
Hong Kong, China	Hong Kong Monetary Authority (CB)	Hong Kong Monetary Authority (CB)	C
Ireland	Central Bank of Ireland (CB)	Central Bank of Ireland (CB)	C
Italy	Banca d'Italia (CB)	Banca d'Italia (CB)	C
Japan	Bank of Japan (CB)	Ministry of Finance (MF)	S
Luxembourg	Luxembourg Monetary Institute (CB)	Luxembourg Monetary Institute (CB)	C
Netherlands	De Nederlandsche Bank (CB)	De Nederlandsche Bank (CB)	C
New Zealand	Reserve Bank of New Zealand (CB)	Reserve Bank of New Zealand (CB)	C
Norway	Norges Bank (CB)	Banking, Insurance and Securities Commission (MF)	S
Portugal	Banco de Portugal (CB)	Banco de Portugal (CB)	C
Spain	Banco de Espana (CB)	Banco de Espana (CB)	C
Sweden	Sveriges Riksbank (CB)	Swedish Financial Supervisory Authority	S
Switzerland	Swiss National Bank (CB)	Federal Banking Commission	S
United Kingdom	Bank of England (CB)	Bank of England (CB)	C ¹
United States	Federal Reserve Board (CB)	Office of the Comptroller of the Currency (MF)	S
		Federal Reserve Board (CB)	
		State governments	
		Federal Deposit Insurance Corporation	
Venezuela	Banco Central de Venezuela (CB)	Superintendency of Banks	S

Source: Goodhart and Schoenmaker (1995).

Note: The sample covers all industrialized countries (OECD); Hong Kong, China; and Venezuela. C = combined; CB = Central Bank; MEA = Ministry of Economic Affairs; MF = Ministry of Finance; and S = separated.

¹In May 1997, the U.K. government announced plans to move responsibility for banking supervision from the Bank of England to the Securities and Investments Board.

tions and assign supervisory responsibilities to another agency, usually under the control of the ministry of finance. In some instances the distinction is blurred. In France, for example, the Banking Commission (Commission Bancaire) is chaired by the Governor of the Bank of France with representatives of the French Treasury; the commission supervises compliance with regulations, but the Bank of France carries out inspections on behalf of the commission.¹⁶

There does not seem to be any clear-cut correspondence between monetary operating procedures and banking supervision models. Industrial countries outside continental Europe do not share the same model. Some countries (Australia, New Zealand, the United Kingdom,¹⁷ to some extent the United States) combine monetary and supervisory functions within the

central bank, whereas other countries (Canada, to some extent the United States) separate them. Continental European countries are also split as to how to allocate these responsibilities. Germany, some of its close neighbors (Austria, Switzerland, Belgium, Denmark), and three Scandinavian countries (Sweden, Norway, and Finland) separate the two functions, whereas the other EU countries combine them.

Current plans suggest that EMU is likely to follow the German model of separating monetary and supervisory responsibilities. The Treaty of Maastricht limits the role of the ECB in the area of prudential supervision to "specific tasks" that the EU Council may confer to it on a proposal of the European Commission. Specifically, Article 105(6) of the treaty states: "The Council may, acting unanimously on a proposal from the Commission and after consulting the ECB and after receiving the assent of the European Parliament, confer upon the ECB specific tasks concerning policies relating to the prudential supervision of credit institutions and other financial institutions with the exception of insurance undertakings." The commission has not yet taken any initiative in this direction.

¹⁶These cases were classified following Goodhart and Schoenmaker (1995).

¹⁷The United Kingdom is about to adopt the alternative model of banking supervision. In May 1997, the government announced plans to move responsibility for banking supervision from the Bank of England to the Securities and Investments Board.

The treaty makes clear that the role of the European System of Central Banks is subordinate to that of the competent supervisory authorities by indicating that the ESCB is expected “to contribute to the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system” (Article 105(5)). Accordingly, the statute of the ESCB assigns the ECB only an advisory function by indicating that “the ECB may offer advice to and be consulted by the Council, the Commission and the competent authorities of the Member States on the scope and implementation of Community legislation relating to the prudential supervision of credit institutions and to the stability of the financial system” (Article 25(1)).

Central banks of industrial countries with highly securitized and liquid financial markets, such as the United States and the United Kingdom, have acted as lender of last resort in order to satisfy their respective mandates to ensure financial market stability.¹⁸ In contrast, central banks of countries where credit is mainly intermediated by banks, such as Germany and other continental EU countries, have generally not taken up the role of lender of last resort for which they rarely have a statutory mandate.¹⁹

The treaty follows the German model in not attributing any lender-of-last-resort role to the ESCB. In fact, no mention is made of this function in either the treaty or in the statute of the ESCB. This implies that the ECB is not expected to inject liquidity into the system to deal with liquidity or insolvency crises of the banking system. In addition, it is yet to be determined how crises of this nature will be detected, monitored, and resolved. Although this arrangement may reduce moral hazard and enhance the credibility of the ECB, which would be less influenced by considerations of financial system stability when deciding monetary policy, it may be at odds with other functions assigned to the ECB by the Treaty of Maastricht, such as promoting “the smooth operation of payments systems” (Article 105(2)). Given that a central bank usually remains the only immediate source of funding in the system, close coordination between the ECB and supervisory agencies in participating countries will be essential for the ECB to have enough information to carry out its refinancing operations.

Clear and unambiguous mechanisms for managing liquidity crises are crucial to the smooth functioning

of TARGET. There may be situations in which the ECB will have to extend a sizable credit within hours of being presented with an institution unable to meet its payments obligations. In this instance, the ECB should have all the supervisory information needed to assess whether it is facing a liquidity crisis or a solvency crisis. As the U.S. experience shows, the likelihood and the systemic consequences of liquidity crises are bound to increase as the volume of transactions in securities markets grows. Given that the rapid expansion of these markets is a widely anticipated consequence of EMU, it is of concern that no clear EMU-wide mechanism to deal with a liquidity crisis has been agreed upon in a context in which supervisory functions are decentralized nor has the ECB been given any supervisory or lender-of-last-resort role.

No additional agreement has yet been announced on the flows of supervisory information between the ECB and the competent authorities—not even in the event of a banking crisis. Information sharing is likely to be regulated by the so-called BCCI Directive (Directive 95/26/EC of June 29, 1995), which removes all legal obstacles to the exchange of information between the authorities supervising credit institutions, investment firms, or insurance companies and the staff of central banks or “other bodies with a similar function in their capacity as monetary authorities”—including the ECB. The implementation of this directive remains ambiguous, however, because it neither specifies the information that could be exchanged nor creates an obligation to provide it. Further arrangements between supervisory authorities and the ECB will be needed to make sure that the relevant information for the smooth functioning of the payments system and the conduct of monetary policy operations will be exchanged in a timely manner in the event of a crisis.

Deposit Insurance Schemes

The Directive on Deposit-Guarantee Schemes (May 1994) required all EU countries to introduce a deposit insurance scheme by July 1995 with the following main features: (1) a minimum coverage of ECU 20,000 for each depositor (ECU 15,000 until December 31, 1999); (2) insurance of deposits at foreign branches according to the home country scheme,²⁰ unless the foreign branch joins a more favorable host country scheme; (3) a possibility of excluding from coverage the deposits of financial institutions and insurance companies, as well as bonds issued by banks.

The directive notwithstanding, the structure of deposit insurance schemes in the EU is far from being

¹⁸See Folkerts-Landau and Garber (1992).

¹⁹In both groups of countries, however, banks in difficulties were rarely allowed to fail. In their sample of 104 banking crises from all industrial countries, Goodhart and Schoenmaker (1995) find that in only one-third of the cases were banks in difficulties liquidated; in the other instances, they were rescued with funds provided, often jointly, by central banks, commercial banks, deposit insurance schemes, and governments. Interestingly, there were only two cases in which a central bank acting alone rescued a bank.

²⁰Until December 31, 1999, however, home country coverage of deposits at foreign branches of domestic banks cannot exceed the level of host country coverage.

harmonized (Table 43). Deposit insurance administration is the responsibility of the government in five EU countries, of the banking system in six, and of both in the remaining four. Funding is provided *ex ante* (i.e., a reserve fund is established before the occurrence of a bank failure) in two-thirds of the countries and *ex post* (i.e., funds are obtained after the occurrence of a bank failure) in the remaining ones, but no country seems to make explicit the source of funding for catastrophic losses; among *ex ante* funding schemes, only those of Denmark and the United Kingdom specify a minimum reserve level for the fund. Deposit insurance premiums are risk based only in Italy, Portugal, and Sweden, and the basis on which the premium is calculated varies considerably across the European Union. The extent of coverage is uneven, ranging from a low of about \$12,000 in Spain to a high of some \$118,000 in Italy. In Finland, each depositor is insured in full; full insurance exists in Germany but only up to 30 percent of the bank's capital per depositor. Coinsurance schemes, in which depositors share part of the losses, exist in the United Kingdom and Ireland and to some extent in Portugal, where depositors are fully covered up to a limit and only partially for additional amounts.

The lack of harmonization of deposit insurance schemes may become a source of concern. Various degrees of deposit insurance protection could trigger regulatory competition between banking systems in the European Union, with funds flowing toward countries offering the most protection. Furthermore, given that foreign branches can join a host country scheme, situations may arise in which foreign branches obtain "insurance coverage in a country even though that country has no authority to regulate the risk-taking behavior of those branches because of mutual recognition."²¹

Financial Regulation, Capital Standards, and Supervisory Practices

There are considerable differences in the regulation of banks' activities and their ownership structure across EU countries. Table 44 classifies EU and G-10 countries according to the extent to which they are allowed to engage in securities, insurance, and real estate activities, and to own or be owned by non-banks.²² Unless further harmonization takes place, banking regulations grant considerably different powers to banks in each country, ranging from the "very wide powers" given to British, French, Dutch, and Austrian banks to the "somewhat restricted powers" of Italian, Swedish, Belgian, and Greek banks; the banks in the remaining EU countries (Germany, Spain, Portugal, Ireland, Denmark, Finland, and Lux-

embourg) fall in an intermediate group with "wide powers."

Of all these possible banking activities, securities operations are the most uniformly regulated across the European Union: they are "unrestricted" in all EU countries except Belgium (where a bank may not underwrite stock issues) and Greece (where dealing and brokerage must be conducted through subsidiaries).²³ Firewalls (i.e., restrictions designed to maintain securities and insurance operations separate from affiliated banks) are mandated only in Italy, Denmark, and Greece. Insurance activities by banks are also "permitted" in most countries if they are conducted through subsidiaries, but they are "restricted" in Germany, Finland, and Greece (i.e., less than a full range of activities can be conducted in the bank or subsidiaries), and they are "prohibited" in Ireland. Real estate activities are restricted in more than one-third of the EU countries; permitted in Germany, France, the Netherlands, Denmark, and Finland; and unrestricted only in the United Kingdom, Ireland, Austria, and Luxembourg. Commercial bank investment in nonfinancial firms is unrestricted in two-thirds of the EU countries, permitted in Portugal, and restricted in Denmark, Italy, Sweden, and Belgium. Similarly, nonfinancial firm investment in commercial banks is unrestricted in 11 EU countries, permitted in Spain, and restricted in Italy and Luxembourg.

Most securities activities are on the list of bank activities subject to mutual recognition in the European Union, included in the Second Banking Directive, which took effect on January 1, 1993 (Table 45). This means that the single EU passport will allow any EU bank to follow its home country regulations on securities activities when it operates in another EU country even if the host country regulations are different. As a result, lack of harmonization of the regulations on securities activities may hamper the competitive position of some banking systems by causing outflows of funds toward countries permitting the widest range of activities, but it cannot be an obstacle to cross-border competition. This may explain the greater harmonization of securities regulations. In contrast, insurance and real estate activities are not included in the list of activities subject to mutual recognition so that whether banks are allowed to engage in them depends on both home country and host country regulations. Differences in these regulations can create opportunities for regulatory arbitrage and be an obstacle to cross-border competition.

²¹See Barth, Nolle, and Rice (1997), p. 25.

²²The classification follows Barth, Nolle, and Rice (1997).

²³Definitions: *Unrestricted*: a full range of activities in the given category can be conducted directly in the bank. *Permitted*: a full range of activities can be conducted, but all or some must be conducted in subsidiaries. *Restricted*: less than a full range of activities can be conducted in the bank or subsidiaries. *Prohibited*: the activity cannot be conducted in either the bank or subsidiaries. See Barth, Nolle, and Rice (1997).

Table 43. Deposit Insurance Schemes for Commercial Banks in the European Union and G-10 Countries, 1995

	Administration of System: Government or Industry	Extent or Amount of Coverage	Ex Ante or Ex Post Funding	Fund Minimum Reserve Level	Base for Premium	Risk-Based Premiums
Austria	Industry	S 260,000 (per physical person depositor)	Ex post; system organized as an incident-related guarantee facility	n.a.	The deposit guarantee system shall obligate its member institutions, in case of paying out of guaranteed deposits, to pay without delay pro rata amounts that shall be computed according to the share of the remaining member institution at the preceding balance sheet data as compared to the sum of such guaranteed deposits of the deposit guarantee system	n.a.
Belgium	Government/industry (joint)	ECU 15,000 until Dec. 1999, ECU 20,000 thereafter	Ex ante, but in case of insufficient reserves, banks may be asked to pay, each year if necessary, an exceptional additional contribution up to 0.04 percent	No	Total amount of customer's deposits that qualify for reimbursement and that are expressed either in BF, ECU, or another EU currency	No
Canada	Government (Crown Corporation)	Can\$60,000 (per depositor)	Ex ante	No	Insured deposits	No
Denmark	Government	DKr 300,000 or ECU 42,000 (per depositor)	Ex ante	Yes, 3 billion DKr	Deposits	No
Finland	Industry	100 percent (per depositor)	Ex ante	No	Total assets	No
France	Industry	F 400,000 (per depositor)	Ex post	n.a.	The contribution consists of two parts: (1) A fixed part, irrespective of the size of the bank, equal to 0.1 percent of any claim settled and with a F 200,000 ceiling; and (2) a proportional part, varying according to a regressive scale relative to the size of the bank contributing, based on deposits and one-third credits.	n.a.
Germany	Industry	100 percent up to a limit of 30 percent of the bank's liable capital (per deposit)	Ex ante; however, additional assessments may be made if necessary to discharge the fund's responsibilities. These contributions are limited to twice the annual contribution	No	Balance sheet item "Liabilities to Customers"	No
Greece	Government/industry (joint)	ECU 20,000 (per depositor)	Ex ante	No	Total deposits	No
Ireland	Government	90 percent of deposits; maximum compensation is ECU 15,000	Ex ante	No, but minimum Premium Rate of £20,000	Total deposits excluding interbank deposits and deposits represented by negotiable certificates of deposit	No
Italy	Industry	100 percent of first Lit 200 million (per depositor)	Ex post; banks commit ex ante; however, contributions are ex post	No	Maximum limit for funding the whole system: Lit 4,000 billion. Contributions are distributed among participants on the basis of deposits plus loans minus own funds with a correction mechanism linked to deposit growth.	Yes
Japan	Government/industry (joint)	¥10 million yen (per depositor)	Ex ante	No	Insured deposits	No

Luxembourg	Industry	Lux F 500,000 (per depositor), only natural persons	Ex post	n.a.	Banks' premiums based on percentage of loss to be met	n.a.
Netherlands	Government/industry (joint)	ECU 20,000 (per depositor); compensation paid in guilders	Ex post	n.a.	Amount repaid in compensation to insured is apportioned among participating institutions. However, the contribution in any one year shall not exceed 5 percent per an institution's own funds and per all institutions' own funds	n.a.
Portugal	Government	100 percent up to 15,000 ECU 75 percent: 15,000–30,000 ECU 50 percent: 30,000–45,000 ECU (per depositor)	Ex ante. However, the payment of the annual contributions may be partly replaced, with a legal maximum of 75 percent, by the commitment to deliver the amount due to the Fund, at any moment it proves necessary	No	Guaranteed deposits	Yes
Spain	Government/industry (joint)	Ptas 1.5 million (per depositor); to be increased to ECU 20,000	Ex ante	No	Deposits	No
Sweden	Government	SKr 250,000 (per depositor)	Ex ante	No	Covered deposits	Yes
Switzerland	Industry	SwF 30,000 (per depositor)	Ex post	n.a.	Two components: fixed fee in relation to gross profit; variable fee depending on share of total protected deposits of an individual bank	n.a.
United Kingdom	Government	90 percent of protected deposits, with the maximum amount of deposits protected for each depositor being £20,000 (unless the sterling equivalent of ECU 22,222 is greater). Thus, the most an individual can collect in a bank failure is £18,000 (per depositor) or ECU 20,000 if greater	Ex ante; banks make initial contributions of £10,000 when a bank is first authorized, further contributions if the fund falls below £3 million, not exceeding £300,000 per bank based on the insured deposit base of the banks involved, and special contributions, again based on the insured deposit base of the banks involved, but with no contribution limit	Yes, the fund is required by law to maintain a level of £5 million to £6 million, but the Deposit Protection Board can decide to borrow to meet its needs	All deposits in European Economic Area currencies less deposits by credit institutions; financial institutions, insurance undertakings, directors, controllers and managers, secured deposits, CDs, deposits by other group companies and deposits that are part of the bank's own funds	No
United States	Government	\$100,000 (per depositor)	Ex ante	Yes, 1.25 percent of insured deposits	Domestic deposits	Yes
European Union (EC Directive on Deposit-Guarantee Schemes)	Only directs that each member state shall ensure within its territory one or more deposit guarantee schemes are introduced and officially recognized	The aggregate deposits of each depositor must be covered up to ECU 20,000. Until Dec. 31, 1999, member states in which deposits are not covered up to ECU 20,000 may retain the maximum amount laid down on their guarantee schemes, provided that this amount is not less than ECU 15,000 (per depositor)	Determined within each member state	Determined within each member state	Determined within each member state	Determined within each member state

Sources: IMF country desks; and Barth, Nolle, and Rice (1997).

Table 44. Permissible Banking Activities and Bank Ownership in the European Union and G-10 Countries, 1995

	Securities ¹	Insurance ²	Real Estate ³	Commercial Bank Investment in Nonfinancial Firms	Nonfinancial Firm Investment in Commercial Banks
Banks given very wide powers					
Austria	Unrestricted	Permitted	Unrestricted	Unrestricted	Unrestricted
Switzerland	Unrestricted	Permitted	Unrestricted	Unrestricted	Unrestricted
United Kingdom	Unrestricted	Permitted	Unrestricted	Unrestricted	Unrestricted
France	Unrestricted	Permitted	Permitted	Unrestricted	Unrestricted
Netherlands	Unrestricted	Permitted	Permitted	Unrestricted	Unrestricted
Banks given wide powers					
Denmark	Unrestricted	Permitted	Permitted	Restricted	Unrestricted
Finland	Unrestricted	Restricted	Permitted	Unrestricted	Unrestricted
Germany	Unrestricted	Restricted	Permitted	Unrestricted	Unrestricted
Ireland	Unrestricted	Prohibited	Unrestricted	Unrestricted	Unrestricted
Luxembourg	Unrestricted	Permitted	Unrestricted	Unrestricted	Restricted
Portugal	Unrestricted	Permitted	Restricted	Permitted	Unrestricted
Spain	Unrestricted	Permitted	Restricted	Unrestricted	Permitted
Banks given somewhat restricted powers					
Italy	Unrestricted	Permitted	Restricted	Restricted	Restricted
Sweden	Unrestricted	Permitted	Restricted	Restricted	Restricted
Belgium	Permitted	Permitted	Restricted	Restricted	Unrestricted
Canada	Permitted	Permitted	Permitted	Restricted	Restricted
Greece	Permitted	Restricted	Restricted	Unrestricted	Unrestricted
Banks given restricted powers					
Japan	Restricted	Prohibited	Restricted	Restricted	Restricted
United States	Restricted	Restricted	Restricted	Restricted	Restricted

Source: Barth, Nolle, and Rice (1997).

Definitions: *Unrestricted*: a full range of activities in the given category can be conducted directly in the bank. *Permitted*: a full range of activities can be conducted, but all or some must be conducted in subsidiaries. *Restricted*: less than a full range of activities can be conducted in the bank or subsidiaries. *Prohibited*: the activity cannot be conducted in either the bank or subsidiaries.

¹Securities activities include underwriting, dealing, and brokering all kinds of securities and all aspects of the mutual fund business.

²Insurance activities include underwriting and selling insurance products/services as principal and as agent.

³Real estate activities include investment, development, and management.

The implementation of several EU directives²⁴ and of the Basle Accord has not fully harmonized capital standards, which still differ somewhat across EU countries owing to the different lists of items that banks can use to meet capital requirements (Table 46). Likewise, supervisory practices vary in terms of procedures for examinations and inspections, disclosure of regulatory information, lending limits (on borrowers, sectors, countries, and large exposures), and limits on bank activities abroad (Table 47). Whereas a single currency will increase pressures for harmonization, decentralized supervisory functions may well allow these differences to persist long enough to affect the location of the banking industry within EMU.

²⁴The two main EU directives concerning capital standards are the EC Own Funds Directive (April 1989) and the EC Solvency Directive (December 1989). By January 1, 1993, EU banks had to satisfy a minimum 8 percent risk-weighted total capital ratio in line with the Basle Accord. A third directive, the EC Capital Adequacy Directive (June 1993), set capital requirements for the market risk resulting from trading in securities, derivatives, and foreign exchange.

Euro as a Catalyst: Incentives for Continued Structural Change

Driven by financial deregulation, changing opportunities for investment, and bank disintermediation, European securities markets have become more highly integrated and liquid. These changes have been associated with the placement of large sovereign debt issues, which provided strong incentives to develop liquid and efficient secondary bond markets, and with the accumulation of large stocks of public debt, which raised yields on government securities thereby making them an attractive alternative to bank deposits. Facilitated by the recent convergence of macroeconomic policies, greater capital mobility has contributed to market integration by linking national securities markets, reducing bond spreads, and increasing comovements in bond and equity returns across EU countries.²⁵

²⁵See Artis and Taylor (1990), Frankel, Phillips, and Chinn (1993), and Eijffinger and Lemmen (1995).

Table 45. List of Bank Activities Subject to Mutual Recognition in the European Union¹

Acceptance of deposits and other repayable funds from the public.

Lending.²

Financing leasing.

Money transmission services.

Issuing and administering means of payment (e.g., credit cards, traveler's checks and banker's drafts).

Guarantees and commitments.

Trading for own account or for account of customers in:

- Money market instruments (checks, bills, certificates of deposit)
- Foreign exchange
- Financial futures and options
- Exchange and interest rate instruments
- Transferable securities.

Participation in share issues and the provision of services related to such issues.

Advice to undertakings on capital structure, industrial strategy, and related questions and advice and services relating to mergers and the purchase of undertakings.

Money brokering.

Portfolio management and advice.

Safekeeping and administration of securities.

Credit reference services.

Safe custody services.

Source: Barth, Nolle, and Rice (1997).

¹The Second Banking Directive specifies that an EU bank or "credit institution" (i.e., deposit-taking and lending institution) may conduct directly or through branches the listed activities throughout the EU so long as its home country authorizes the activities. Subsidiaries of credit institutions governed by the law of the same member state may also conduct the activities, subject to conditions that include 90 percent ownership and a guarantee of commitments by the parent credit institutions. Insurance and real estate activities are not on the list and are therefore determined by both home and host country regulations. The Second Banking Directive took effect January 1, 1993.

²Including among other things consumer credit; mortgage credit; factoring, with or without recourse; financing of commercial transactions (including forfaiting).

Against the background of these ongoing structural changes, the introduction of the euro will alter incentives in such a way so as to encourage the further securitization²⁶ of European finance, greater uniformity in market practices, more transparency of pricing, and

²⁶*Securitization* refers to the creation of any credit, ownership, or derivative claims that are publicly tradable, either in organized exchanges or over the counter, and whose prices are determined at frequent intervals in an open market. The popular press has used this term, almost exclusively, to describe asset-backed securities (the creation of high-quality, negotiable, liquid securities that are funded by setting aside illiquid separate claims, such as mortgage obligations, consumer receivables, and other classes of assets).

increased market integration.²⁷ *First*, by eliminating separate currencies, the introduction of the euro reduces the direct cost of spot transactions and eliminates a relatively volatile element of market risk—foreign exchange risk—in longer-dated real and financial contracts between entities in EMU member countries. While foreign exchange risk between some ERM currencies may have diminished recently (as measured by implied volatilities, for example), the costs incurred by market participants—including central banks—during the violent disruptions in the ERM crisis in 1992–93 will long be remembered as will the frequent realignments, often preceded by speculative attacks, in the early years of the EMS and in the less formal exchange rate arrangements before the EMS.

Second, the elimination of currency risk increases the relative importance of other elements of risk, including credit, liquidity, settlement, legal, and event risks. Credit risk is likely to be the most important component of securities pricing within EMU, with the implication that the "relative value" of underlying credits rather than judgments about the stability and volatility of currency values will drive securities prices.

Increased attention will be paid to other elements of risk. Bond issues of two otherwise identical credit risks—say, a German company and a French one producing the same goods and having similar balance sheets—may be priced differently if issuing techniques, clearing and settlement procedures, and legal procedures are different in the respective countries. The impact of these remaining and less volatile components of risk on the cost of raising funds will provide incentives to suppliers of securities to narrow further their interest rate spreads by increasing transparency and by improving issuing techniques and financial infrastructures to attract investors. This competitive process, if allowed to run its course, could lead to the sufficient harmonization of market practices within the euro zone to eliminate the advantages a particular geographical market may now have. In this way, the elimination of currency risk could lead to greater uniformity and transparency of market practices, with the benefits of more uniform pricing and a breakdown of market segments within Europe.

The elimination of currency risk and its costs, the convergence of credit spreads, and more uniformity in market practices together can be expected to increase the depth and liquidity of European securities markets. In short-term markets (money, swap, and short-term

²⁷Even without the euro, full implementation of the EU Investment Services Directive (ISD), which creates a single passport for securities firms (brokers and dealers), portfolio managers, and investment advisories, would provide renewed stimulus for the creation of an EU single market in financial services, although some impediments to cross-border competition remain. The euro is likely to enhance the impact of the ISD.

Table 46. Components of Capital for Meeting the Capital Standards or Requirements in the European Union and G-10 Countries

	Noncumulative Perpetual Preferred Stock	Current Year Profit Added (or Loss Deducted)	Intangible Assets Other than Goodwill	Goodwill	Undisclosed Reserves	Hybrid Capital Instruments (Including Cumulative Perpetual Preferred Stock)	Subordinated Term Debt	Limited Life Redeemable Preference Shares	Fixed-Asset Revaluation Reserves	Latent, or Hidden, Revaluation Reserves	General Loan/Loss Reserves	Investment in the Capital of Other Banks and Financial Institutions
Austria	Yes	Yes	No	No	Yes, but limits	Yes, but limits	Yes, but limits	No	Yes, but limits	No	Yes	No
Belgium	Yes	Yes	No	No	Yes, but limits	Yes, but limits	Yes, but limits	Yes, but limits	Yes, but limits	No	Yes	No
Denmark	No, does not exist	Yes	No	No	No	Yes, but limits	No	No, does not exist	No, does not exist	No, does not exist	No, does not exist	No
Finland	Yes	Yes	No	No	No	Yes	Yes	Not applicable	Yes	No	Yes	No
France	No, issues not permitted in domestic markets	Yes	No, except lease renewal rights	No	No	Yes	Yes	Yes, but not issued	Yes	No	Yes	Yes, but limits
Germany	Yes	No	No	No	Yes, but limits	Yes, but limits	Yes, but limits	No	No	Yes, with limits	Yes, with limits	No
Greece	Yes	Yes	Yes	Yes	No	Yes, but limits	Yes, but limits	Yes, but not utilized at present	Yes, but limits	No	Yes	No
Ireland	Yes, no limits	Yes	No	No	No	Yes, but limits	Yes, but limits	Yes, but limits	Yes, but limits	No	Yes, but limits	No
Italy	Yes, but limits	Yes	Yes	Yes	No	Yes, but limits	Yes, but limits	No, does not exist	Yes, but limits	No	Yes, but limits	No
Luxembourg	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	No	Yes	No
Netherlands	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Portugal	Yes	Yes	Yes	Yes	No information	Yes	Yes, but limits	No information	Yes	No information	Yes	No
Spain	Yes	No	No	No	No	Yes, but limits	Yes, but limits	Yes, but limits	Yes, but limits	No	No	No
Sweden	Yes	Yes	No	No	No	Yes with approval	Yes	No	Yes, with approval	No	No	No
United Kingdom	Yes	Yes	No	No	n.a.	Yes, but limits	Yes, but limits	Yes	Yes, with caution	n.a.	Yes, but limits	No
Canada	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No	Yes, but back-to-back issues are deducted
Japan	Yes	Yes	Yes	No	No	Yes, but not prevalent	Yes	Yes, but not issued	No	Yes	Yes	No, if sole purpose is to raise capital ratio
Switzerland	Yes, no limits	Yes	No	No	Yes, but limits	Yes, but limits and not including cumulative perpetual preferred stock	Yes, but limits	No	Yes, but limits	Yes, but limits	Yes, no limits	No
United States	Yes	Yes	No, with limited exceptions	No	No	Yes, but limits	Yes, but limits	Yes, but limits	No	No	Yes, but limits	No

Source: Barth, Nolle, and Rice (1997).

Table 47. Commercial Bank Supervisory Practices in the European Union and G-10 Countries, 1995

	Examinations and/or Inspections			Information Publicly Disclosed		Domestic Bank Activities Abroad		Lending Limits on:				
	On-site	Banks pay exam	Required External Audits	Bank examinations or inspections	Enforcement actions	Specific authorization required	Limits or restrictions placed on domestic bank's foreign activities	Lending Limits on:				
								A single borrower	Persons connected with the bank	Particular sectors	Country risk exposure	Large exposures
Austria	Yes	Yes	Yes	No	No	No	No	Yes	Yes	No	No	Yes
Belgium	Yes	No	Yes	No	Yes	No, only notification	No, only notification	Yes	Yes	No	No	Yes
Denmark	Yes, usually every 3 years	Yes	Yes	No	No	No	No	Yes	No	No	No	Yes
Finland	Yes, not regularly	Yes	Yes	No	No	No	No	Yes	Yes	Yes	Yes	Yes
France	Yes	No information	Yes	No information	No information	No	No	No information	No information	No information	No information	No information
Germany	Yes	Yes	Yes	No	No	No	No	Yes	No	No	No	Yes
Greece	Yes, generally every 2–3 years	No	Yes	No	No	Yes	No	Yes	Yes	No	No	Yes
Ireland	Yes, usually every 18–24 months	No	Yes	No	No	Yes	No	Yes	Yes	No	No	Yes
Italy	Yes, usually every 4–8 years	No	Yes, for banks quoted on the stock exchange	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Luxembourg	Yes, on an ad hoc basis	Yes	Yes	No	No	No	No	Yes	Yes	No	No	Yes
Netherlands	Yes, depends on size/risk profile	No	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Portugal	Yes, usually annually	No	Yes	No	Yes	Yes	No	Yes	Yes	No	No	Yes
Spain	Yes	No	Yes	No	No	Yes, but only branches outside EU	No	Yes	Yes	No	No	No
Sweden	Yes	No	Yes	No	No	No	No	Yes	No	Yes	No	Yes
United Kingdom	Yes, but limited and usually biennially	No, not directly	Yes	No	Yes, but not explicitly naming institutions	No	No	Yes	Yes	No	No	Yes
Canada	Yes, annually	Yes	Yes	No	No	No	No	Yes	Yes	No	No	Yes
Japan	Yes	No information	No information	No information	No information	No information	No information	Yes	No information	No information	No information	No information
Switzerland	No	Yes	Yes, official part of supervisory system	No	No	No, only notification	No	Yes	Yes	No	No, but provision requirements per country	Yes
United States	Yes	Yes	Yes, for banks with assets exceeding \$500 million	No	Yes	No	Yes	Yes	Yes	No	No	No

Source: Barth, Nolle, and Rice (1997).

Table 48. Mutual Funds, June 1996

	Equity	Bond	Money Market	Total
Net assets (in billions of U.S. dollars)				
European Union ¹	366.74	533.94	496.32	1,396.99
United States	1,532.46	741.78	817.75	3,091.99
Japan	119.12	189.39	102.22	410.73
Number of funds (in units) ²				
European Union ¹	7,136	4,436	1,912	13,484
United States	2,611	2,390	995	5,996
Japan	4,118	2,060	15	6,193

Source: Investment Company Institute.

¹Does not include Ireland and the Netherlands for equity and bond funds; does not include Austria, Denmark, Ireland, and the Netherlands for money market funds.

²The equity funds also include balanced funds and “other” funds.

treasury bill markets, for example), contracts denominated in individual currencies will be redenominated in euros and could be traded across national markets, even if small credit spreads remain. For securities with multiple exchange listings, competition among exchanges could lead to a consolidation of trading in a single location. Even in markets that remain somewhat segmented (because of higher credit spreads or restrictions), lower transaction costs (elimination of commissions on foreign exchange transactions and costs of hedging exchange rate risk) and the removal of trading restrictions (e.g., on institutional investors) will add liquidity. Moreover, competition among issuers—no longer based on the strength of the currency—will encourage sovereign borrowers to introduce market reforms.

Third, the euro will directly reduce the number of existing barriers to cross-border investment and eliminate some restrictions on currency exposures of various pools of capital (pension funds, insurance companies, other asset managers). To begin with, all intra-EMU foreign exchange restrictions on the investments of pension funds and insurance companies will become irrelevant within the EMU area (see the appendix at the end of this annex). The EU matching rule (liabilities in a foreign currency must be 80 percent matched by assets in that same currency) for insurance companies, which has been extended to pension funds in some countries, will also cease to be binding within EMU since insurance companies will be able to invest their assets in any country of the euro area as long as their liabilities are denominated in euros. The size and country diversification of assets managed by institutional investors in the European Union, say mutual funds—still far smaller than in the United States—could rapidly increase together with their share of foreign investments (Table 48). Finally, the “anchoring” principle, restricting lead managers of issues to full subsidiaries domiciled in the issuing country, will become irrelevant and will thereby increase the potential for intra-EMU market penetration.

Fourth, portfolio diversification will change along with volatilities and correlations of assets in the EMU area, although some “home bias” could remain (see Box 8). Moreover, the advantages of currency diversification will be lost to the extent that business cycles have been asynchronous and shocks asymmetric. This will encourage investors and financial institutions to search for, and find, new opportunities for portfolio diversification within EMU repo, government securities, and corporate securities markets, but it may also encourage them to seek diversification outside the euro area as well.

European securities markets will also be shaped by other important factors. Technological progress will soon make fully integrated EU-wide securities and derivative markets unavoidable, by making the location of trading, clearing, and settlement largely irrelevant. Continued fiscal consolidation—as part of the Stability and Growth Pact—is likely to reduce the volume of new government bond issues, providing room for private entities to issue new equity shares and debt securities. Finally, if the role of the unfunded social security system diminishes, the stepped-up activities of institutional investors (e.g., insurance companies and private pension funds) will increase the demand for public and private paper of various maturities and types, perhaps including corporate bonds.

Structural Implications for Securities Markets: Further Securitization of European Finance

As just discussed, the euro has the potential for catalyzing and enhancing the impact of EU financial directives, increasing transparency in credit evaluation, accelerating the processes of financial market integration, and further expanding Europe’s institutional investor base. This section examines prospects for the development of EMU-wide securities markets, includ-

Box 8. Volatility and Correlation of Asset Returns in EMU

The relation between exchange rate stability and the volatility of asset prices has been one of the most debated issues in the economic literature. One view is that a fixed exchange rate regime—hence EMU—increases the volatility of securities prices. According to this view, when the exchange rate is not allowed to change, shocks to productivity, consumer preferences, or other real shocks of domestic origin will be reflected to a larger extent in securities prices (“volatility transfer hypothesis”).

Several arguments have been put forward to counter or qualify this view. First, the volatility transfer hypothesis holds unambiguously only when real domestic shocks prevail; if domestic or foreign money demand shocks prevail, a fixed exchange rate regime would have, instead, an opposite, dampening, effect on the volatility of securities prices. Furthermore, for foreign real shocks, the consequences of fixing the exchange rate become ambiguous. Second, if the volatility of the exchange rate is created by uninformed “noise traders” or “chartists” responding to nonfundamental factors, then credibly fixing the exchange rate would eliminate the excess volatility without transferring it to other sectors of the economy. Finally, if the fixed exchange rate regime is imperfectly credible and stochastic shocks may trigger a speculative attack, then the volatility of interest rates is higher than it would be with a perfectly credible parity or a single currency, as in EMU; in this case, the impact of a fixed-rate regime on the volatility of interest rates provides no indication of what would happen with a perfectly credible fixed exchange rate regime or EMU.

The question can only be settled empirically. A recent study by Flood and Rose (1995) of various episodes of fixed and flexible exchange rates over the 1960–91 period for OECD countries concludes that there is little evidence that “reducing exchange rate volatility compromises the stability of other macroeconomic variables” (p. 36). Similar results are obtained for EMS countries by Artis and Taylor (1994) and Fratianni and von Hagen (1990). Following a methodology similar to Mussa (1988), Bodart and Reding (1996) compare the volatility of bond and equity market returns across different exchange rate regimes. They use high-frequency data (daily returns between January 1989 and December 1994) for Belgium, France, Germany, Italy, Sweden, the United Kingdom, and the United States. They find that the countries with the lowest foreign exchange volatility (Germany, France, and Belgium) have the lowest volatility of bond returns also. In these countries, the volatility of equity prices is also lower than in Sweden and Italy. Furthermore, after breaking up the sample into subperiods, they find that, as long as the EMS regime was credible, the low volatility in foreign exchange markets was associated with a low volatility in bond markets. When foreign exchange volatility increased, bond market volatility did also. Analogous—although weaker—results were obtained for equity prices. Frankel (1996) conducts a similar experiment on stock prices and reaches similar conclusions. This evidence suggests that lower—not

higher—volatility of securities prices is associated with lower exchange rate variability.

There are two main reasons why securities prices could be correlated across countries: a common fundamental factor or contagion effects. In both instances, the correlation is likely to be affected by EMU. First, if EU securities prices share a common fundamental, EMU can increase their correlation because it reduces the variance of idiosyncratic shocks due to independent monetary policies. EMU might also reduce the correlation of securities prices by increasing the variance of the credit risk component. In the government bond market, this may happen because EMU eliminates the possibility of using the inflation tax to resolve country-specific budgetary difficulties. Similarly, in the corporate bond market, EMU eliminates the possibility of using the exchange rate instrument to compensate for real idiosyncratic shocks. In stock markets, EMU is expected to have a lower impact on price correlations because of the much higher potential for idiosyncratic shocks. A higher cross-country correlation of equity prices should, however, also be expected because EMU eliminates idiosyncratic monetary policy shocks and is likely to increase the correlation of business cycles.

Second, international correlations of securities prices can also be explained by contagion effects due to noise trading or herd behavior unrelated to fundamentals. In this case, cross-country correlations should be higher in periods of high market volatility, when there is a large dispersion of expectations about fundamentals. As long as fixing exchange rates or introducing a single currency reduces the uncertainty about monetary policy, periods of high market volatility should become less frequent and contagion and correlation of securities prices should fall. Thus, if international correlations of securities prices stemmed mainly from contagion effects, EMU would not increase the correlation—as suggested by the fundamental approach—but reduce it.

Two studies on the effects of exchange rate regimes on the cross-country correlation of securities prices suggest that a smaller exchange rate volatility, and thus EMU, should increase cross-country correlations. Bodart and Reding (1996) find that correlations of both bond and equity prices were stronger for the countries with the lowest exchange rate volatility. Moreover, correlations weakened in the turbulent period of the ERM. Interestingly, the correlation between German and U.K. bond markets was higher during the short period in which the British pound was part of the ERM. Frankel (1996) conducts a similar experiment on Irish stock market data and obtains similar results. The existing empirical evidence suggests that the exchange rate regime matters and that exchange rate stability tends to increase cross-country correlations of securities prices. EMU may then be expected to have a similar effect. These results should, however, be interpreted with caution because they do not rule out the possibility that changes in the volatility of idiosyncratic fiscal and political shocks—affecting simultaneously foreign exchange markets and securities markets—could account for the observed changes in correlations.

Table 49. European Union: Cross-Border Interbank Assets*(In percent of GDP)*

	1992	1993	1994	1995	1996
European Union countries					
Austria	17.71	16.72	17.77	17.89	21.16
Belgium	56.01	60.33	59.20	58.29	58.03
France	17.81	18.22	20.12	18.80	18.51
Germany	8.60	10.21	12.64	13.08	12.67
Ireland	26.26	35.66	38.82	50.80	55.90
Italy	15.81	17.74	18.22	16.71	16.25
Luxembourg	914.54	921.38	937.81	908.43	840.15
Netherlands	26.45	26.54	27.39	27.04	31.24
Portugal	7.63	13.50	20.36	22.17	20.75
Spain	7.38	9.14	10.85	9.61	10.24
United Kingdom	58.14	74.71	74.59	81.59	79.99
<i>Memorandum items:</i>					
North America					
Canada	8.27	9.27	10.10	9.92	10.41
Mexico	6.07	5.07	6.57	7.88	6.18
United States	9.36	8.96	9.49	9.65	8.89
Japan	16.97	13.85	13.49	12.78	12.67

Sources: Bank for International Settlements; and International Monetary Fund, *World Economic Outlook* database.

ing repo, bond (public and private), equity, and derivative markets.

EMU-Wide Repo and Interbank Markets

The decision that the ECB will use reverse transactions (repos) as the main instrument for implementing monetary policy could fuel the development of an EMU-wide market for repurchase agreements (repo market). Although private repo markets currently exist in some countries, with a few exceptions they are not highly developed and lack the liquidity and depth of the repo markets in the United States.

In the United States, repo markets are an important alternative money market instrument. By providing ready access to secured borrowing, and by enhancing liquidity in the securities markets, repos facilitate portfolio financing and the ability to short the market. Banks also can use repurchase agreements for extending credits to securities dealers collateralized by a zero-risk-weighted central government bond. In Europe, only France has a transparent and liquid repo market (20 primary dealers are required to post prices on Reuters). The United Kingdom recently introduced a gilt repo market, while other countries, notably Germany, discouraged them until the end of 1996 by subjecting repo transactions with nonbanks to reserve requirements, with the result that a large share of the German repo business migrated to London. In Italy, legal, taxation, and settlement obstacles have prevented the development of a liquid repo market.

Whether the different market structures characterizing the interbank markets in each member country will survive or whether market pressures—acting through

price differentials—will lead to a single EMU-wide interbank market is an open question. Integration has already increased somewhat, with growing shares of foreign interbank deposits (Table 49) and smaller discrepancies between interest rates on euro and domestic markets. On short-maturity transactions, especially shorter than one month, interest rate arbitrage is still imperfect, in part because of differences in taxation and regulation. With the euro, the elimination of European cross-currency risk, the establishment of ECB repo operations, and the provision of intraday liquidity for settlement purposes, there would be few, if any, impediments preventing first-, second-, and third-tier European banks from dealing directly with each other for supplying or accessing overnight funds. This overnight borrowing and lending could quickly lead to the creation of an efficient EMU-wide interbank market with total volumes at least equal to the sum of those of current domestic interbank markets. In this scenario, domestic interbank rates would be harmonized across EMU with residual differences reflecting only the different credit standings of second- or third-tier banks.

It is a possible next step, although by no means certain, for a private repo market to develop in all EMU countries, in which a private yield curve will offer instruments ranging in maturity from overnight to long-term contracts. In such a market, financial and nonfinancial entities alike can engage in short-term collateralized refinancing operations for conducting day-to-day treasury operations in supporting their real economic activities. Many European multinationals now conduct such refinancing in New York, London, Tokyo, and other international financial centers.

With the development of an EMU repo market, collateralized borrowing and lending will enable financial institutions to refinance their operations at interest rates below those in the interbank deposit market. The development of this Europe-wide market could help set the tone for the development of other capital markets in Europe. It would also open up opportunities for large global financial institutions to participate more fully and actively in short-term EMU markets for liquidity management, in much the same way they participate in the markets in New York and London. European capital markets would benefit significantly from the participation of these large global players in terms of added depth, liquidity, and efficiency to European capital markets.

Possible remaining impediments to the establishment of EMU-wide repo markets would be reserve requirements on repo operations (remunerated at below-market interest), other long-standing legal and settlement obstacles, and elements of tax systems. In addition, interest rates in the repo market might not become fully uniform across Europe if different margins (“haircuts”) are applied to Tier I and Tier II collateral for repurchase transactions with the ECB. Alternatively, if the ECB does not discriminate between the quality of collateral, the distinction between issuers at the short end of the curve may become blurred and lead to a “race to the bottom” in quality in providing collateral.

EMU Bond Markets: New Focus on Credit Risk

Government Bond Market

By eliminating currency risk on European cross-country transactions, and by directly reducing transactions costs, the introduction of the euro reduces the cost of issuing and investing in government securities. The increased transparency of costs and benefits is likely to influence both demand and supply and to provide strong incentives for the harmonization of market practices (e.g., auctioning techniques, issue calendars, maturity spectrums) toward the most transparent and cost-effective practices for both issuers and investors. As investors and issuers become familiar with these transactions, investors will search throughout EMU sovereign markets for their preferred risk-return profiles among the sovereign issuers in the union, and it is reasonable to expect market segmentation to diminish. EMU member governments can therefore no longer take for granted their “home currency” market, and will try to appeal to a broader investor base. Whether or not this harmonization of market practices and market desegmentation occurs in full, market participants who in the past focused on the relatively volatile currency risk will now focus attention on the other, less volatile risks, including credit (sovereign), liquidity, settlement, legal, and event risks.

The refocus on credit risk by both issuers and investors is likely to increase cross-border competition between financial intermediaries for bringing new issues to market, for “rating” new credits, and for allocating investment funds across the national markets. Competition is likely to involve non-European as well as European financial institutions and asset managers. Financial intermediaries from the United States—where investment houses and institutional investors have, respectively, specialized on the issuer and investor sides of these markets for decades—would appear to have a comparative and competitive advantage in supplying many of these services against all but the largest European financial intermediaries. Thus, the establishment of EMU is likely to contribute to the restructuring of the global business of investment banking and universal banking.

How far market desegmentation will go and how liquid the European sovereign debt market becomes will depend on how credit risks are priced. Several potential EMU member countries enjoy top ratings on debt denominated in domestic currencies and lower ratings on debt denominated in foreign currency (Table 50). There are several reasons for these differences. First, foreign currency debt cannot be repaid by printing domestic money and it has, therefore, higher default probabilities associated with it. Second, debt issued in domestic currency is mostly locally held so that governments, for political reasons, are more likely to continue to service domestic debt. Third, governments may find it easier to raise taxes or cut expenditures to repay domestic debt than to repay foreign investors. If these considerations are valid for euro-denominated debt issued by future EMU members, then interest rate spreads, and in particular credit spreads, could change to become more in line with those currently observed on the foreign-currency-denominated debt of these countries. This could amount to a downgrading of asset quality for those countries.²⁸ If EMU members redenominated all outstanding debt into euros, the share of foreign currency debt would then increase from current levels to 100 percent (Table 51). In this scenario, spreads could increase above those observed on the relatively small stocks of foreign currency debt presently outstanding.²⁹ Counteracting some of this pressure for spreads to rise would be the improved fiscal positions of several countries to meet the Maastricht criteria and the stability pact.

There are other factors that would influence credit spreads. Although the “no-bailout” clause in the

²⁸Standard & Poor’s has already indicated that it will initially award each country’s euro-denominated debt the rating currently applied to foreign-currency-denominated debt and that European companies will be able to obtain ratings higher than those of their own governments; Moody’s will adopt a case-by-case approach.

²⁹See Drudi and Prati (1997).

Table 50. European Union: Ratings of Foreign and Local Currency Debt of Sovereign Governments, May 29, 1997

	Foreign Currency						Local Currency		
	IBCA		S&P		Moody's		IBCA	S&P	Moody's
	Long-term	Short-term	Long-term	Short-term	Long-term	Short-term	long-term	long-term	long-term
European Union countries									
Austria	AAA	A1+	AAA	A-1+	Aaa	P-1	AAA	AAA	
Belgium	AA+	A1+	AA+	A-1+	Aa1	P-1	AAA	AAA	
Denmark	AA+	A1+	AA+	A-1+	Aa1	P-1	AAA	AAA	Aaa
Finland	AA+	A1+	AA	A-1+	Aa1	P-1	AAA	AAA	Aaa
France	AAA	A1+	AAA	A-1+	Aaa	P-1	AAA	AAA	Aaa
Germany	AAA	A1+	AAA	A-1+	Aaa	P-1	AAA	AAA	Aaa
Greece	BBB-	A3	BBB-	A-3	Baa1	P-2		A-	
Ireland	AA+	A1+	AA	A-1+	Aa1	P-1	AAA	AAA	Aaa
Italy	AA-	A1+	AA	A-1+	Aa3	P-1	AAA	AAA	Aa3
Luxembourg	AAA	A1+	AAA	A-1+	Aaa	P-1	AAA	AAA	
Netherlands	AAA	A1+	AAA	A-1+	Aaa	P-1	AAA	AAA	Aaa
Portugal	AA-	A1+	AA-	A-1+	Aa3	P-1	AAA	AAA	Aa2
Spain	AA	A1+	AA	A-1+	Aa2	P-1	AAA	AAA	Aa2
Sweden	AA-	A1+	AA+	A-1+	Aa3	P-1	AAA	AAA	
United Kingdom	AAA	A1+	AAA	A-1+	Aaa	P-1	AAA	AAA	Aaa
<i>Memorandum items:</i>									
North America									
Canada	AA	A1+	AA+	A-1+	Aa2	P-1	AAA	AAA	Aa1
Mexico	BB	B	BB	B	Ba2	NP		BBB+	
United States	AAA	A1+	AAA	A-1+	Aaa	P-1	AAA	AAA	Aaa
Japan	AAA	A1+	AAA	A-1+	Aaa	P-1	AAA	AAA	Aaa

Sources: Bloomberg Financial Markets L.P.; IBCA Ltd.; Moody's Investors Service; and Standard & Poor's.

Maastricht Treaty rules out the possibility of direct EU assistance to individual EMU member countries, it is unlikely that market participants will price sovereign debt as if it were corporate debt.³⁰ The mere size of public debt outstanding in any potential EMU member country relative to any single corporate issuer would imply significant systemic implications of an involuntary restructuring or an outright default by an EMU member country. This would increase the pressure to find alternative solutions.

From a pricing perspective, credit risk will become the most important risk and will make up the largest part of the remaining interest rate spreads among EMU issuers after the introduction of the euro. Unfortunately, there is no unambiguous guide to the likely levels or dispersion of sovereign credit spreads in EMU. One way of estimating credit spreads is to compare interest rates on sovereign debt issues that trade in a common currency. Among the potential EMU member countries that have issued dollar-denominated debt, as of June 1997, spreads between 10-year dollar

issues trading in domestic markets and comparable U.S. treasury issues ranged from a low of 23 basis points for Austria to a high of 30 basis points for Italy and Spain (Table 52).³¹ Spreads on five-year issues ranged between a low of 6 basis points for Austria and a high of 12 basis points for Italy. Although it is difficult to assess whether these spreads are "high" or "low," it would appear that they are probably reflecting a good deal of market optimism about the prospects for a successful EMU and about the adjustments made in some countries.

Another rough benchmark of credit spreads is the pricing of debt issued by the separate legal entities making up the separate states of the United States and of the provinces of Canada. In the case of the United States, a sample of municipal bonds issued by traders over the period 1973–90 indicates that the largest spread during the 28-year period was 146 basis points; the mean of the spread was 32.4 basis points with a standard deviation of 24.8 basis points.³² The sample also reveals that in December 1989, the last date in the sample, the maximum difference in spreads on 20-year general obligations issues of 41

³⁰The "no-bailout" clause—Article 104b of the Maastricht Treaty—states that "the Community shall not be liable for or assume the commitments of Central Governments, regional or local authorities, public authorities, other bodies governed by public law, or public undertakings of any Member State, without prejudice to mutual financial guarantees for the joint execution of a specific project." The same provision applies to individual EU countries.

³¹One problem with using this method for estimating credit spreads is that the spreads may also reflect the market's assessment of other factors including liquidity, tax differences, name recognition, and investor preferences.

³²See the analysis in Bayoumi, Goldstein, and Woglom (1995).

Table 51. European Union Countries, North America, and Japan: Foreign Currency Debt, 1996
(In percent of total government debt)

	Foreign Currency Debt	Year ¹
European Union countries		
Austria	17.5	1996
Belgium	11.4	1995
Denmark	14.9	1996
Finland	42.9	1996 ²
France	4.8	1995
Germany	0.1	1995
Greece	30.6	1996
Ireland	26.4	1996
Italy	6.1	1996
Luxembourg	3.5	1995
Netherlands	0.0	1996
Portugal	17.7	1996
Spain	7.3	1996
Sweden	28.2	1996
United Kingdom	4.6	1996
North America		
Canada	2.6	1996 ³
Mexico	89.0	1996
United States	0.0	1996
Japan	0.0	1996

Source: International Monetary Fund.

¹Year for which the latest data are available.

²For central government.

³Data as of March 31, 1997, for the federal government.

U.S. states was 84 basis points. Regarding the Canadian provinces, a much more limited sample suggests that spreads over Canadian federal issues ranged from 36 basis points for Ontario to 78 basis points for Quebec (Table 53).³³

Yet a third indication is the pricing of European corporate debt. If EMU member countries maintain their sovereign ratings of AAA, it is reasonable to expect

³³See Salomon Brothers (1996).

that credit spreads between EMU member country issuers would be in the range of Standard & Poor's triple-A-rated corporate issuers. As of February 1997, spreads for five triple-A-rated corporate issues were in the range of between 10 and 45 basis points above their respective domestic benchmarks.³⁴

Overall, it should be expected that there would be a convergence of interest rates on sovereign debt issued—and outstanding—by EMU member countries. Whether or not all of these issues trade at identical spreads will be determined by the market. To the extent that spreads remain, market segments will be identifiable. How much of an impact this will have on market liquidity remains to be seen.

The plan to introduce the euro has reopened the competition among European sovereign issuers for providing EMU with the *benchmark yield curve* for pricing other sovereign issues and private debt issues. This renewed competition is likely to increase the potential for further desegmentation of national debt markets. From an investor's point of view, the benchmark issue offers the highest return possible on what is deemed to be a "safe" investment. Such issues are usually high in volume, extremely liquid, and associated with various hedging instruments, with the added advantage of low bid-ask spreads. Benchmark issues are also used widely in repo markets and are typically usable as collateral for a wide range of other financial contracts. From the issuer's point of view, the key advantage is that the yield is the lowest possible for that particular market segment; the added liquidity also provides easy access to a wide investor base for issuance. Thus, the importance of benchmark status is that it provides access to the lowest-cost financing in a liquid market.

³⁴This range is from a sample of five Standard & Poor's triple-A-rated corporate issues with maturities in the 8- to 10-year range: Bayerische Vereinsbank in Germany (14 basis points), Rabobank in the Netherlands (19 basis points), British Telecom in the United Kingdom (42 basis points), Credit Local in France (45 basis points), and Unilever in the Netherlands (11 basis points).

Table 52. Estimates of Credit Spreads of EU Sovereigns, September 1996 and June 1997
(U.S. dollar spreads over treasuries in basis points)

	Three-Year Dollar Issues		Five-Year Dollar Issues		Ten-Year Dollar Issues	
	September 1996	June 1997	September 1996	June 1997	September 1996	June 1997
Austria	+4	-3	+10	+6	+24	+23
Belgium	+6	+5	+15	+9	+28	+26
Denmark	+6	+5	+13	+8	+27	+26
Finland	+6	+6	+16	+10	+30	+29
Ireland	+5	-6	+11	+9	+25	+25
Italy	+10	+9	+22	+12	+34	+30
Spain	+8	+8	+19	+11	+32	+30
Sweden	+8	+6	+17	+10	+27	+28

Source: Paribas, London.

Table 53. Interest Rate Spreads of Canadian Provinces

Province	Rating	Coupon (In percent)	Maturity	Indicative Bid-Side Spreads (In basis points)		
				Dec. 30, 1996	May 23, 1997	Change
U.S. dollar issues						
Ontario	Aa3/Aa-	6.000	Feb. 21, 2006	38	36	-2
Quebec	A2/A+	6.500	Jan. 17, 2006	58	58	0
Quebec	A2/A+	7.500	July 15, 2023	83	83	0
Saskatchewan	A3/A-	8.500	July 15, 2022	59	63	+4
				July 29, 1996		
Canadian dollar issues						
British Columbia	Aa+/Aa1	...	5 years	6		
Newfoundland	Baa1	...	5 years	27		
Alberta	Aa2/AA	...	10 years	7		
Nova Scotia	A	...	10 years	28		

Sources: Goldman Sachs International, *Fixed Income Research: Corporate Bond Monthly* (June 1997), p. 41; and SBC Warburg (1996), p. 62.

The main candidates for benchmark status are German and French instruments, and it would appear that France possesses several technical advantages (Table 54).³⁵ First, the French sovereign market is widely seen to be very liquid because relatively larger issues are more evenly distributed across the maturity spectrum to generate a smooth yield curve. Second, French markets are supported by a transparent and liquid market for repurchase agreements; the bulk of deutsche mark repo trading is located offshore, mainly in London, mostly as a result of reserve requirements. These requirements have been lifted and so this French advantage will soon be lost. Third, France has already developed a strip market—which can be used to recalculate the exact value of each security on issue. Fourth, the French auction schedule has been for some time very regular and predictable, with the French Treasury announcing its plans at the beginning of the year. Finally, the French government has already announced its intentions to redenominate in euros the outstanding stock of debt on January 1, 1999. Although French paper is well placed to provide the benchmark yield curve for euro markets, all these advantages could be matched by other markets if measures are taken by other countries, and in particular by Germany, before the euro is introduced.

The “critical mass” approach requires that, starting in 1999, all new issues of government bonds and bills (at least those traded on the secondary market and expiring after the end of 2001) will have to be denominated in euros.³⁶ Countries have the option to rede-

nominate their outstanding stock of debt in euros as of January 1, 1999. The coexistence of new euro-denominated bonds and old national currency bonds issued by the same government could segment the newly created euro market for government securities and reduce its relative liquidity. In addition to France, Belgium has also announced its intention to redenominate debt on January 1, 1999; Germany is in the process of deciding.³⁷

Prospects for a European Corporate Bond Market

EU financial market legislation and the rapid development of the fund management industry have begun to chip away at long-standing regulatory and tax impediments to the development of European corporate debt markets. These markets have remained relatively small, however. Although outstanding debt securities issued by EU private entities totaled about \$4 trillion (about 87 percent of the size of the U.S. corporate debt market), about 25 percent of this total was issued in international markets, of which about \$268 billion were issued by nonfinancial entities. Domestic issuance in 1995 was also low compared with other, more highly developed markets: German firms issued only \$0.142 billion and French firms only \$6.4 billion, whereas U.K. firms issued \$20.7 billion, Japanese firms \$77.2 billion, and U.S. firms \$154.3 billion (Table 55).³⁸

³⁵Another possibility is that the euro benchmark yield curve will be based on swap yields. Swap markets in EMU could become extremely liquid because all interest rate swap contracts, which are currently segmented by currency, will become perfectly fungible and will be unaffected by the credit standing of governments. If the ECB issues short-term paper, ECB “debt certificates,” it is likely to become a benchmark for very short dated paper.

³⁶See European Commission (1995).

³⁷Debt redenomination creates a number of technical problems: not all public debt is dematerialized; there are different numerical trading and clearing conventions. Price display systems will have to adapt to show national currency and euro pricing for the same bonds. See Bank of England (1996) for a discussion of some of these technical problems.

³⁸This figure for the United Kingdom refers to international bond issues as well because the domestic corporate bond market in the United Kingdom has become inseparable from the Euromarket.

Table 54. Euro Benchmark Yield Curve: Germany vs. France

Germany		France	
Instruments			
BUBILLs	Six-month maturity only; issue size is up to ECU 3.2 billion	BTFs	Maturities (every Thursday) up to one year; issue size averages ECU 2.8 billion
SCHATZ	Two-year maturity; first issue was ECU 5.2 billion	BTANs	Usually two- and five-year maturities; average size is ECU 8–11 billion
OBLs	Five-year maturity; issue size ECU 4.2–6.8 billion	OATs	Maturity of up to 30 years; average size issue is ECU 15.5–17 billion
Bunds	Ten- and 30-year maturity; issue size ECU 5.2–13 billion	TEC10	Floating-rate OAT
Treasury notes	Issuing ceased in mid-1995	Treasury bonds	No longer issued
Treuhand notes	Issued in 1993 and 1994 only; maturity was five years	Strips	Available every six months; available from 0 to 30 years

Issuing Procedure

The Federal Bond Consortium operates under the lead management of the Bundesbank. It has the characteristics of an underwriting and placing syndicate. Since 1992, membership has been open to foreign firms' legally dependent branches in Germany. At end-1995, there were 95 institutions in the consortium, including 48 foreign-owned banks.

Since August 1990 the majority of federal bonds have been issued by a combined method: one part via the syndicate and another by tender. In the case of Bunds and OBLs a portion of the issue amount is set aside for market management operations by the Bundesbank and subsequently sold in stages through the stock exchange.

An auction schedule is published roughly two weeks before the beginning of each quarter. The 2-year and 5-year bonds are now issued on a regular quarterly schedule. However, the issuing calendar 10-year and more so 30-year paper remains the focus for speculation. In addition, while issue size has been increased, liquidity across the yield curve varies considerably.

Strips Market

On June 13, 1996, the Bundesbank announced plans to introduce the separation and separate trading of principal and interest for particular 10- and 30-year federal bonds during the course of 1997.

Repurchase Market

The deutsche mark repo market is hindered by two key factors: (1) the absence of a government-approved universal repo agreement; and (2) the fact that many domestic institutions do not make their bond holdings available for lending. This has meant the bulk of DM repos are traded offshore, mainly in London.

Primary dealer system, which numbers 20 members (7 foreigners). These are required to stimulate the secondary market, inform the French Treasury about market developments, and take active part in tenders. Any financial institution may apply for and receive primary dealer status after a brief period of observation as a reporting dealer. The advantages of becoming a primary dealer are (1) access to tenders; (2) noncompetitive bids, enabling the purchase of more securities at the marginal price at the tender; (3) the authorization to strip and reconstitute OATs; and (4) the ability to market their trading status to clients.

The French Treasury states its issuing plans in BTANs and OATs at the beginning of the year.

Almost all national negotiable debt is issued through tenders, Dutch style.

The issuing agenda is very regular: BTFs on Monday; OAT tenders on the first Thursday of each month, usually including a 10-year security; monthly BTAN tenders, usually on the 2-year and 5-year benchmarks. Issue amounts are set two days before the tender after consultation with the primary dealers.

Since 1991, all OATs maturing on April 25 and October 25 (13 bonds in total) can be stripped. There is a principal certificate type for each strippable bond, but all coupon certificates with the same maturity are fungible, making it possible to rebuild OATs with coupons from another line. The amount that has been effectively stripped represents 17 percent of the strippable bond total and 4.75 percent of the total French franc debt (whereas U.S. strips are 25 percent and 4.35 percent respectively).

The French franc repo market, whose development has followed the model of the U.S., is by far the most sophisticated in Europe. The French Treasury initiated a legally binding repo agreement that forms the basis of the market's functioning. The market is very transparent and liquid, with 20 primary dealers being required to post prices on Reuters from which any institution can trade.

Source: Paribas.

The introduction of the euro is likely to accelerate the development of corporate bond markets, especially if the increased focus on credit risk in the EMU sovereign markets enhances the European institutions'

expertise in assessing credit risk. First, as noted earlier, a single currency provides incentives for the creation of a much larger effective European institutional investor base. The increasingly yield-conscious be-

Table 55. Funds Raised in Capital Markets by Nonfinancial Enterprises in Selected Industrial Countries, 1990–95*(In percent of total)*

	Bonds ¹	Shares	Others ²	Total
European Union countries				
Italy	-0.68	25.55	75.13	100.00
Netherlands	1.17	42.19	56.65	100.00
Spain	1.71	29.27	69.02	100.00
Sweden	-0.88	33.73	67.15	100.00
Canada	7.14	27.91	64.95	100.00
United States	50.94	13.22	35.84	100.00
Japan	5.48	11.38	83.14	100.00

Source: Organization for Economic Cooperation and Development, *Financial Statistics, Part III: Nonfinancial Enterprises Financial Statements* (1995).

¹Data for short-term bonds are not available for Italy, the Netherlands, and Japan.

²Residual including bank financing.

havior of European investors, and the coincident growth in fund management in Europe, has expanded the investor base for corporate debt securities—EU mutual funds now manage close to \$1.4 trillion (see Table 48).

Although the credit risk culture has yet to take off in Europe the way it has in the United States, even a moderate shift will have a significant impact on international capital markets. For example, if the degree of disintermediation in EU countries was to close the securitization gap (adjusted for economic size) with the United States by 25 percent, this would unleash capital flows equal to roughly \$2 trillion into international capital markets. This is roughly half the size of the entire market capitalization of EU or Japanese equity markets.

Second, EU firms have begun to show an increased desire to tap debt securities markets. An important factor spurring firms to issue debt securities is that European firms are beginning to adopt increasingly sophisticated, value-maximizing corporate financial policies. However, the underdevelopment of domestic corporate debt securities markets has presented an obstacle to firms wishing to issue debt securities. Although this obstacle has been circumvented to some degree by tapping the international securities markets, there are significant additional obstacles to accessing the international markets for all but the largest, “brand-name” firms.

While there are reasons for optimism about the development of a Europe-wide corporate debt market, it will most likely not occur quickly. The remaining impediments to the development of these markets fall into two categories: excessive regulation and the narrow institutional investor base. Excessive regulatory burdens have simply prevented these markets from

developing in some countries. For example, tax policy and issuance requirements prevented the development of commercial paper and bond markets in Germany until very recently. More generally, regulators in virtually all EU countries have discouraged issuance of lower-grade corporate debt securities. Regarding institutional investors, corporate debt securities are often highly heterogeneous across issuers as well as across issues (by the same issuer), so the costs involved in evaluating their currency risk, credit risk, and legal risk—contract terms, such as covenants—effectively means that these markets will be successful only if there is a large institutional investor base. Smaller issuers, small issues, and firms in smaller countries—in which currency risk figures more prominently for foreign investors—therefore may face a limited investor base.³⁹

Equity Markets

The introduction of the euro is likely to accelerate the processes of competition, consolidation, and technological innovation that have characterized equity markets in recent years. In the second half of the 1980s, the London Stock Exchange attracted an increasing share of turnover in continental equities by creating a screen-based dealer market for non-U.K. stocks called SEAQ International (SEAQ-I) separate from the London dealer market. During this period, competition among the European exchanges was fierce. Since the early 1990s, continental exchanges have recouped a substantial share of trading with new electronic continuous auction markets, particularly the CAC in Paris and IBIS in Frankfurt, and SEAQ-I has declined in importance as an organized exchange. Nevertheless, London dealers are still the primary source of liquidity for large block transactions and for program trading in a significant number of continental stocks, even though they engage in considerably less customer dealing in continental equities, and considerably more brokering through the continental bourses.⁴⁰ Thus, since the introduction of continuous electronic trading on the continent, London dealers have taken a smaller proportion of orders on their own books and have worked orders mostly through the continental markets. As such, the activity of London dealers is reinforcing the liquidity of auction markets, and the London-based dealer market and the continental-based auction markets are simultaneously com-

³⁹See Smith (1995). The importance of this heterogeneity of corporate debt securities is illustrated by the dominant role played by institutional investors in the most developed corporate debt securities market, the U.S. market: at end-1995, 72 percent of the stock of corporate bonds were held by domestic institutional investors, 7 percent by foreign investors, and 14 percent by households. Insurance companies were the largest single investor, holding 35 percent; public and private pension funds held 16 percent; and mutual funds, 8 percent.

⁴⁰See Pagano (1996).

peting and interdependent. Currently, London is by far the dominant equity market in Europe in terms of companies listed, market capitalization, and turnover (Table 56). On the continent, Frankfurt and Paris have the largest exchanges, with a similar number of listed companies and capitalization. All other exchanges are significantly smaller.

Together with ongoing pressures from computerization and the implementation of the EU Investment Services Directive, the introduction of the euro will provide strong incentives for concentration among the European exchanges.⁴¹ The euro will eliminate differences in the continental electronic trading systems and make them virtually identical. The most likely development is that a Europe-wide equity market for blue-chip stocks will emerge into a single electronic exchange with a screen-based automated order-driven trading system, like IBIS. This will be possible only if the trading costs of this system will remain competitive vis-à-vis those of proprietary trading systems. National bourses may survive by specializing in trading low-capitalization companies. While there are incentives for this kind of trading to concentrate in a pan-European electronic trading platform, local custody, settlement, and tax systems may allow for local trading to continue. Overall, EMU is likely to further increase cross-border equity trading and to enhance both the integration of national markets and overall market liquidity.

Also uncertain is EMU's impact on competition between auction and dealer systems. If EMU enhances market efficiency and reduces equilibrium equity prices and spurious price volatility, then execution risk will diminish and immediacy will become less important. This implies that dealer markets, where investors pay a premium for immediacy in terms of higher bid-ask spreads, will experience competitive pressures from auction-agency markets, where increased liquidity will reduce execution risk. In addition, to the extent that EMU will increase cross-border asset holding and trading, counterparty risk could increase or become more difficult to assess. This will also put dealer markets at a disadvantage, because dealers would have to raise bid-ask spreads to compensate for the higher counterparty risk. By contrast, auction-agency markets usually pool this risk.⁴²

There are remaining impediments that could slow down consolidation. Some provisions of the Investment Services Directive—the concentration provision and the concept of “regulated market”—leave scope for “protectionism” on behalf of national stock ex-

changes (see the appendix at the end of this annex). Differences in accounting can also prevent institutional investors from purchasing stocks of certain countries. Finally, clearance and settlement procedures can affect equity trading by increasing transaction costs, which could be reduced through centralization of clearance and settlement services in a single European central securities depository (CSD), the so-called Euro-hub.⁴³

Derivative Markets

The euro will affect derivative markets in two ways: several contracts will disappear or consolidate into a single contract; and a smaller number of contracts will increase the competition among European derivative exchanges. With the establishment of EMU and only euro interest rates, nearly 200 contracts involving 13 different currencies are likely to disappear. How the associated reduction in diversity will affect the 16 European futures and options exchanges is an open question. Initiatives are likely to emerge among the smaller exchanges to establish technical linkages and common settlement procedures. This will confine the race for post-EMU supremacy in derivative contracts to Europe's big three exchanges: the London International Financial Futures Exchange (LIFFE), Europe's biggest derivatives exchange, followed by the Deutsche Terminbörse (DTB), and *Marché à Terme International de France* (MATIF). In light of their specialization in interest rate contracts, LIFFE and MATIF are likely to be most affected by EMU.⁴⁴ Competition among the exchanges will also be affected by the development of electronic trading. DTB will be able to capitalize on its technological prominence with a fully electronic order-driven system with almost one-third of its members trading from workstations outside Germany. Both LIFFE and MATIF have maintained an open outcry structure. While LIFFE already has an electronic capability, MATIF is likely to be seriously handicapped by the failure in the summer of 1996 to finalize a link with DTB.

Other factors could also play a role. LIFFE's leading position may be damaged if the United Kingdom is not included in EMU and if access to TARGET and intraday liquidity is limited. DTB might gain a competitive edge from being located in Frankfurt. MATIF could benefit from the fact that the French govern-

⁴¹The ISD may facilitate cross-border branching of trading systems and remote trading. Article 15.4 favors remote membership: exchanges designated as “regulated markets” no longer require approval from EU states in which they want to establish as remote members.

⁴²A dealer market might still be preferred because some traders may want to remain anonymous, which is usually not possible in the very transparent continental markets.

⁴³There are five mechanisms for cross-border trades: (1) direct access to the home country CSD; (2) indirect access through local members; (3) indirect access through global custodians; (4) international CSDs; and (5) local-CSD-to-local CSD. The second and third methods are most widely used. See Giddy, Saunders, and Walter (1996).

⁴⁴LIFFE derives half of its volume from short-term German Bund and interest rate futures and options, while 90 percent of trading on MATIF is in French notional bond and short-term interest rate contracts. Two-thirds of DTB's volume comes from stock index futures and options. Foreign exchange contracts are mainly traded in the highly liquid interbank market.

Table 56. European Union Countries, United States, and Japan: Equity Markets, 1996

	Listed Companies		Domestic Market Capitalization		Annual Turnover						
	Domestic	Foreign	<i>(In millions of ECUs)</i>	<i>(In percent of GDP)</i>	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic <i>(In percent of GDP)</i>
	<i>(In units)</i>				<i>(In millions of ECUs)</i>			<i>(In percent of EU total)</i>			
Markets in EU countries											
Amsterdam	217	216	302,452	96.10	149,587	653	150,241	8.96	0.11	6.58	47.53
Athens	217	0	18,988	19.64	5,695	0	5,695	0.34	0.00	0.25	5.89
Brussels	146	145	95,752	45.40	17,849	2,914	20,763	1.07	0.47	0.91	8.46
Copenhagen	237	12	57,281	41.46	29,111	698	29,810	1.74	0.11	1.31	21.07
Dublin	61	10	27,659	52.29	4,711	3	4,714	0.28	0.00	0.21	8.91
Germany	681	1290	531,553	28.34	621,454	18,778	640,231	37.22	3.06	28.04	33.13
Helsinki	71	0	49,444	50.41	17,538	0	17,538	1.05	0.00	0.77	17.88
Lisbon	158	0	19,706	23.40	5,658	0	5,658	0.34	0.00	0.25	6.72
London	557	833	1,368,000	153.61	335,644	580,777	916,421	20.10	94.59	40.13	37.69
Luxembourg	54	224	25,910	164.53	604	17	620	0.04	0.00	0.03	3.83
Madrid	357	4	194,681	42.25	63,869	18	63,888	3.83	0.00	2.80	13.86
Milan	244	4	206,997	21.79	82,532	18	82,551	4.94	0.00	3.61	8.69
Paris	686	187	472,426	38.48	220,608	4,828	225,436	13.21	0.79	9.87	17.97
Stockholm	217	12	194,045	97.42	106,434	5,021	111,455	6.37	0.82	4.88	53.44
Vienna	94	35	25,719	14.16	8,265	281	8,546	0.50	0.05	0.37	4.55
EU total	3,997	2,972	3,590,614	52.83	1,669,560	614,006	2,283,566	100.00	100.00	100.00	24.56
Other markets											
New York	2,617	290	5,395,889	90.23	3,014,383	190,392	3,204,775	n.a.	n.a.	n.a.	50.41
NASDAQ	5,138	418	1,192,290	19.94	2,505,177	98,767	2,603,944	n.a.	n.a.	n.a.	41.89
Tokyo	1,766	67	2,374,733	64.88	738,711	1,214	739,925	n.a.	n.a.	n.a.	20.18

Sources: Federation of European Stock Exchanges; Federation of International Stock Exchanges; NASDAQ; New York Stock Exchange; and Tokyo Stock Exchange.

ment has been actively issuing ECU-denominated debt since 1989 and is the leading sovereign borrower in ECU. Experience in the ECU bond market suggests that where the active cash market resides, the futures business is likely to follow. In addition, some consider MATIF the best-placed exchange to trade the future euro benchmarks, since a smooth transition from the French franc to the euro could be ensured by enhancing the liquidity of existing contracts. Smaller exchanges in core euro countries (Belgium and the Netherlands) will be the first to see business decline, followed by the exchanges in peripheral countries (Italy and Spain). The likely outcome is that these exchanges will offer a smaller range of equity-based local contracts.

The most direct impact of EMU on the *structure of derivative contracts* will be the elimination of currency derivatives between the currencies of countries joining EMU. If EMU begins with core ERM countries, the negative impact on trading volumes will be muted, because trading in intra-core currency derivatives is relatively limited. Higher-volume contracts between core and non-core currencies will simply change into contracts between the euro and non-core currencies: for example, deutsche mark–lira contracts will simply become euro–lira contracts. The high-volume contracts between dollars, yen, and deutsche mark–bloc currencies will be little affected by the euro substituting for European currencies. If EMU enhances trading within, and capital flows to, the euro area, the demand for currency derivatives could increase. Activity in the European derivative markets may also increase during 1997–98 and 1999–2002 as foreign exchange and interest rate options are used to hedge risk in the transitional periods.

With the creation of EMU, the market for *interest rate swaps* will become larger and more liquid, as contracts of participating currencies become perfectly fungible. Enhanced liquidity is also likely to increase the use of swaps outside the banking sector. EMU will also boost the demand for options contracts on interest rate spreads and allow investors to hedge credit risk spreads between bonds of high-debt countries and the euro benchmark. Contracts based on interest rate spreads may also develop for private debt securities.

For *bond market futures*, it is difficult to know whether the market will demand a futures contract for each national bond, or whether a generic contract will emerge. The answer will depend on the volatility of credit spreads between the various national issues. If the spreads are stable, the low basis risk could lead the market to develop a single liquid 10-year futures contract similar to the U.S. treasury bond future. Otherwise, there could be a range of futures contracts with one for each national benchmark issue. The selection of deliverable bonds will also be crucial. If two or more national bonds are deliverable for a generic bond futures contract, the contract could

favor the cheapest bond to deliver and create liquidity in that bond at the expense of higher-quality bonds. Basket-type euro futures contracts are unlikely to emerge because derivative exchanges would like to avoid repeating the experience of LIFFE with 10-year ECU futures contracts between 1990 and 1991. At that time, LIFFE's basket of deliverable bonds included ECU OATS, European Investment Bank bonds, U.K. gilts, and Italian government bonds. While all bonds in principle had the same rating, there was in practice always one that was cheaper to deliver. In effect, LIFFE's contract turned out to be an inadequate hedging tool.

Structural Implications for Banking Systems

EU Banking System

Combined, the banking systems of EU countries would form the largest banking system in the world, with more than 40 percent of world banking assets.⁴⁵ The total banking assets of France and Germany alone would be a third larger than those of the United States; those of the four larger countries (Germany, France, the United Kingdom, and Italy) would be two times larger; and those of all EU countries would be almost three times larger (Table 13).⁴⁶

Reflecting the predominant role of bank-intermediated credit in continental Europe, the EU banking system would also be large in relation to the EU economy: in 1994, the ratio of banking assets to GDP was 176 percent in the EU against 69 percent in the United States. This ratio, in sharp contrast with the declining trends of the United States and Japan, has grown at an average rate of more than 3 percent a year in the period 1989–94.⁴⁷ Such growth suggests that in recent years the disintermediation trend in the European Union has not been as severe as the one in the United States. This is confirmed by the stable or growing ratio of households' deposits to personal disposable income observed since 1989 in the larger EU countries. (Among the 15 EU countries, in the period 1989–94, the ratio of banking assets to GDP has declined only in Denmark, Sweden, and Austria.) Moreover, in the larger countries, the share of deposits in total household financial assets has declined at a much slower pace than in the United States.⁴⁸

In terms of employment, the EU banking sector is almost 50 percent larger than the U.S. sector, reaching

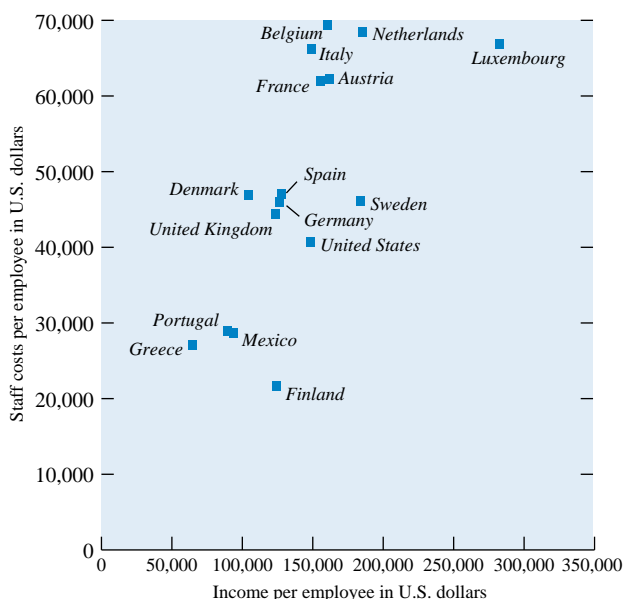
⁴⁵See Barth, Nolle, and Rice (1997), Table 1.

⁴⁶The United States is a valid benchmark because it has experienced a first wave of bank restructuring and technological innovations and because its GDP is only marginally smaller than that of the EU-15.

⁴⁷See Kneeshaw (1995).

⁴⁸See Bianco, Gerali, and Massaro (1996).

Figure 55. Labor Costs and Productivity in Banking, 1994



Source: Organization for Economic Cooperation and Development (OECD), *Bank Profitability: Financial Statements of Banks 1985–1995* (Paris: OECD, 1996).

a total of about 2.5 million employees. Although the larger banking sector of the EU could partly account for the higher employment, high staff costs per employee in relation to productivity suggest that many EU banking systems are overstaffed (Figure 55). Indeed, employment has already declined considerably since the late 1980s, especially in Nordic countries and the United Kingdom.⁴⁹

Ownership and Types of Banks

The ownership structure of banks varies considerably across the European Union. The share of banking assets publicly owned ranges from zero in the United Kingdom to almost 60 percent in Italy.⁵⁰ Among the larger EU countries, public ownership is widespread in Germany (about 50 percent of banking assets), whereas it has considerably diminished in France (12 percent) after the wave of privatizations of the last decade. Among the smaller EU countries, ownership tends to be public in Greece and Portugal, and private in Belgium and the Netherlands.

⁴⁹See BIS (1996a), p. 88.

⁵⁰In Italy, state and local authorities controlled about 58 percent of banking assets at the beginning of 1997. This share is, however, bound to fall by an estimated 15 percent when the privatizations of Istituto Bancario San Paolo di Torino and Cariplo are completed.

In some countries, complicated public ownership structures are an additional obstacle to privatization and the restructuring of banking systems. In Germany, for example, savings banks (*Sparkassen*) carry as capital a guarantee from local municipalities, which makes it difficult for them to merge or be purchased by a shareholding company. In response to a complaint by private German banks, the European Union is currently considering whether German public-law banks (*Sparkassen* and *Landesbanken*) have an unfair competitive advantage deriving from subsidized public capital injections.

A complicated public ownership structure is also typical of the Italian banking system. Italian public banks became joint-stock corporations at the beginning of the 1990s, but many of them have remained controlled by nonprofit organizations (*fondazioni*), whose boards of trustees are appointed by local and central governments. The need to obtain the approval of both levels of government has often delayed privatization. Parliament is currently discussing a bill that introduces a number of incentives for *fondazioni* to sell off their assets, although it leaves a large degree of discretion regarding the timing and scope of the sale.

Market participants have problems monitoring and controlling banking institutions even in EU countries where private ownership prevails. This difficulty results from the lack of public disclosure on several financial activities of EU banks and from the lack of concentration of debt and equity claims, which is typical of most banking systems in the European Union. Weak corporate control is a source of concern because it may provide inadequate incentives to management and delay restructuring.⁵¹

There is also a considerable diversity of banking structures across the European Union in terms of domestic versus foreign ownership. Among the larger EU countries, the share of banking assets controlled by foreign banks ranges from 3.5 percent in Italy to 57 percent in the United Kingdom, and it is 14 percent in France, 4.5 percent in Germany, and 12 percent in Spain. Among the smaller EU countries, foreign banks have a particularly strong presence only in Luxembourg, Belgium, and Ireland.

The typology of EU banks varies considerably. Commercial banks prevail in Italy, France, Greece, Portugal, the United Kingdom, Belgium, and the Netherlands. Savings and cooperative banks play an important role in Germany, Italy, and Spain, and building societies have a large presence in the United Kingdom and Ireland. Whereas the number of banks in the latter categories has considerably declined over the last decade, the number of commercial banks has generally increased. The significance of these changes, however, should not be overemphasized be-

⁵¹See, for example, BIS (1996a).

Table 57. Bank Restructuring: Number of Institutions and Size Concentration¹

	Number of Institutions			Concentration: Top Five			
	1995 ²	Peak (since 1980)		1980 ³	1990	1995 ⁴	
		Year	Percent change ⁵	<i>(Percent share in total assets)</i>			
European Union countries							
Belgium	150	163	1992	-8	64	58	59
Finland	352	631	1985	-44	63	65	74
France	593	1,033	1984	-43	57	52	47
Germany ⁶	3,487	5,355	1980	-35			17
Italy	941	1,109	1987	-15	26	24	29
Netherlands	174	200	1980	-13	73	77	81
Spain ⁷	318	378	1982	-16	38	38	49
Sweden	112	598	1980	-81	64	70	86
United Kingdom	560	796	1983	-30	63	58	57
United States ⁸	23,854	35,875	1980	-34	9	9	13
Japan	571	618	1980	-8	25	30	27
Other countries							
Canada	1,030	1,671	1984	-38		55	65
Australia	370	812	1980	-54	62	65	67
Norway	148	346	1980	-57	63	68	58
Switzerland	415	499	1990	-17	45	45	50

Sources: Bank for International Settlements (1996a); British Bankers' Association; Building Societies Association; and national data.

¹Deposit-taking institutions, generally including commercial, savings, and various types of mutual and cooperative banks; for Japan, excluding various types of credit cooperatives; and for Canada, excluding trust and loan companies (in 1994, 83 institutions).

²For Finland, Japan, and Sweden, 1994.

³For Finland and the Netherlands, 1985; France, 1986; Italy, 1983; and Switzerland, 1987.

⁴For Belgium, Japan, Switzerland, and the United Kingdom, 1994; and Finland, 1993.

⁵From peak to most recent observation where applicable.

⁶For number of institutions, western Germany only. Data for the whole of Germany: 1995, 3,784; percentage change, -30 percent.

⁷Concentration data for commercial and savings banks only.

⁸Excluding credit unions: 1995, 12,067; percentage change, -36 percent.

cause the operational differences between commercial banks and other types of institutions have been gradually diminishing.

In relation to North America and Japan, some continental European banks have had traditionally wider powers in terms of permissible activities and ownership ("universal" banks). The Second Banking Directive has recently created the conditions for extending similar powers to all EU banks, although the range of permissible activities across the EMU is far from being harmonized (see the first section of this annex). Following the implementation of the directive, banks have been allowed to enter the capital markets business in France, Italy, Spain, Greece, and Portugal. Moreover, in recent years, banks have considerably increased their presence in the insurance sector.⁵² These trends, together with the expanding role of wholesale activities, have resulted in a growing ratio of noninterest income to gross income in almost all EU countries.

⁵²There is still little evidence of securitization (see Jeanneau, 1996).

Financial Structure

EU financial markets are overbanked at the retail and local levels. Although the number of banking institutions in the European Union is substantially smaller than in the United States (Table 57), the number of branches is much larger, with an average population per branch in 1994 of 2,084 against 4,690 in the United States (Table 58). The population per branch ranges from 600 in Belgium to 8,384 in Greece and is below average in Germany, Spain, Austria, and Luxembourg. No uniform trend emerges across Europe except for the United Kingdom and some Nordic countries (Finland, Sweden, and Denmark), which have been reducing the density of their branches since 1985.

In recent years, the concentration of the banking system, measured by the share of total assets owned by the top 5 (or 10) institutions, has not shown a uniform trend in spite of an EU-wide reduction in the number of banks (Table 57). In the largest countries, with the exception of France, concentration has either remained unchanged or increased, suggesting an increase in EU-wide concentration. Nevertheless, Germany and Italy have a very large number of banks and

Table 58. European Union Countries, North America, and Japan: Population per Bank Branch

	1985	1992	1994	Change	
				1985–92	1992–94
	<i>(In percent)</i>				
European Union countries					
Austria	...	1,695	1,715	...	1.18
Belgium	395	613	...	55.19	...
Denmark	1,534	2,096	2,316	36.64	10.50
Finland	1,670	2,106	2,784	26.11	32.19
France	...	...	2,212	...	...
Germany	1,569	2,050	1,832	30.66	-10.63
Greece	...	8,943	8,384	...	-6.25
Ireland	...	...	...	...	...
Italy	...	3,221	2,862	...	-11.15
Luxembourg	1,523	1,287	1,090	-15.50	-15.31
Netherlands	3,025	2,019	2,116	-33.26	4.80
Portugal	6,633	3,431	2,917	-48.27	-14.98
Spain	1,182	1,100	1,101	-6.94	0.09
Sweden	2,794	2,990	3,281	7.02	9.73
United Kingdom	4,163	4,937	5,272	18.59	6.79
North America					
Canada	...	...	...	...	...
Mexico	21,814	25,330	21,441	16.12	-15.35
United States	5,596	4,885	4,690	-12.71	-3.99
Japan	...	...	...	...	...

Source: Organization for Economic Cooperation and Development, *Bank Profitability: Financial Statements of Banks 1985–1994* (1996).

relatively low concentration. Moreover, consolidation in Europe has been much slower than in the United States, as indicated by the substantially smaller number and size of mergers and acquisitions (though the fact that the United States began the 1980s with a far more fragmented banking system than the European one can partly account for its faster consolidation process) (Table 59).

The absence of significant consolidation is difficult to explain against the background of strong competitive pressures and incentives for change. In recent years, local banking markets in Europe have experienced heightened competition associated with deregulation, the abolition of capital controls, and single market initiatives. These competitive pressures have lowered net interest margins (Table 60) and reduced bank profits (Table 61), overshadowing the effects of cyclical fluctuations.⁵³ Some banking systems have also had to increase provisions for nonperforming loans as real estate and property-related sectors weakened in the presence of declining or soft real estate prices. In most cases, European banks have been unable to counteract these trends with cost reductions and increased revenues in other areas of financial services. The resistance to consolidation can be attributed to a large extent to the remaining impediments to

cross-border competition in banking (see the appendix at the end of this annex) and to such factors as home currency advantage, extensive branch networks, and strong traditional and cultural relationships.

Single Market Initiatives and Cross-Border Activity

The Second Banking Directive (SBD, adopted in 1989 for implementation on January 1, 1993) introduced three key structural changes aimed at creating a single market (or “single passport”) for banking services across the EU.⁵⁴ First, standards for prudential supervision were to be “harmonized” across the EU. Second, supervisory authorities “mutually recognized” the way in which these standards were applied in each EU country so that a single banking “license” or “passport” was needed to provide an agreed list of banking services throughout the EU (Table 45). Third,

⁵⁴Not all countries respected the deadline of January 1, 1993. The SBD was implemented into national law in 1991 in Denmark; in 1992 in Germany, France, Ireland, Portugal, Greece, and the Netherlands; in 1993 in the United Kingdom, Italy, and Luxembourg; in 1994 in Belgium and Spain. Nine additional banking directives were introduced between 1986 and 1992: the Consolidated Accounts Directive (86/635), the Branch Establishment Directive (89/117), the Own Funds Directives (89/299 and 92/16), the Solvency Ratio Directives (89/647 and 91/31), the Money Laundering Directive (91/308), the Large Exposures Directive (92/121), and the Consolidated Surveillance Directive (92/306).

⁵³See OECD (1996).

Table 59. Mergers and Acquisition Activity in Banking¹

	Number of Mergers and Acquisitions				Value (in billions of U.S. dollars)			
	1989–90	1991–92	1993–94	1995–96 ²	1989–90	1991–92	1993–94	1995–96 ²
European Union countries								
Belgium	11	22	18	12	0.0	1.0	0.6	0.4
Finland	6	51	16	4	0.4	0.9	1.0	0.8
France	52	133	71	43	2.7	2.4	0.5	3.2
Germany	19	71	83	27	1.1	3.5	1.9	0.7
Italy	41	122	105	65	8.2	5.3	6.1	3.0
Netherlands	12	20	13	7	10.9	0.1	0.1	0.8
Spain	30	76	44	26	4.0	4.3	4.5	2.1
Sweden	10	38	23	8	2.0	1.1	0.4	0.1
United Kingdom	86	71	40	28	6.4	7.5	3.3	21.7
Other countries								
Australia	23	19	20	9	2.3	0.9	1.5	2.5
Canada	13	29	31	14	0.8	0.5	1.8	0.1
Japan	8	22	8	17	31.2	0.0	2.2	33.8
Norway	12	23	24	2	0.4	0.1	0.2	0.4
Switzerland	31	47	59	14	0.5	0.4	3.9	0.7
United States	1,501	1,354	1,477	1,176	37.8	56.8	55.3	82.5
Total	1,855	2,098	2,032	1,452	108.6	84.7	83.2	153.0
<i>Memorandum item:</i>								
Total nonbank financial	2,075	2,723	3,267	2,267	99.0	63.7	122.2	90.7

Sources: Bank for International Settlements (1996a); and Securities Data Company.

¹Classified by the industry of the target; completed or pending deals; announcement date volumes.

²As of April 4, 1996.

home country regulators had primary regulatory responsibility for all banks based in the country even when the bank operated in another EU country.

Since the creation of a single market for banking services, cross-border activity has increased considerably in wholesale and investment banking and to a smaller extent in retail banking. According to a recent survey by Economic Research Europe (ERE96),⁵⁵ in the period 1992–95, the cost of supplying cross-border bank services has diminished. Moreover, cross-border trade has grown significantly in off-balance-sheet activities and investment management, but it has grown only “slightly” in retail and corporate activities. According to the same survey, EU banks carried out cross-border activity mainly through subsidiaries, by increasing sourcing of funds, and by acquiring controlling, or minority, interest in other EU financial institutions. Only to a smaller extent have EU banks opened cross-border branches and engaged in cross-border alliances, joint ventures, and mergers. Nevertheless, statistics collected by the EU Commission show a 58 percent increase in cross-border branches in the period 1992–95 (from 308 to 487, including 32 transformations of existing subsidiaries) with the United Kingdom, Germany, and France as the main

“home” countries, and Germany, the United Kingdom, and Italy as the main “host” countries. No recent data are available on cross-border alliances and joint ventures, but several alliances among banks have been reported, as well as several linkups between banks and insurance companies. Finally, although intra-EU mergers and acquisitions have been much fewer than domestic mergers and acquisitions, they increased in the late 1980s and early 1990s in Germany, France, Italy, and Spain.

Competitiveness, Efficiency, and Profitability

The single market program is expected to promote the competitiveness of the European banking system by reducing costs and increasing efficiency. Survey studies conducted at the end of the 1980s identified considerable scope for convergence of prices (defined as the margin between the interest rate charged on loans or paid on deposits and the money market rate) in the banking sector toward the lowest prevailing in the Community.⁵⁶ The decline in net interest margins reported in Table 60 seems to confirm this expectation. Furthermore, in the recent ERE96 survey, respondents agreed that competition intensified considerably in domestic retail and corporate markets during the period 1992–95. This survey also indicates that in all EU countries the margin between loan rates and

⁵⁵The work, “A Study on the Effectiveness and Impact of Internal Market Integration on the Banking and Credit Sector” (hereafter ERE96), was commissioned by the European Commission and is not yet published. Minor changes could still be made before its expected publication in the second half of 1997.

⁵⁶See Commission of the European Community (1988a, b).

Table 60. European Union: Net Interest Margins¹
(In percent of average earning assets)

	1989	1990	1991	1992	1993	1994	1995	Change from High to 1995
European Union countries								
Austria	1.91	1.95	1.95	2.13	2.01	1.96	2.13	0.00
Belgium	2.07	2.04	1.84	1.85	2.06	1.98	1.76	-0.31
Denmark	2.18	2.47	2.28	2.63	2.40	2.37	2.10	-0.53
Finland	1.96	2.19	1.89	1.34	2.90	2.73	2.12	-0.78
France	3.20	2.89	3.28	3.18	2.49	2.51	2.21	-1.07
Germany	1.72	2.10	2.07	2.43	3.35	2.96	2.60	-0.75
Greece	3.69	2.73	1.26	0.12	-0.65	0.83	1.75	-1.94
Ireland			1.27	0.91	2.92	2.04	1.98	-0.94
Italy	3.62	3.71	3.38	3.41	3.75	2.97	3.06	-0.69
Luxembourg	0.46	0.50	0.46	0.88	1.02	1.01	0.93	-0.09
Netherlands	0.92	0.93	1.03	1.27	2.72	1.66	1.70	-1.02
Portugal		6.32	6.06	5.89	3.45	2.84	2.87	-3.45
Spain	4.93	5.25	4.85	4.18	5.12	3.98	3.23	-2.02
Sweden	2.17	2.72	3.65	2.15	1.62	-0.99	5.52	1.87
United Kingdom	0.35	0.48	0.68	1.67	2.22	1.68	1.66	-0.56
<i>Memorandum items:</i>								
North America								
Canada	2.40	2.60	2.43	2.29	2.10	1.81	1.93	-0.67
Mexico	1.21	5.21	6.53	6.73	3.54	2.27	3.10	-3.63
United States	3.25	3.32	3.43	6.47	4.39	3.40	2.77	-3.70
Japan	0.48	1.90	2.07	3.53	2.72	2.22	2.36	-1.17

Source: IBCA Ltd.

¹Numbers in bold indicate the highest net interest margin for the 1989–95 period for each country.

money market rates has fallen in the period 1992–95 for all categories of loans: to a larger extent for corporate customer loans to both large and small firms, and to a smaller extent for retail customer loans and mortgages. The most substantial declines have taken place in France, Ireland, Spain, Denmark, and Greece. The same survey indicates a smaller reduction in deposit prices, again concentrated in France, Ireland, Spain, and Greece. In contrast, banking fees have not fallen and have even increased in some countries, in part because EU banks have tried to use fee income to compensate for shrinking interest income. This evidence notwithstanding, the convergence of banking prices in the EU is far from being completed. The ERE96 study shows that the highest price in the EU is often two (or more) times greater than the lowest one for almost all banking products, including commercial loans, mortgages, credit cards, checking accounts, personal equity transactions, and money transfer costs.

The single market program has not yet had a major impact on the efficiency of the EU banking system. In the period 1990–94, the EU-wide cost-to-income ratio remained approximately unchanged and there were few signs of convergence toward the EU average. Indeed, in each country, costs seem to have followed largely independent trends. In Germany, for example, the cost-to-income ratio has fallen from above the EU average to well below it, whereas in Italy, Spain, and Greece the same ratio has increased from below the average to well above it; at the same time, in the

United Kingdom and Ireland, costs have fallen farther below the average. In most countries, above-average staff costs seem to account for above-average cost-to-income ratios (Figure 55).

These persistent cost pressures have not been offset by substantial productivity gains. In the 1990s, greater competition has reduced net interest margins across the European Union for all categories and sizes of banks, except for savings banks and small banks, which have continued to enjoy higher margins. Countries with particularly high margins at the beginning of the 1990s—Spain, Portugal, and Greece—have experienced the largest declines. In the same period, the percentage of fee, commission, and other noninterest income over total gross income has grown in almost all EU countries, remaining well above the EU average in the United Kingdom, the Netherlands, Luxembourg, and Greece and well below it in Spain and Denmark.⁵⁷ The higher share of noninterest income has not allowed EU banks to maintain the profitability levels of the early 1990s. In 1994, the return on equity of all EU banks was half its 1990 level (5.5 percent against 10.9 percent) with the sharpest reductions in Italy and France, followed by Spain, Portugal, and

⁵⁷The ERE96 study conducted an analysis of the productivity of the European banking system taking into account not only interest and noninterest income but also four different inputs. The conclusion was similar: “European banking markets do not appear to have become systematically more productive during the 1990s” (p. 97).

Table 61. European Union: Bank Profitability

	Pretax Profits ¹			Return on Assets ²	
	1980–82 ³	1986–88 (In percent of assets)	1992–94	1994	1995
European Union countries					
Belgium	0.40	0.40	0.30	...	...
Denmark ⁴	...	...	...	0.29	1.20
Finland ⁵	0.50	0.50	-1.60	-0.69	-0.16
France	0.40	0.40	-0.10	0.17	0.27
Germany	0.50	0.70	0.50	0.52	0.56
Italy	0.70	1.00	0.80	...	...
Netherlands	0.30	0.70	0.60	0.69	0.72
Spain	0.70	1.10	0.60	0.70	0.79
Sweden	0.30	0.80	0.50	0.55	1.23
United Kingdom	1.10	1.00	0.70	1.22	1.27
<i>Memorandum items:</i>					
North America					
Canada ⁶	0.50	1.00	1.10	1.12	1.16
United States	1.00	0.70	1.60	1.81	1.87
Other countries					
Japan ⁶	0.50	0.60	0.20	-0.21 ⁷	-0.75 ⁷
Australia	0.90	1.20	0.70	1.60 ⁶	1.82 ⁶
Norway	0.60	0.00	0.20	1.31	1.81
Switzerland	0.60	0.70	0.60	0.63	0.52

Sources: IBCA Ltd; and Organization for Economic Cooperation and Development as adapted from Bank for International Settlements, *66th Annual Report* (1996).

¹For Australia, Belgium, the Netherlands, and Switzerland, all banks; for others, commercial banks only (OECD data).

²Pretax profits of major banks (IBCA data).

³For Australia, Belgium, and France, 1981–82; and for Canada, 1982.

⁴The portfolio of securities is marked to market.

⁵The 1994 and 1995 reserves are not fully comparable because of a break in series.

⁶Fiscal years.

⁷The 1994 and 1995 data are combinations of half-year results at an annual rate and IBCA estimates.

Greece (where, however, the return on equity remains well above the EU average). Sizable improvements were recorded only in the United Kingdom, Ireland, and Luxembourg.

Single Currency and Restructuring of the EU Banking System

In EMU, the existence of larger and more liquid capital markets in Europe and the unavoidable reforms of European health, pension, and social security systems will create a large private pool of investable funds and will most likely expand the role of institutional investors and the demand for specialized asset management. This could open up each national market to cross-border competition. Continental banks will respond to this challenge by stepping up their current efforts to acquire, or merge with, specialized firms, and additionally to diversify their businesses against the risk of disintermediation by forming groups with institutional investors.

The creation of more liquid European capital markets—if not a Europe-wide capital market—is likely to encourage small and medium-sized corporations to access securities markets. Direct access to securities

markets will in turn affect the competitive position of banks and could start a gradual process of disintermediation. In this scenario, credit evaluation and local market underwriting skills will become extremely valuable. Thus, by creating incentives for the creation of broad, deep, and liquid private securities markets in Europe, the introduction of the euro and the establishment of EMU creates an *environment of competition* for shares of markets traditionally closely held and maintained by domestic universal banking institutions, both at the wholesale and retail level.

Wholesale Banking

At the wholesale level, with the removal of currencies and foreign exchange risk for intra-EMU cross-border transactions, there will be few remaining barriers to entry for the large global institutions. The commoditization of wholesale services and the cost of supplying them will determine customer relations. Competition in wholesale banking is driven by price, access to distribution networks, and geographical reach. Only a limited number of large financial institutions have the capital, resources, and geographical reach to compete globally in providing ser-

vinces to the top tier of multinational corporations and large and medium-sized companies with international operations.⁵⁸

It is possible to identify several aspects of this competition and consolidation at the wholesale level that are related to the introduction of the euro. As noted earlier, the euro directly eliminates the “anchoring principle,” advocated by many European central banks, which requires domestic financial institutions to lead-manage bond issues, creating cross-border competition for providing this investment banking service. This new competition could lead to consolidation and greater concentration through cross-border mergers and acquisitions. The euro also eliminates the 80 percent matching rule on foreign currency exposures of insurance companies and pension funds within Europe (see the appendix at the end of this annex). Under the existing rules, an EU insurance company, for example, cannot hold more than 20 percent of its assets in foreign currencies unless they are matched by liabilities denominated in the same currencies. The lifting of this restriction is likely to increase cross-border investment flows, and will open up this pool of investment funds to investment banks in EMU for providing underwriting, trading, brokerage, rating, and merger and acquisition advisory services. Banks strong in the above areas, with good placement power, are likely to see their franchises increase in value, and banks weak in these areas could be in the market for acquisitions of merchant banks and asset managers by continental European banks. Universal banks with strong investment banking franchises are also likely to benefit from EMU.

As a direct effect of a single currency, European banks will experience a substantial drop in banks’ foreign exchange trading revenues on intra-EMU transactions. A single currency will eliminate revenues from intra-EMU exchange trading, sale of exchange rate and interest rate hedging instruments, commissions on cross-border money transfers, and government securities underwriting. These revenue losses will be permanent and are likely to be concentrated in wholesale banking with an expected reduction in profits between 10 and 15 percent. EMU is likely to affect credit institutions unevenly, reducing mostly revenues of those banks with a competitive edge in certain currencies or in the placing of assets denominated in such currencies. EMU is then expected to cause a sharp re-

duction in employment of foreign exchange traders and possibly a consolidation of firms specialized in the foreign exchange business.

The euro is also likely to have a number of indirect effects, all pointing in the direction of further consolidation in wholesale banking in Europe: lower profit margins through its general impact on competition; rationalization of foreign exchange and corporate and industrial treasury functions, which would reduce the demand for cash-management services provided by wholesale and investment banks; and reduction in the number of providers of regional and global payments processing services. This consolidation can only be hastened by the elimination of European currencies.

Competition is also likely to increase in correspondent banking as non-EMU banks reduce the number of correspondents they need inside the euro bloc. Consortia of banks providing basic electronic banking services, including payments to each other’s customers in Europe, are also likely to emerge. The TARGET system will handle only large-value euro payments for central banks, large private banks, and very large companies, and smaller companies will have to go through banks’ own payments systems and correspondent networks for low-value payments in euro. Competition in the market for wholesale money transmission services will also increase. As companies increase their cross-border activities, introduce more sophisticated treasury management, and concentrate their euro business in fewer banks, traditional home currency correspondent banks may be unable to compete with the global banks, which assure cost-effective and efficient payments services around the world through their own networks.

Retail Banking

At the retail level, there is a greater need for restructuring and consolidation. Several potential EMU countries have banking systems that are overstaffed, and staffs that are underemployed, relative to banks operating in more efficient banking systems. An open question is whether EMU will provide the impetus for change necessary for restructuring and consolidation of European retail banking. In the past, exchange rate stability has been associated with narrowing net interest margins among the core countries. One possible inference is that the euro might provide an added element of competition (see Table 60).⁵⁹ Additional pressures on interest rate margins would come from the

⁵⁸There is now a consensus in the international financial markets that there is room for only about 10 large global players. The “names” most often mentioned, in industry magazines and by market participants, are ABN Amro, Barclays, Citicorp, Deutsche Bank, Goldman Sachs, J.P. Morgan, Merrill Lynch, Morgan Stanley, S.B.C. Warburg, and Union Bank of Switzerland. Others that are viewed as vying for a slot include Credit Suisse First Boston and Lazard Frères. The recent mergers of Chase and Chemical banks and of Morgan Stanley and Dean Witter are examples of what may occur in the coming years.

⁵⁹The link between exchange rate stability and net interest margins is supported by the experience with Italian and U.K. spreads, both of which stopped converging during the 1992–93 period of extreme exchange rate turbulence. In addition, the independent role of exchange rate stability is supported by the significant convergence of margins before the introduction of single market initiatives in 1992.

emergence of EMU-wide securities markets, the harmonization of reserve requirements, and the greater transparency of financing terms and conditions associated with a single currency.

A single currency will also eliminate directly some of the remaining impediments to cross-border competition in banking discussed in the appendix. A single currency will make irrelevant, for example, the fact that in France some funds (SICAVs) are not allowed to engage in foreign exchange with non-French banks, as well as the laws in some countries precluding the inscription of mortgages in a currency other than the national currency. A single currency will also greatly reduce the importance of restrictions on accessing local capital markets, which are currently complicating the refinancing of mortgages.

EMU could also increase the likelihood of consolidation through cross-border bank mergers and alliances, as the more aggressive institutions position themselves to satisfy the increased demand for EMU-wide banking services that could come from greater cross-border trade and competition in European industry. While large European corporations are already requesting Europe-wide banking services, EMU could extend this demand to small and medium-sized firms that rely on retail banks for many of their needs. Households would also be likely to increase the demand for EMU-wide banking services. Competition in all of these areas is likely to increase between the stronger domestic and European financial institutions looking to increase market share and to penetrate markets in other EMU countries. Some competition could also come from large and fully vertically integrated financial institutions, including some global banks. In addition, some economic barriers to entry could be eroded by the introduction of the euro, although this is likely to occur indirectly through the euro's impact on securities markets and institutional investors and their impact on bank disintermediation. What all this implies is that EMU could make banking markets in Europe more "contestable" in the sense that the potential for competition from new entrants could act as a disciplining mechanism on incumbents and perhaps lead to more consolidation.

Given these pressures for change, how might restructuring take place within EMU? If the competitive pressures outlined above are allowed to exert their influence unconstrained, it would be reasonable to expect competition to lead to further mergers of small and medium-sized domestic institutions (some defensive, some offensive), cross-border mergers, significantly fewer institutions, more electronic branching, better and more efficiently provided services, and customer access to regional, international, and global markets. The number of institutions and branches would decline gradually, and the average size of institutions would increase as consolidation takes place. Staff levels would decline slowly through attrition.

Much of the adjustment could be internalized within the banking industry itself. In an environment in which regulations, union strength, and extensive public ownership make it difficult to close banks and to reduce costs through downsizing, the stronger institutions may be called upon to merge with poorly capitalized banks. In other instances, mergers will aim to boost profits without incurring the pain of cost cutting. Among the more successful or viable institutions, large banks will continue to purchase smaller banks (including savings institutions and community banks), in part to obtain access to relatively high-margin retail business and to diversify funding sources by expanding the branch network. Some of the more aggressive smaller banks would engage in defensive mergers or outright takeovers. Larger banks may also try to increase diversification and to acquire a hedge against disintermediation by establishing alliances with mutual funds and insurance companies. Computer technology will also aid in the consolidation process by allowing banks to concentrate back-office operations away from individual branches and to realize important economies of scale. The acquisition of technology may motivate some mergers, because it may allow some banks to gain access to the financial resources necessary to acquire and maintain competitive information technology infrastructures.

The euro will provide additional pressure for change but major progress will occur only after some structural issues are addressed. Obstacles have remained in place even after the introduction of the Second Banking Directive, and differences in taxation, regulations, and accounting and business practices, combined with the absence of an EU company law, impede cross-border entry (see the appendix).⁶⁰ Labor market laws will also continue to place limits on the potential efficiency gains from consolidation. Ownership structures in Europe are also likely to continue to prevent market forces from operating. Extensive state ownership delays both entry and exit from the banking system, resulting in a continued buildup of imbalances in troubled public institutions. In addition, institutions may continue to pay little attention to profitability because creditor and shareholder discipline is reduced by the fragmentation of debt and equity claims and by regulatory obstacles to takeovers.⁶¹ Another factor is that European banking is still characterized by institutions with a national and often regional orientation. U.S. experience suggests that the inability to diversify across state boundaries was a major factor in the difficulties faced by several banking institutions. Finally,

⁶⁰For example, a British bank that established operations and began to offer interest-bearing current accounts in France was forced to cease this practice on the grounds that French banks were prohibited from paying interest on such accounts and that the efficacy of monetary policy was threatened.

⁶¹See BIS (1996a).

in the United States, where labor market legislation provides significant scope for downsizing, the most important benefit of mergers was increased profitability from a better diversification of funding sources and loan portfolios—not cost savings.

The forms and extent of restructuring are likely to vary across the EMU. On the one hand, their different competitiveness levels imply that not all EU banking systems are in the same need of restructuring. On the other hand, the lack of harmonization of taxes, rules, and regulations, and the remaining impediments to cross-border activity, may distort competitive forces, accelerating the restructuring in some countries and delaying it in others.

The U.K. banking system is the most competitive in the European Union and the one in which restructuring is most advanced. U.K. banks have a high return on equity even though they operate in an environment with low net interest margins, few impediments to cross-border competition, and a highly developed financial market, which exposes them to the risk of disintermediation. Their performance is explained by a large and increasing share of noninterest income, below-average and falling cost-to-income ratios, a constant decline in the density of branches, and intense merger and acquisition activity. Only the Nordic countries and Ireland have also experienced some of the restructuring observed in the United Kingdom: although their banking systems are not as profitable, their costs tend to be relatively low and the density of their branch networks has been falling for several years.

In the large continental European banking systems of Germany, France, Italy, and Spain, restructuring is proceeding more slowly than in the United Kingdom. In some countries, branch networks have continued to expand and the number of banking institutions remains high. Low profitability prevails as net interest margins shrink rapidly without being offset by higher noninterest income. Moreover, costs in these countries—except Germany—tend to be above the EU average and privatizations are often delayed. A single currency is likely to intensify competitive pressures, but there is a risk that widespread public ownership and remaining impediments to cross-border activity will continue to reduce cross-border competition and delay restructuring, while the lack of harmonization of taxes, rules, and regulations will not allow a level playing field (see the appendix). Competition among EU banking systems might be impeded by the different scope for state intervention that each country will have depending on its fiscal position, and by the remaining differences in the regulatory and supervisory framework and in the deposit insurance schemes, whose importance will be enhanced by a single currency.

The experience of the United States and the Nordic countries, where banking crises occurred before restructuring took place, and the more recent experience

with resolving financial system problems in Japan, suggest that it is unlikely that Europe will be able to either grow out of its problems or resolve them entirely through private efforts unless there are further reforms. In addition, restructuring and consolidation in Europe are unlikely to be aided significantly by state interventions on a scale similar to the interventions that accompanied the restructuring of the European industry in the 1980s.⁶² The funds available to bail out banks are likely to be limited, in the short run, by the commitments of EMU member countries to uphold the stability pact and to achieve further fiscal consolidation. In addition, any attempt to bail out troubled institutions might be prevented by EU regulations that guarantee fair competition and try to maintain a “level playing field” in the market for banking services.⁶³

In summary, the introduction of a single currency is likely to provide additional competitive pressures that could potentially accelerate the desirable processes of restructuring and consolidation in European banking systems. Unless structural reforms are implemented across Europe, there is the risk that rigidities in labor markets, public ownership structures, and other policies affecting the adjustment in banking markets would delay the desirable effects of enhanced competition. This would allow financial problems in troubled institutions to build up to the point where crises might be unavoidable. If this occurs, the inconsistencies between EMU-wide plans for fiscal consolidation and existing financial sector policies will become glaring.

Financial Institutions

Overall, it is an open question which types of financial institutions will be able to take advantage of these opportunities and to deal better with the likely increase in bank disintermediation. Those firms that are better positioned to compensate for the decline in loan demand with noninterest income, for example, from placement services, will have an advantage. If the introduction of the euro leads to the creation of less segmented and more liquid securities markets, then it will encourage the development of financial intermediation based on direct access to securities markets. The predominance of this model of finance in the United States, the United Kingdom, and international markets reflects the market reality that, in the absence of strong regulations that create and protect a clear niche for banks, the business of taking deposits and providing loans—banking—has a role in finance as long as

⁶²In that instance, several European governments smoothed the process by directly injecting funds, extending the scope of unemployment and welfare subsidies, and authorizing costly early retirement.

⁶³Within the European Union, public funds have been injected into financial institutions in recent years in Finland, France, Italy, Norway, and Sweden.

the cost of borrowing directly (through private placements of the securities markets) exceeds the cost of borrowing indirectly through banks.⁶⁴ By making European capital markets more liquid and efficient, the introduction of the euro has the potential for encouraging further direct financing and for reducing the role of bank intermediation throughout Europe.

Another factor that could drive European entities toward more direct financing is the cost of acquiring information. It has been argued that financial intermediaries emerged because it is inefficient for many shareholders each to incur the cost of monitoring a firm's management.⁶⁵ To some extent, information costs explain the development and growth of universal banks in Europe, as their role as shareholder allows them to have an informational advantage over individual investors.⁶⁶ To the extent that EMU will increase the integration of European markets for goods and services, it will be easier for investors to assess the performance of firms as the need for detailed knowledge of each local market diminishes. If this occurs, the comparative advantage of universal banks is likely to diminish. As such, American investment firms would have a significant skill-based advantage, because they specialize in credit evaluation in the context of liquid securities markets.⁶⁷ The development of European capital markets could then be seen as a reduction in the barriers to entry for securities firms.

Only the largest of the European universal banks appear to be reasonably well positioned to counteract some of these advantages. First, they should have little problem in using their information-gathering advantage to move into credit valuation and bring an increasing number of firms to the bond and equity markets. In addition, their role as shareholders will be crucial in influencing the financing choices of corporations and preventing too rapid a shift toward equity and bond financing. When banks act as shareholders, they can distort the financing decisions of a firm to the point that the share of debt of the participating firm exceeds the level that maximizes the firm's value.⁶⁸ In this respect, a major penetration of American-style investment banks in the banking market of continental Europe would be possible only if a parallel shift in the prevailing form of corporate governance toward the securities model of financial intermediation were to be demanded by customers and to take place.⁶⁹ These counterbalancing factors suggest that any shift of fi-

nancial activities away from the large European universal banks will be gradual. However, it is likely that the many small and medium-sized financial institutions within Europe that have tried to emulate the universal banking model will be vulnerable to competition from larger financial institutions and more efficient small and medium-sized intermediaries. One can also expect greater specialization among the middle-tier institutions.

Appendix

Remaining Impediments to Cross-Border Competition

Financial Services

A number of restrictions and regulatory obstacles to competition in financial services remain even after the full implementation of the Investment Services Directive (Table 62). The ISD itself leaves scope for independent interpretation of some articles that have the potential to hinder free cross-border trade in financial services. The main source of concern is the "concentration" principle, which could be implemented in a way that would allow national exchanges to retain some monopoly power. Article 14.3 of ISD authorizes, but does not require, EU countries to mandate that transactions in domestically traded securities be carried out only on "a regulated market." Other articles leave room for restrictive interpretations, such as those dealing with the regulated market (Article 1.13), transparency (Article 21), the ability of regulated markets to introduce screen trading in other EU countries (Article 15.4), and the prohibition of new markets (Article 15.5).

An uneven playing field in the market for financial services across the European Union persists also because of a number of restrictions hampering cross-border activities of institutional investors. Pension funds face several constraints on the composition of their portfolios that inhibit the freedom of capital movements and favor the funding of domestic governments and corporations (Table 63). The European Commission proposed a Pension Funds Directive to liberalize pension fund provisions, but it has never been adopted. Most countries set ceilings for the holdings of equities (Germany, Belgium, Denmark, Norway, Portugal, and Greece) and for foreign assets or assets denominated in foreign currency (Germany, France, Finland, Denmark, Sweden, Belgium, Portugal, and Austria). Furthermore, some countries require a minimum investment in government bonds (France and Belgium). Only the United Kingdom and the Netherlands impose few portfolio restrictions.

Insurance companies face regulatory constraints set out in the Third EU Directive for the life insurance sector. Their asset allocation is subject to ceilings on their

⁶⁴See Gurley and Shaw (1960).

⁶⁵See Diamond (1984).

⁶⁶A key feature of universal banks is that they hold equity shares large enough to monitor corporations. See Steinherr (1996).

⁶⁷See Steinherr (1996).

⁶⁸See Aoki (1984).

⁶⁹The greater the liquidity of the secondary market, the more effective is the securities model of financial intermediation as a form of corporate governance based on the takeover mechanism. See Bolton and von Thadden (1996).

Table 62. Implementation of the European Union Capital Adequacy and Investment Services Directives

	Year	Laws and Regulations	Comments
Austria	1996	First Amendment of the Banking Act (November 1, 1996). Second Amendment of the Banking Act (January 1, 1997).	
Belgium	1995	Law of April 6, 1995, on "secondary markets, investment firms, intermediaries and advisers."	
Denmark	1995	Laws nos. 1071 and 1072 of December 20, 1995.	
Finland	1996	July 16, 1996, Act on Financial Services Firms (Sijoituspalveluyrityslaki); and Act amending the Securities Market Act (Arvopaperimarkkinalaki).	Both have been in effect since August 1, 1996.
France	1996	French Law no. 96-597 of July 2, 1996, "de modernisation des activités financières."	
Germany	1994	Law of July 26, 1994, "Wertpapierhandelsgesetz." Amendment of the Banking Act (January 22, 1996). Principles Concerning the Capital and Liquidity of Credit Institutions (October 2, 1996).	
Greece	n.a.		Implementation is expected.
Ireland	1995	Irish Investment Intermediaries Act 1995, dated July 1, 1995.	
Italy	1996	Legislative Decree no. 415 of July 23, 1996.	
Luxembourg	n.a.		Two bills were introduced in Parliament, one in July 1995, another in July 1996. They have not yet been adopted.
Netherlands	1995	Wet Toezicht effectenverkeer 1995.	
Portugal	1996	Bank of Portugal Notices ("Avicos") no. 7/96, 8/96, and Decree-Laws no. 232/96 of December 5, 1996, for Investment Services Directive and 9/96 of December 1996 for Capital Adequacy Directive.	
Spain	n.a.		Implementation is expected.
Sweden	1991	Securities Business Act, 1991, 981. Stock Exchange and Clearing Act, 1992, 543. Financial Supervisory Authority Regulation 1995: 40, 43, 45, and 59.	All these measures took effect on January 1, 1995.
United Kingdom	1986	Financial Services Act 1986, as amended.	

Sources: International Monetary Fund; and Wymeersch (1996).

holdings of equities (65 percent), real estate (40 percent), and loans (10 percent). Moreover, insurance companies must diversify equity holdings so that they do not hold more than 5 percent of the quoted shares of a single company or 0.5 percent of the shares in an unquoted company. Foreign currency investments are subject to "congruence" or matching rules, which require that liabilities in one currency be at least 80 percent matched by assets denominated in the same currency.

Mutual (investment) funds and portfolio management services are also subject to a number of regulatory barriers that obstruct cross-border trade. When the ISD is fully implemented, in principle no formal regulatory barriers should be left standing within the European Union. In practice, however, some obstacles to the distribution of funds across borders are bound to remain because of requirements on domestic legal forms and organizational structures (e.g., in the United Kingdom), disclosure and registration rules (e.g., in

Germany), and, above all, discriminatory tax treatment discouraging taxpayers from investing in foreign funds and providing incentives for investment in domestic equities or government paper. Additional hindrances are the different accounting practices, withholding taxes on dividends paid to foreigners, administrative burdens, performance measurement practices and requirements, and transaction charges.⁷⁰

Under the provisions of ISD, fund management services offered by banks, insurance companies, investment dealers, or independent portfolio managers should face very few restrictions, since these services can be provided to other EU countries either through a permanent establishment or cross-border.

In almost all EU countries, bond issues are subject to the so-called anchoring principle according to which

⁷⁰See OECD DAFPE/CMF(96)19/REV1.

Table 63. Regulatory Constraints on Portfolio Investment of Institutional Investors in Selected Industrial Countries

	Pension Funds	Insurance Companies	Mutual Funds
Austria	Minimum of 50 percent in bank deposits or bonds denominated in the Austrian currency. Ceiling on foreign financial assets (35 percent).	80 percent currency-matching rule.	None.
Belgium	Ceilings on foreign assets (50 percent); equities (65 percent); any single company (5 percent); property (40 percent); investment funds (30 percent); and business of the plan sponsor (15 percent).	80 percent currency-matching rule.	None.
Canada	A December 1991 law progressively raised the ceiling on foreign investment from 10 percent to 20 percent in 1994.	A June 1992 regulation removed ceilings on foreign investments but limits may be imposed based on prudential considerations.	Limit of 20 percent on foreign assets in the Registered Retirement Savings Plans (RRSP)-eligible funds.
Denmark	80 percent currency-matching rule. Maximum limit of 40 percent on "high-risk assets" (Danish and foreign equities, property loans, and unquoted investments).	80 percent currency-matching rule.	None.
Finland	80 percent currency-matching rule.	80 percent currency-matching rule.	None.
France	At least 34 percent of assets must be invested in securities guaranteed by the state. Ceilings on foreign assets (5 percent) and property (40 percent).	Investments are subject to the matching-assets rule; the location rule; and the allocation-of-assets rule. Ceilings on foreign assets (5 percent) and property (40 percent). Minimum share of public debt instruments (34 percent).	Subject to disclosure and asset-diversification rules. A fund may not hold more than 10 percent of any one category of securities of one issuer.
Germany	<i>Pensions Kassen</i> : 80 percent currency-matching rule. Ceilings on EU equities (30 percent); non-EU equities (6 percent); non-EU bonds (6 percent); and EU property (25 percent). <i>Spezialfonds</i> : Foreign fund manager is required to have a link with a German unit trust manager. <i>Book-Reserve System Funds</i> : No restrictions.	80 percent currency-matching rule.	None.
Greece	Ceilings on property and securities listed in stock exchange (20 percent).	80 percent currency-matching rule.	None.
Italy	33.3 percent currency-matching rule (but assets denominated in ECU can be used to match liabilities in any currency). Ceiling on unlisted securities (50 percent if issued in OECD countries and 20 percent if issued by non-OECD countries). Ceilings of 20 percent on closed-end fund shares; 30 percent on securities issued by employer (20 percent if shares); 10 percent on securities issued by a single issuer (5 percent if unlisted); 10 percent on derivatives used for speculation.	80 percent currency-matching rule.	None.
Netherlands	"Prudent person" rule: an investment must be "solid." Limit on employer-related investment or self-investment; 5 percent in reserves and 10 percent in assets.	80 percent currency-matching rule.	None.
Norway	Ceilings on equities (20 percent) and foreign assets (30 percent).	80 percent currency-matching rule.	None.

Table 63 (concluded)

	Pension Funds	Insurance Companies	Mutual Funds
Portugal	Ceilings on foreign securities listed on OECD stock exchange (20 percent); unlisted bonds or on bonds listed on a non-OECD stock exchange or on commercial paper (10 percent); unlisted other securities or on other securities listed in a non-OECD stock exchange (5 percent), with the exception of money market instruments; property or mortgages (50 percent); single company (5 percent); companies belonging to the same group (20 percent); and single unit trust (20 percent).	80 percent currency-matching rule.	None.
Spain	Ceilings on assets other than bonds, equities, real estate, and bank deposits (10 percent).	80 percent currency-matching rule.	None.
Sweden	Foreign asset ceiling (5–10 percent) but generally restrictions not applicable since most pension funds are managed through the book reserve system.	80 percent currency-matching rule.	None.
United Kingdom	“Prudent person” rule. Self-investment restricted to 5 percent.	Subject to matching and localization rules, which require them roughly to balance liabilities expressed in a particular currency with assets in the currency. A company must ensure that its liabilities are covered by assets of appropriate safety, yield, and marketability, having regard to the classes of business carried on, that its investments are appropriately diversified and adequately spread, and that excessive reliance is not placed on investments of any particular category or description.	Collective investment schemes (unit trusts) are required to invest at least 90 percent of their assets in transferable securities in markets, selected by the fund manager in consultation with the trustees, that are regulated, recognized, operating regularly, and open to the public.
United States	Regulated by a special federal law—Employee Retirement Income Security Act (ERISA). Permissible investments subject to the “prudent expert” rule, which includes a requirement to give consideration to diversification and liquidity factors. Otherwise no explicit restrictions on holding foreign securities, including foreign equities and foreign-currency-denominated bonds.	U.S. state insurance regulations attempt “to prevent or correct undue concentration of investment by type and issue and unreasonable mismatching of maturities of assets and liabilities.” These laws usually allow an unrestricted “basket” of investments for a certain amount of assets, which can be allocated to foreign securities in the range 0–10 percent of total assets.	Primarily regulated by the U.S. Securities and Exchange Commission (SEC) under federal laws. An open-ended fund may not hold more than 15 percent of its net assets in illiquid assets. Otherwise no explicit restrictions are imposed on investment in foreign securities.

Sources: International Monetary Fund; and Organization for Economic Cooperation and Development.

all bond issues in a national currency should be lead-managed by a bank, or bank branch, with a full-fledged new issues department domiciled in the country. The rationale behind this rule is that national central banks believe they can monitor and ensure compliance with their country’s monetary legislation (like the ban on indexation in Germany) only if they have direct authority over the banks concerned at all times.⁷¹ Simi-

larly, most issuing states require primary dealers in government bonds to have a local presence and meet local supervisory standards.

Banking

The small increase in cross-border banking activity since 1992 is probably due to a number of remaining impediments to cross-border competition. Respondents to the ERE96 survey agreed that on average trade barriers in banking had declined “to some extent” over

⁷¹See Deutsche Bank Research (1996).

the period 1992–95 with the largest improvements in the wholesale area (corporate deposits and loans) and the smallest in the retail area (mortgages, insurance products, savings products, and consumer loans). But they believed that major barriers to operating in other EU countries remained. The cost of entering new geographical markets—in terms of establishing networks and acquiring information—was considered the most important barrier, followed by social barriers, legal hindrances, and national taxation regimes. By contrast, capital requirements, anticompetitive measures of domestic governments, and collusion between domestic banks were considered less important.

The ERE96 survey provides several examples of barriers in the banking sector that may discourage entry by foreign competitors. First, product restrictions persist in several countries: Greece, for example, prohibits real estate lending by foreign banks, Italy restricts the provision of payment instrument services by nonresidents, and France does not allow funds (SICAVs) to do foreign exchange business with non-French banks; furthermore, in France, the ban on interest-bearing check or cash deposit accounts effectively reduces the threat of foreign competition in the deposit market. Second, marketing financial services is more difficult in countries where door-to-door selling is prohibited or restricted (Denmark, France, Italy, and Spain). Finally, there are a number of obstacles in the field of mortgage credit. In several countries, foreigners face barriers in accessing local capital markets for refinancing: they are banned from issuing bonds in Greece, need a prior authorization in Belgium, Spain, France, and Italy, and cannot issue a bond payable in a foreign currency in Portugal. Other hurdles are the differences across EU countries in mortgage guarantees and taxes, as well as legislation precluding inscription of the mortgage in a currency other than a national currency.

Tax distortions in the allocation of savings across the European Union are due not only to the well-known lack of harmonization in the taxation of investment income but also to instances in which national tax systems effectively help to protect domestic

financial sectors from foreign competition. In France and Belgium, for example, there are tax incentives to invest in domestic mutual funds (SICAVs). In France, tax-exempt saving accounts are available only from two French institutions (the French Post Office and the Caisse d'Épargne), and tax-exempt share savings plans are restricted to investing exclusively in French shares. In Italy and Portugal, the interest paid on loans from nonresidents is subject to a withholding tax, which practically excludes nonresidents from lending to domestic nonbanks. Finally, in some countries, insurance premiums are tax deductible only if the insurance contract is with a company having its headquarters in the national territory.

Differences in labor market and employment regulations can discourage foreign investors from buying domestic banking institutions, because European labor legislation is known to prevent a successful restructuring of the acquired banks. This type of labor-market legislation (e.g., in Germany, Italy, and the Netherlands) effectively protects the domestic banking sector from cross-border entry. Moreover, state subsidies and ownership may amount to protectionist distortions of trade in banking services, often difficult to detect. Furthermore, lax application of antitrust and competition policy can impede cross-border competition by allowing concentrations in banking and financial markets that can enhance—at least in the short run—the defensive potential of domestic institutions. In addition, a level playing field across the EU banking sector is unlikely to emerge with the existing differences in regulatory and supervisory frameworks, deposit insurance schemes, and until the start of EMU, reserve requirements. Finally, cross-border competition in financial markets will continue to be hampered by the “general good” opt-out clause accepted in the past by the European Court of Justice, which may be invoked by host states to ban products offered only by foreign banks if these threaten the general good of the citizens of the host country.⁷²

⁷²See ERE96, p. 113.