Towards financial integration in the euro-area financial segments. Is there a convergence?

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Powerful obstacles to the further integration of repo, bond and equity markets remain the still fragmented securities settlement industry in Europe, which charges much higher fees for cross-border transactions than for domestic transactions, and differences in legal systems.
This paper investigates the main developments in the euro area financial markets before and after the introduction of the single currency. It looks at the evolution of the euro area financial structure in the last few years. Interestingly, in various dimensions the financial structure of euro-area countries seems to become more diverse over time. We assess the progress towards financial integration in the most important euro-area financial segments, namely money and equity markets, as well as banking. The available data suggest that the unsecured money market strongly integrated with the introduction of the euro, as the single currency and related euro-area-wide large-value payment systems link the different countries well. Also, some progress occurred in the integration of euro-area equity markets, as stock exchanges in a few countries merged to form Euronext and professional asset managers replaced country allocation by sector allocation strategies. Overall, while asset holdings have become more international in the euro area since the introduction of the single currency, securities markets are still much less integrated than in the US. In the area of retail banking the increased homogeneity of interest rates seems to be driven more by macroeconomic convergence than by market integration.

Key words: Euro-area, Bond markets, Equity market, Settlement industry

1. Introduction

Financial integration is different from financial structure in that it refers to the ease with which financial instruments can be traded across regions, across national borders or even globally. Formally, one can say that an economic area is financially integrated if there are no barriers that discriminate economic agents in their access to and investment of funds within that area, on the basis of their location. As a consequence of this definition, i) financial instruments with identical cash flows should command the same price, ii) there should be no systematic differences in the portfolio allocation and sources of funding of economic agents within the area, after controlling for their individual characteristics. This provides the rationale to look at both price-based and quantity-based indicators. In this paper we discuss the degree of integration of different financial markets (money, equity and banking markets), looking both at price and quantity measures of integration.

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2. Financial integration in the euro area

2.1 Money markets

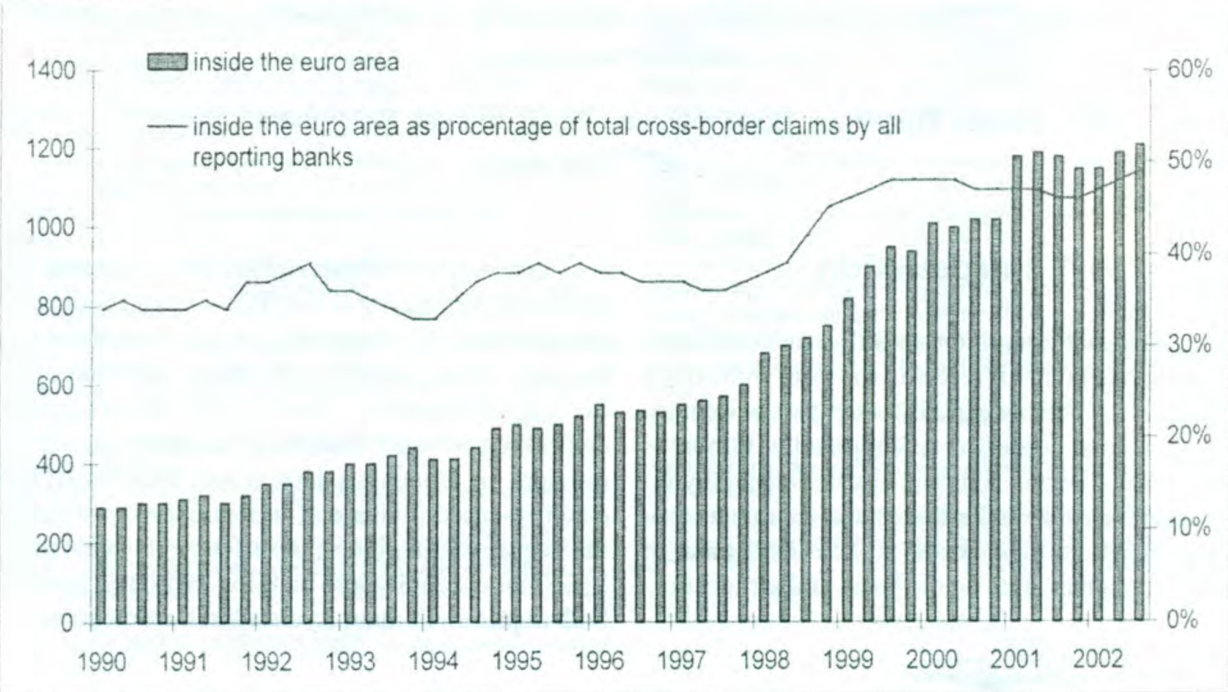
A single currency can be expected to have the strongest effect on the integration of the money market. A single monetary policy is characterised by a unique short-term policy interest rate (such as the ECB main refinancing rate or the Fed-federal funds target rate) and an area-wide wholesale payment system (such as TARGET in the euro area and Fedwire in the US). In such conditions interbank deposits (of healthy banks) in different locations of the area are extremely close substitutes and there are little obstacles to arbitrage away any short-term interest rate differentials. Some descriptive evidence confirms that the euro area interbank deposit market became extremely integrated very shortly after the introduction of the euro in January 1999. Hartmann, Manna and Manzanares (2001) plot 5 months of intra-day overnight deposit rates from brokers located in different euro area countries and the UK, arguing that apart from the special year 2000 changeover week, cross-border rate differentials were very small.

Adam et al. (2002) calculate ß-convergence measures of 3-month interest rate differentials between euro area countries and Germany by regressing the change in these differentials on their level in the previous period. A negative regression parameter indicates that convergence towards a common steady-state level is taking place and the absolute size of the parameter measures the speed with which that is taking place. The results show negative coefficients throughout, which however more than double in size with the introduction of the euro.

In other words, convergence of 3-month money market rates or the integration of this market has increased markedly after EMU. The same authors also calculate the cross-sectional dispersion of 3-month deposit rates at any point in time and regress it on a time trend, the ä-convergence measure. A negative regression parameter ä indicates a trend towards greater market integration, since it implies that the law of one price tends to hold with greater accuracy over time. The results suggest that money market integration already increased somewhat before January 1999. However, with the introduction of the euro the standard deviation of cross-country rates basically collapses to zero, consistent with full money market integration (see Adam et al., 2002).

Following Galati and Tsatsaronis (2001), Gaspar, Hartmann and Sleijpen (2003) plot the share of euro area banks' cross-border claims on other euro area banks as a percentage of total cross-border interbank claims between 1990 and 2002. It is very visible from their figure, reproduced here as figure 1, that cross-border lending in the euro area interbank market increased significantly during 1998 and 1999 and clearly in excess of cross-border interbank lend-

Figure 1 – Euro area cross-border interbank lending, 1990-2002 (amounts outstanding at end-of-quarter, in billion euros and % of total). Data cover information for 19 industrial countries (EU countries excluding Portugal, Canada, Japan, Norway, Switzerland and the United States) and 6 other countries, hosting major offshore banking centres (Bahamas, Bahrain, the Cayman Islands, the Dutch Antilles, Hong Kong and Singapore). (Source: Bank for International Settlements)



ing outside the euro area. It seems that the impact of the euro amounted to a 10 percentage point level effect in the size of the euro area interbank market relative to non-euro area interbank markets. Adam et al. (2002) present data from the Fédération Européenne des Fonds et Sociétés d'Investissement (FEFSI) between December 1997 and June 2001. They show that the share of assets invested in money market funds with an area-wide investment strategy (as opposed to a national investment strategy) increased dramatically during 1999 for most countries.

Whereas all indicators for uncollateralised money market instruments point in the same direction, a significant increase in integration at the start of stage 3 and presently a very high degree of integration, it is important to caution that this does not apply to all money market instruments. Notably the market for repurchase agreements (repos) is considerably less integrated than the market for deposits (see in particular the second Giovannini Report, European Commission 1999b and CEPS 2000). Solid evidence on the European repo market is relatively scarce however, in particular regarding measures of price differentials. Ciampolini and Rohde (2000) report some market survey evidence on interest rate spreads between German and Italian (general collateral) repurchase agreements. It turns out that monthly or 3-month Italian repos usually trade 4-5 basis points higher than German repos.

As regards quantity measures, euro repo market turnover is smaller than euro cash market turnover and displays a smaller share of cross-border trading. However, the year 2000 ECB money market report (see European Central Bank 2001a) also showed an increase of intra-euro area cross-border trading between 1999 and 2000. The year 2001 ECB money market report (see European Central Bank 2002c) confirmed that the share of trading with national counterparts is still higher in the repo market (slightly above 40%) than in the unsecured market (around 30%). And more than half of euro repo trading is still in instruments secured by home country collateral. In sum, the euro area money market is characterised by a very large, very liquid and highly integrated unsecured deposit market and by a smaller and less integrated repo market. The main reasons for the former are certainly the single currency and related area-wide wholesale payment systems. The main reasons for the lagging repo market are (i) a fragmented securities settlement infrastructure that hampers the flow of collateral across borders, (ii) contractual heterogeneity related to a multiplicity of Master Agreements and some legal uncertainty, and (iii) the imperfect substitutability of government debt used as collateral and related price differentials.

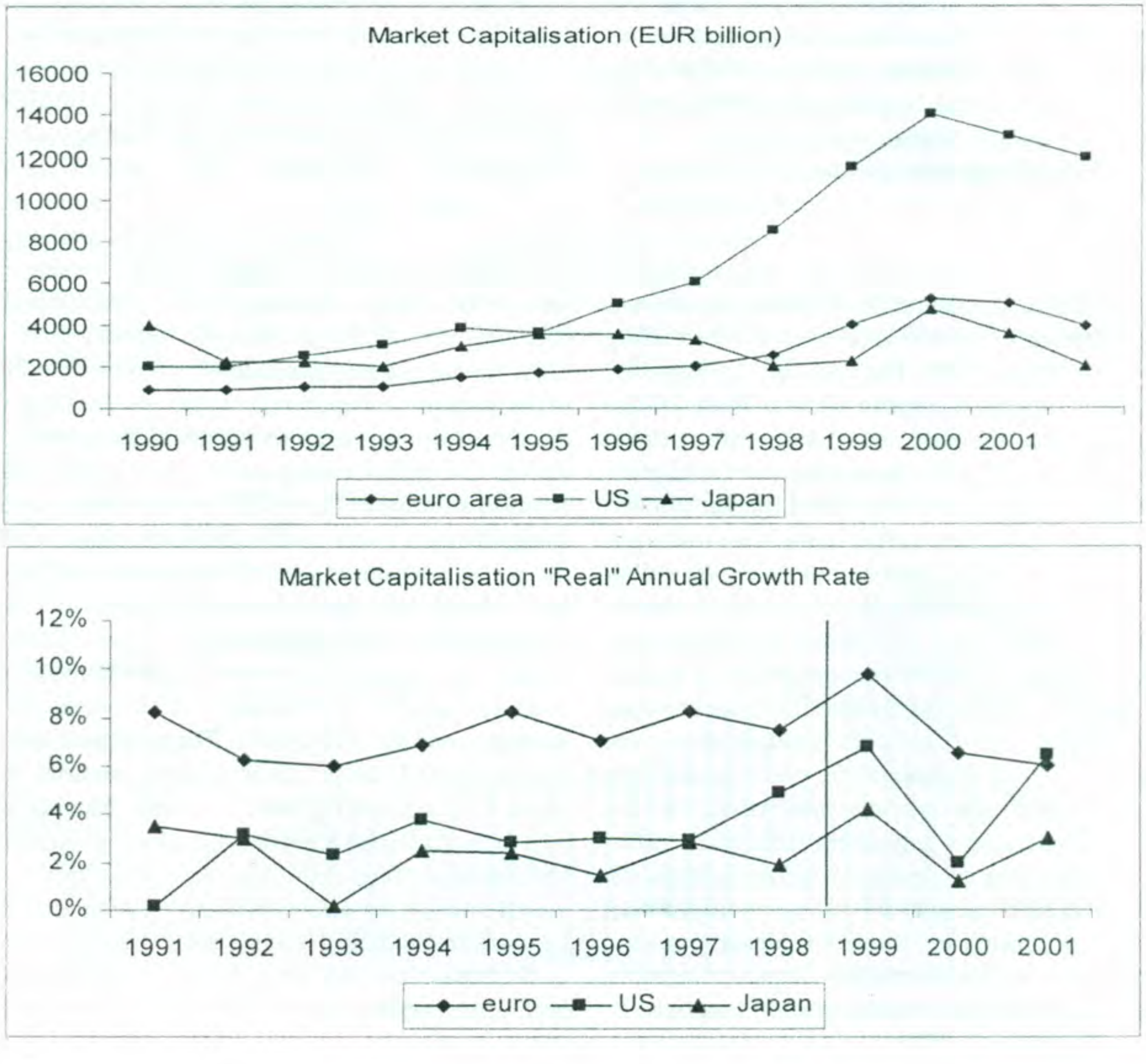
2.2. Equity markets

In a financially integrated equity market, there are no effective barriers that prevent agents to invest in their preferred assets, independently of their location. This implies on the one hand that expected returns are decreasing in their covariance with global returns (as opposite to a segmented world, where only the behaviour of local returns matter, see, for instance, Bekaert and Harvey 1995 and Stulz 1999). On the other hand, optimally diversified global portfolios should display no particular preference for domestic equities. Therefore as equity markets become increasingly integrated, one should expect the share of domestic stocks in household portfolios to decline relative to the share of foreign stocks (as described, for example, in Ayuso and Blanco 2001). Adjaouté and Danthine (2003) provide a comprehensive review of the recent developments in European equity returns. First, they verify a necessary condition under which financial integration would result in a lower risk premium, compared to segmented markets. This condition simply states that the variances of the national equity indices must be higher than the variance of the global portfolio. The empirical evidence is unambiguous for the euro area: the standard deviation of the local markets (measured by Morgan Stanley Capital International (MSCI) indices) is always greater than the corresponding EMU index. In other words, integration of equity markets should lead to a lower cost of capital and therefore stimulate economic growth. Second, they use a multi-factor model that allows for equity returns to be affected not only by the global market portfolio, but also by country and industry factors. Their finding supports anecdotal evidence of a shift in the portfolio allocation paradigm: the first step of the top-down approach to portfolio selection has shifted towards deciding on a sector (rather than country) allocation. Third, they confirm these results using standard mean-variance models. Since 1995, sharpe ratios of optimal portfolios constructed from sector indices have been constantly higher than those constructed from country indices. Fratzscher (2001), instead, proposes a multivariate GARCH model to study changes in the integration of European stock markets since the mid-1980's. The processes entering the GARCH model are individual countries' returns, euro area returns and US returns. This allows him to evaluate the relative importance of regional shocks originating in the euro area with respect to global shocks coming from the rest of the world (proxied by the US). He finds that European equity markets have become more highly integrated with each other and have gained importance in world financial markets since 1996. He also finds that reduced exchange rate variability and convergence of interest rates were the driving forces behind this integration process. These results should in general be taken with some caution, as they are usually sensitive to model specification, data sources and time periods. Moreover, the estimated relationships are highly time varying, so that it is very difficult to tell whether they are driven by the integration process or by some other common shocks (such as supply/demand or monetary policy shocks). Regarding market capitalisation of euro area stock exchanges, it increased remarkably in the last few years, but still remains significantly lower than in the United States.

However, correcting for price increases and using the total market indices provided by Datastream, the annual growth rate of market capitalisation in the euro area from 1998 to 2001 was higher than in the U.S. and in Japan. Specifically, from 1998 to 2001, "corrected" market capitalisation in the euro area increased by 24%, compared to 15% in the U.S. and 9% in Japan (see figure 2, right panel).

This result can be in part explained by the privatisation policy implemented by several euro area governments, which was one of the main drivers of equity issuance activity during this period. The largest telecommunications companies as well as companies providing services such as water, power, transportation and mail were privatised, generating a high number of initial public offers (IPO's). The total number of IPO's and their volume surpassed those in the U.S. for the first time in 1999 and remained substantially higher than in the U.S. and in Japan in 2000. Although the trend partly reversed in 2001 and 2002 in the midst of a global decrease both in volume and number of IPO's, the number of IPO's in the euro area remained higher than in the US. The high number of IPO's caused a net increase in the number of publicly listed companies in euro area exchanges, despite a large number of de-listings, due to consolidation in various industries.

Figure 2 – Stock market capitalisation in EUR billions (Source: FIBV) and annual growth of market capitalisation calculated as the growth in the units of a total market index in the euro area, U.S. and Japan (Source: Datastream).



Summing up, analyses of equity return and risk premia in the euro area provides weak evidence that some integration in equity markets took place over the past few years. At the same time, there has been a shift in the asset allocation paradigm, which is now based on sector (rather than country) diversification. Quantity-based indicators show increasing stockownership among households and greater international portfolio diversification among investment funds, pension funds and insurance companies. Market capitalisation in the euro area increased significantly, compared to the United States and Japan, reflecting the relatively higher number of IPO's in the last few years. Overall, however, European equity markets still remain significantly less integrated than US or Japanese equity markets. The large number of separate markets and the fragmented structure of systems to settle cross-border trade remain important factors in this situation.

2.3. Banking

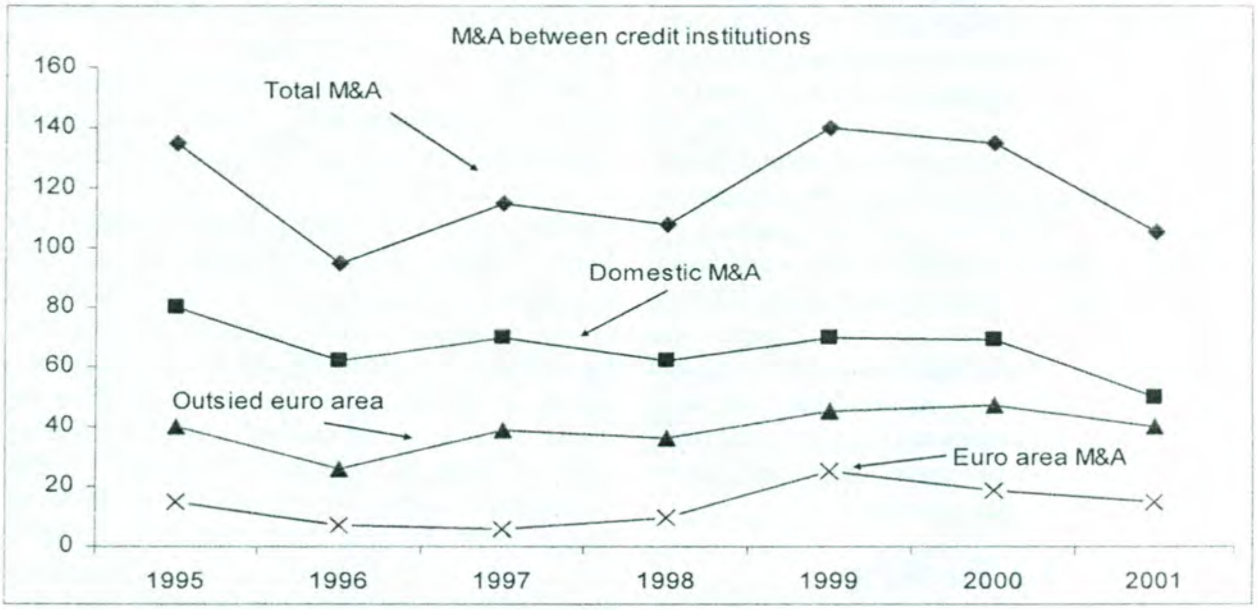
As banking is a multi-product business, it is quite complex to describe its process of integration. In principle, the absence of barriers to entry would ensure a perfectly integrated banking market, as the threat of new entries deters incumbents from charging prices in excess of their marginal costs. In practice, such an ideal condition is very rarely met. Several studies show that even in the United States the distance between borrower and lender does affect the lending conditions (see, for example, Petersen and Rajan 2002, and Berger et al. 2001). Degryse and Ongena (2002), using a data set containing more than 17,000 loans made by an important Belgian bank to individual firms, find that loan rates decrease in the distance between the firm and the lending bank. Similarly, loan rates increase in the distance between the firm and competing banks.

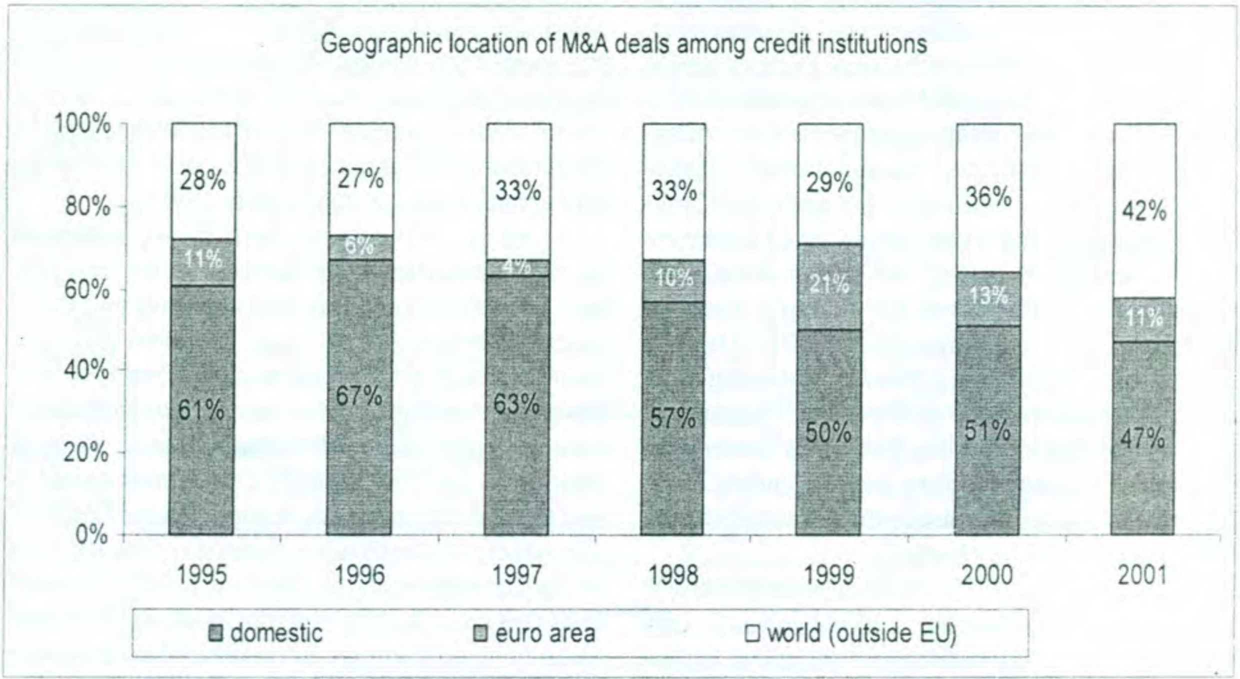
Berger et al. (2003) take an even more extreme position and claim that the banking industry may never become fully globalised – or integrated for that matter. They argue that some banking services – such as relationship lending to small businesses – will be always provided by small local institutions operating in the nation in which the services are demanded. Their econometric analysis uncovers that foreign affiliates of multinational corporations prefer to use host nation banks for cash management purposes. This is consistent with the view that a host nation bank may best know the local market, culture, language and regulatory conditions in the host nation. In addition, it may have superior information about local non-financial suppliers and customers. Although complete integration may never be achieved, one way to describe the progress of integration in the banking market is to show how existing barriers to entry have been progressively reduced.

A different, but complementary strategy is to look at how price and quantity indicators – related to both wholesale and retail banking activities – have evolved. In the rest of this section we will tackle both points. Deregulation, technological innovation, growth in cross-border activities of non-financial companies, as well as the introduction of the euro, were all factors that contributed to the reduction of global and European barriers to competition in the financial services industry. Financial institutions mainly responded to these pressures by cutting costs and by consolidating their activities, either through mergers and acquisitions or through cross-shareholdings. Since the launch of the euro, the number of (euro area) monetary and financial institutions (MFIs) has steadily declined at a monthly average rate of 0.3%. Between January 1999 and June 2002, the number of MFIs decreased by 11.1%.17 Merger and acquisition activities involving credit institutions in at least one of the euro area countries peaked in 1999 after the introduction of the common currency, but at the end of 2001 this number was comparable to the 1998 level. While the majority of deals was still domestic, i.e. they involved credit institutions located in the same country, the percentage of domestic M&As over the total has been diminishing constantly from 1995 on.

As far as regulatory barriers are concerned, the most important developments in the euro area have been the Second Banking Directive and the Financial Services Action Plan. The main principles incorporated in the Second Banking Directive were the single banking license and supervisory home country control. Under the single license, all credit institutions authorised in an EU country would be able to establish branches or supply cross-border financial services in all other countries of the EU without further authorisation. Dermine (2003), however, finds that cross-border mergers involving European banks of significant size have all resulted in holding company structures with subsidiaries, rather than branches. Similarly, the overall number of foreign bank subsidiaries in Europe is high relative to the number of foreign branches. So, he concludes that the single banking license is more an illusion than a reality. The reasons he sees for the surprisingly high importance of corporate subsidiary structures range from management considerations (such as the greater acceptability of consolidation for local managers and shareholders) to different corporate taxation and deposit insurance systems. Moreover, the supervisory home country principle implies a discrepancy with more area-wide arrangements for competition policy.

Figure 3 – Number of M&A deals involving credit institutions in the euro area countries and Geographical distribution of the M&A deals involving credit institutions in the euro area. The domestic deals involve institutions in the same country, while the euro area ones concerns to banks situated in two different countries of the euro area. The "world M&A" involve one institution located in the euro area and another located outside. (Source: SDC Thomson Financial)





Carletti and Hartmann (2003) discuss the division of labour between supervisory and competition reviews of bank mergers in EU countries. It turns out that in various countries home country supervisory authorities have a stronger (or even exclusive) role in these reviews than competition authorities. This feature may also play a role in the still subdued cross-border consolidation in the euro area. Finally, some observers feel that a euro area wide supervisory authority could lower further any remaining obstacles to banking integration. However, others argue that given existing banking structures this step would be premature at the present time (see e.g. Belaisch et al. 2001 and Economic and Financial Committee 2000). Rosengren (2003) provides a comparison between the European and the US banking system. He finds that there are still significant limits to the geographic expansion of banking activities within the United States, which surprisingly resemble very much the ones observed by Dermine within Europe. For example, none of the five largest US banks has major operations in the New England area (the Federal Reserve Bank of Boston district), despite its proximity to New York, the state with the strongest concentration of large and complex banks. Similar observations can be made for other regions of the

United States. More generally, only 6 % of all US banks operate in more than one state and no bank has major retail operations in all regions of the US.

However, despite these similarities to Europe, Rosengren still regards US banking markets as more integrated, because first – in contrast to European banks – US banks have significantly reduced the number of their subsidiaries over the last decade, and second subsidiaries are organised on a functional basis rather than a geographical basis.

Let us now look at how price-based and quantity-based indicators have evolved. In wholesale banking, the relevant short term deposit rates quickly converged after the introduction of the single currency. For retail banking, Cabral et al. (2002) report average monthly retail interest rates data on household lending, corporate lending and deposit accounts between 1998-1999 and 2001-2002. They also report banks' margins over market interest rates, on the ground that these margins, unlike market interest rate levels, are not affected by macroeconomic factors. They find that between 1998-1999 and 2001-2002 differences across countries in household and corporate lending rates and deposit rates declined in the euro area. However, the reduction in the standard deviation of banks' margins was much lower, signalling that the developments were mainly driven by convergence in the macroeconomic monetary conditions. Indicators based on the costs associated with retail cross-border payments show weak evidence of convergence in bank charges across Europe (see Adam et al. 2002). Although there is some evidence of a reduction of the average duration for such transfers, the average cost of cross-country transfers has not converged at all.

Given the evidence that market-led convergence had failed to materialise, a regulation, submitted by the European Commission and recently approved by the European Parliament, will impose that bank charges for cross border payments in euro must be the same as for similar transactions within a single Member State as of 1 July 2003. Regarding quantity-based indicators, increases in cross-border banking business were observed between 1997 and 2002 at the euro area level.

3. Conclusion

We assessed the progress towards financial integration in the most important euro-area financial segments. The available data suggest that the unsecured money market strongly integrated with the introduction of the euro, as the single currency and related euro-area-wide large-value payment systems link the different countries well. The same cannot be said, however, about the repo market. Also, some progress occurred in the integration of euro-area equity markets, as stock exchanges in a few countries merged to form Euronext and professional asset managers replaced country allocation by sector allocation strategies. Powerful obstacles to the further integration of repo, bond and equity markets remain the still fragmented securities settlement industry in Europe, which charges much higher fees for cross-border transactions than for domestic transactions, and differences in legal systems. In the area of retail banking the increased homogeneity of interest rates seems to be driven more by macroeconomic convergence than by market integration. For example, cross-border loans to non-banks have somewhat increased, but remain a very small fraction of total lending. This is quite different in wholesale activities, as inter-bank lending jumped up with the introduction of the euro and banks' cross-border securities holdings also expanded considerably. ■

BIBLIOGRAPHY

Adam, K., T. Japelli, A. Menichini, M. Padula and M. Pagano (2002), Study to analyse, compare, and apply alternative indicators and monitoring methodologies to measure the evolution of capital market integration in the European Union, prepared by the Centre for Studies in Economics and Finance for the European Commission, Brussels, 28 January.

Danthine, J.-P., F. Giavazzi and E.-L. von Thadden (2001), The effect of EMU on financial markets: a first assessment, in C. Wyplosz, ed., The Impact of EMU on Europe and the Developing Countries, Oxford University Press, pp. 225-268.

Dermine, J. (2003), European banking: past, present and future, forthcoming in V. Gaspar, P. Hartmann and O. Sleijpen eds., The Transformation of the European Financial System, Proceedings of the 2nd ECB Central Banking Conference, ECB, Frankfurt.

European Commission (1997), The impact of the introduction of the euro on capital markets, Brussels, July.

European Commission (1999b), The EU repo markets: opportunities for change, Euro Papers, no. 35, Brussels, October.

European Commission (2000), Co-ordinated public debt issuance in the euro area, Brussels, 8 November.

European Commission (2001), Cross-border clearing and settlement arrangements in the European Union, Brussels, November.

European Commission (2002a), Financial services: meeting the Barcelona priorities and looking ahead: implementation, Seventh Progress Report on the Financial Services Action Plan, Brussels, 3 December.

European Commission (2002b), SMEs in Europe, including a first glance at EU candidate countries, Observatory of European SMEs.

Galati, G. and K. Tsatsaronis (2001), The impact of the euro on Europe's financial markets, BIS Working Paper, no. 100, Basel, July.

Hartmann, P., M. Manna and A. Manzanares (2001), The microstructure of the euro money market, Journal of International Money and Finance, 20(6): 895-984.

V. Gaspar, P. Hartmann and O. Sleijpen (2003), The Transformation of the European Financial System, (edited by), Proceedings of the 2nd ECB Central Banking Conference, ECB, Frankfurt.