EUROPEAN CENTRAL BANK

EUROSYSTEM

FINANCIAL INTEGRATION IN EUROPE

MAY 2011

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In 2011 all ECB publications feature a motif taken from the €100 banknote.

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ABBREVIATIONS

COUNTRIES

BE	Belgium	LU	Luxembourg
BG	Bulgaria	HU	Hungary
CZ	Czech Republic	MT	Malta
DK	Denmark	NL	Netherlands
DE	Germany	AT	Austria
EE	Estonia	PL	Poland
IE	Ireland	PT	Portugal
GR	Greece	RO	Romania
ES	Spain	SI	Slovenia
FR	France	SK	Slovakia
IT	Italy	FI	Finland
CY	Cyprus	SE	Sweden
LV	Latvia	UK	United Kingdom
LT	Lithuania	JP	Japan
US	United States	CH	Switzerland

OTHERS

ABS	Asset-backed security
ACI	Financial Markets Association
AMEX	American Stock Exchange
ASC	Advisory Scientific Committee
ATC	Advisory Technical Committee
BIS	Bank for International Settlements
CCBM	Correspondent central banking model
CCBM2	Collateral Central Bank Management
CCP	Central counterparty
CDS	Credit default swap
CFS	Center for Financial Studies
CIFS	Credit Institutions Financial Support Scheme
CLS	Continuous Linked Settlement
CPSS	Committee on Payment and Settlement Systems
CSD	Centralised securities depositories
CSM	Clearing and settlement mechanism
DGS	Deposit guarantee schemes
DvP	Delivery versus payment
EBA	European Banking Authority
EBF	European Banking Federation
ECB	European Central Bank
Ecofin Council	Council of Economic and Finance Ministers
ECP	Euro commercial paper
EFC	Economic and Financial Committee
EFMLG	European Financial Markets Lawyers Group
EGMI	Expert Group on Market Infrastructures
EIOPA	European Insurance and Occupational Pensions Authority
EMIR	European market infrastructure regulation
EMU	Economic and Monetary Union
EMV	Europay, MasterCard and Visa

EONIA	Euro overnight index average
ESCB	European System of Central Banks
ESFS	European System of Financial Supervision
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
EU	European Union
EUREPO	Repo market reference rate for the euro
EURIBOR	Euro interbank offered rate
FSB	Financial Stability Board
GDP	Gross domestic product
ICPF	Insurance companies and pension funds
IMF	International Monetary Fund
IORP	Institutions for Occupational Retirement Provision
IOSCO	International Organisation of Securities Commissions
LTRO	Longer-term refinancing operation
LVPS	Large-value payment system
M&A	Merger and acquisition
MFI	Monetary financial institution
MiFID	Markets in Financial Instruments Directive
MMF	Money market fund
NASDAQ	National Association of Securities Dealers Automated Quotations
NCB	National central bank
NYSE	New York Stock Exchange
OECD	Organisation for Economic Co-operation and Development
OIS	Overnight index swap
OJ	Official Journal of the European Union
OTC	Over the counter
PHA	Proprietary home account
RMBS	Retail mortgage-backed securitiy
RTGS	Real-time gross settlement
SCT	SEPA credit transfer
SDD	SEPA direct debit
SEPA	Single Euro Payments Area
SLD	Securities Law Directive
SSP	Single shared platform
SSS	Securities settlement system
STEP	Short-term European paper
TARGET	Trans-European Automated Real-time Gross settlement Express Transfer system
T2S	TARGET2-Securities
VC	Venture capital
WFE	World Federation of Exchanges

PREFACE

The ECB's annual report on financial integration in Europe contributes to the advancement of the European financial integration process by analysing its development and the related policies.

The Eurosystem has a keen interest in the integration and efficient functioning of the financial system in Europe, especially in the euro area.[1] Financial integration fosters a smooth and balanced transmission of monetary policy throughout the euro area. In addition, it is relevant for financial stability and is one of the reasons for the Eurosystem's task of promoting well functioning payment systems. Without prejudice to price stability, the Eurosystem also supports the objective of completing the EU Single Market, of which financial integration is a key aspect.

In September 2005 the ECB published a first set of indicators of financial integration and an accompanying report. Since then the work on financial integration has evolved, resulting in the publication of a yearly report.

1 Financial integration is part of the Eurosystem's mission statement; see the ECB's website at www.ecb.europa.eu.

EXECUTIVE SUMMARY

The further increase in the total size of euro area capital markets in recent years, in combination with a continued decrease in dispersion in terms of capital market size measured relative to GDP across most euro area countries, suggests that the underlying trend movement in Europe towards financial development and integration has continued in spite of the financial crisis (see Box). The total size of euro area capital market grew by some 9% between 2000-2004 and 2005-2009, compared with 6% in the United States, mainly owing to a recovery in bank credit, although the size of securities markets still remains below the pre-crisis peaks.

However, after the improvement observed in 2009 in many market segments, in 2010 the worsening fiscal situation in a number of euro area countries, coupled with the increased credit risk of some euro area financial institutions, posed a new challenge for European financial integration. The bond and money markets in particular were affected by the European sovereign debt crisis and most indicators point to a loss of financial integration in these segments.

The ECB Governing Council adopted a number of measures to support the smooth transmission of monetary policy and to restore

Box

KEY MESSAGES

- Euro area capital markets have continued to increase in overall size in recent years, and the cross-country dispersion in terms of size relative to GDP has continued to decline. All in all, the crisis should not endanger the long-run trend towards financial market development and integration in Europe.

- However, the worsening of the fiscal situation in a number of countries is posing serious challenges to financial integration. The money and bond markets have suffered particularly strongly, as evidenced by several indicators.

- The sharp divergence of yields in the European government bond market reflected an increase in sovereign risks as well as liquidity risks, possibly exacerbated by market overreaction. Persistent liquidity risks are a threat to market integration.

- The ECB Governing Council adopted several measures to support the smooth transmission of monetary policy and restore market confidence, and this had beneficial effects on market integration. National and European authorities also adopted several measures to support financial markets and individual intermediaries, while safeguarding competition. In some cases, these interventions may have induced a retrenchment of financial activities within national borders.

- The euro area equity markets were less strongly affected by the recent developments. Most available indicators suggest that the equity market integration actually strengthened in 2010.

- The integration of bond and equity markets relies greatly on the functionality of the underlying infrastructures, notably securities settlement systems and central counterparties. Of particular

significance in this area is T2S, the Eurosystem's pan-European securities settlement platform which is intended to come into operation in 2014.

- While banking markets have shown signs of normalisation, particularly of lending conditions, this process is rather slow. A key factor in the loss of financial integration in banking during the crisis was the absence of clear and internationally consistent crisis management and bank resolution arrangements. More European solutions are needed in this area.

market confidence. These included, in addition to a number of adjustments in the modalities of liquidity provision, the Securities Markets Programme, which contributed to reduce bond market volatility at times of very high uncertainty. The indicators of money market integration presented in this report suggest that, on average, there were improvements in 2010 relative to the peak of the crisis. However, during the course of the year some increase in the cross-border variance of interest rates has been observed, particularly at very short maturities. This phenomenon is highly concentrated in the small number of countries that experienced a more acute worsening of their fiscal situation.

The divergence of yields in the European government bond market signals not only increased risk differentials among government bonds, but also liquidity risks, possibly exacerbated by market overreaction. Persistent liquidity risks can threaten sovereign bond market integration.

The market in short-term European paper (STEP), launched in 2006, continued to grow in relation to the total size of the commercial paper market, thereby contributing to financial integration.

The euro area equity markets were less affected by the financial crisis than other market segments. Most available indicators indicate that the integration of equity markets strengthened in 2010.

The integration of bond and equity markets relies greatly on the degree of integration of the underlying infrastructure, in particular of the securities settlement systems and central counterparties. In recent years, concrete initiatives have been taken to achieve a higher degree of technical integration. The most significant is the Eurosystem's pan-European securities settlement platform T2S, which is intended to come into operation in 2014.

As the global financial crisis was largely a crisis of confidence in banks, banking activities have been strongly affected by the recent developments. While banking markets in 2010 initially showed signs of a normalisation of lending conditions, a number of indicators suggest that this process is still relatively slow.

In **Chapter II,** *Special Feature A, entitled "Crisis management and resolution: a financial integration perspective"*, analyses the impact of the measures and interventions of national authorities in the area of banking crisis management and resolution on EU competition and financial integration.

At the beginning of the crisis, many exceptional measures to support ailing banks were taken by national governments, often without sufficient coordination at the European level. This may have led, in some cases, to domestic banks having a competitive advantage relative to institutions of other Member States, or to a stronger cutback in cross-border banking activities than in domestic ones. Level playing field concerns were also raised where ailing banks were taken over by the private sector.

The conditions imposed by the European Commission on ailing banks in return for its approval of some of the government support measures were necessary from a financial stability perspective, but may have impacted on financial integration. There are some indications

that, as a result of these conditions, applied under the European Commission's state aid and merger control rules correctly aimed at safeguarding the internal market (which often implied refocusing on core market business which is usually the domestic market), banks have tended to retrench within national borders.

A further important factor in the observed loss of financial integration in the banking sector has been the absence of adequate crisis management and resolution arrangements, pointing to a need for more European solutions.

Special Feature B, entitled "Insurance corporations and pension funds in the euro area", looks at these two important financial market segments through the lens of a newly compiled set of statistics being developed by the ECB. The new data, which allow an investigation of structural developments in the insurance corporations and pension funds, suggest that, during the crisis, no significant changes have taken place in the portfolio allocation strategies across euro area countries; the two sectors continue to be predominantly domestic-oriented. In the insurance sector, the new Solvency II requirements are intended to achieve a high degree of convergence in regulatory standards across Europe. The ongoing pension reforms are also expected to have a positive impact on the integration of the sector across Europe.

Special Feature C, entitled "Developments in the euro area bond markets during the financial crisis", analyses recent developments in sovereign bond markets in the euro area, as well as the impact of sovereign bond markets on the development of corporate bond markets.

In response to the sovereign debt crises of several euro area governments during 2010, a clear divergence occurred in spreads in sovereign bond markets after several years of negligible spreads between euro area sovereign bond yields.

The two major factors that contributed to this divergence were: (i) sizeable credit risk differentials determined by the difficult fiscal situations in some euro area countries and (ii) investors' growing preference for liquid and safe assets. The combination of the two factors exerted a powerful influence on sovereign bond markets, causing severe strains, particularly at certain moments. It is difficult to gauge the extent to which the widening of sovereign bond spreads reflects a healthy return to "pricing of risk" or a flight to high quality assets, possibly exacerbated by market overreaction, with negative consequences for market integration. Both elements are likely to be present to some extent.

Chapter III provides an overview of the main activities that the Eurosystem has pursued in 2010 with the view to advancing financial integration in the euro area.[2]

First, as regards the provision of advice on the *legislative and regulatory framework for the financial system*, the ECB and the Eurosystem have actively contributed to the development of the new EU supervisory framework and architecture which was finalised in 2010. In the area of financial infrastructure, an important step was taken with the adoption by the European Commission of a proposal for a regulation on OTC derivatives, central counterparties and trade repositories. Many of the provisions converge with the ESCB-CESR recommendations for CCPs that were published in 2009.

Second, with respect to the *role that the ECB and the Eurosystem play as a catalyst*, support continued for projects, such as SEPA, STEP and the Code of Conduct for Clearing and Settlement. New working bodies like the SEPA Council or the Expert Group on Market Infrastructures were created to foster integration efforts in these areas. Moreover, the Eurosystem supported market-led initiatives to promote the reactivation of the securitisation markets by respectively launching a public consultation on introducing an eligibility requirement for asset-backed securities and by completing

2 Chapter III also supplements the chapter on financial integration in the ECB's Annual Report 2010.

the outright purchase programme for covered bonds.

Third, in the field of *enhancing knowledge, raising awareness and monitoring the state of financial integration*, the ECB continued its work on financial integration and development indicators, as well as on financial market statistics. In April 2010, the ECB hosted an international conference, organised jointly with the European Commission, on "Financial integration and stability: the legacy of the crisis", with the participation of the President of the ECB and of other top level market participants, financial regulators and academics. In this conference the ECB report on Financial Integration in Europe and the European Financial Integration Report prepared by the European Commission were presented. This conference was the first of a series, to be held annually on the same topic, jointly sponsored by the ECB and the Commission.

Moreover, the ECB was also involved in various research initiatives related to financial integration, in particular through the ECB-CFS Research Network. Research papers delivered within the scope of the ECB's Lamfalussy Fellowship programme in 2010 addressed different aspects of risk-taking, financial fragility, and macroprudential regulation.

Finally, regarding *central bank services that foster financial integration*, TARGET2-Securities (T2S) made substantial progress during 2010, both in the software development work and on key policy aspects, such as pricing and governance. In the area of the Eurosystem collateral management, the Collateral Central Bank Management (CCBM2) project will consolidate the existing technical infrastructure into one single platform for the domestic and cross-border use of marketable and non-marketable assets, with live operations starting in 2013.

CHAPTER I

RECENT DEVELOPMENTS IN FINANCIAL INTEGRATION IN THE EURO AREA

This chapter presents the ECB's assessment of the recent developments in financial integration in the euro area, based on a set of financial integration indicators developed and regularly updated by the ECB.[1]

As described in the previous report on financial integration in Europe (hereinafter referred to as the "2010 report"), 2009 saw a reversal of the tendency of many market segments – especially the money markets – to retrench within national borders following the acute tensions in financial markets in the last quarter of 2008. The focus of this year's report is on how this process continued thereafter.

The most significant factor affecting the degree of financial integration in the euro area in 2010 was the worsening fiscal situations in a number of euro area economies. As a result, from the beginning of 2010, tensions were observed in government bond markets and the money market, reflecting an increase in the perceived credit risk of some euro area countries and financial institutions, as well as contagion effects. While the remedial measures undertaken by the Eurosystem over the course of the year to counter the problem clearly served to improve the climate in these financial market segments, some of the integration gains achieved in 2009, as measured by our statistical indicators, were eroded.

I INTRODUCTION

This chapter reviews the most significant developments in 2010 in the money, bond, equity and banking markets. As in previous reports, this initial chapter reviews a number of indicators of financial developments. This year, a main focus is on how the worsening fiscal position of a number of euro area governments affected the resumption of normal market conditions, including a high degree of financial integration, in the wake of the financial crisis.

The financial turmoil of 2007 and 2008 affected various financial markets to different degrees, resulting in a temporary retrenchment of market activity within domestic borders. Following an improvement in the investment climate in international financial markets, 2009 saw an easing of tensions in financial markets and improved financial integration, especially in those market segments which had been most affected during the financial turmoil. This process was aided by the actions taken by the Eurosystem in the euro area money market, including lengthening the maturities of open market operations, the introduction of a fixed-rate tender procedure with full allotment in the three- and six-month longer-term refinancing operations (LTROs), and extending the list of assets eligible as collateral.

Given the improvement in financial integration observed in 2009 relative to the last quarter of 2008, the conditions appeared to exist for a continuation in 2010 of the gradual return to pre-crisis levels of integration. However, the further strains that emerged in euro area government bond markets prevented further progress towards stable market conditions, particularly in some segments. Government bond and money market spreads widened sharply. The cross-country standard deviation of the EONIA and EURIBOR diverged again during 2010, particularly for instruments with shorter maturities and for unsecured lending.

The primary reason for these developments in 2010 was market concern about sovereign credit risk in a small number of euro area countries, resulting in tensions in euro area government bond markets. In addition, investors became concerned about euro area commercial bank credit risks. The gradual intensification of these concerns in the first half of 2010 opened up a number of hazardous contagion channels and adverse feedback loops between financial systems and public finances. By early May, adverse market dynamics had taken hold across a range of asset markets in an environment of diminishing market liquidity. Ultimately,

1 For a semi-annual update of the indicators, see the ECB's website at www.ecb.europa.eu.

the functioning of some markets became so impaired that it also hampered the monetary policy transmission mechanism in the euro area and thereby threatened the effective conduct of monetary policy.

On 10 May the European Central Bank, with a view to restoring the conditions for the effective conduct of a price stability oriented monetary policy and, in particular to support its transmission mechanism, which had been impeded by dysfunctional market conditions, the ECB announced the introduction of several measures. In particular, the Governing Council decided to conduct interventions in the euro area public and private debt securities markets (the Securities Markets Programme) in order to restore an appropriate monetary transmission mechanism. A parallel re-absorption of the liquidity injected through this programme was implemented to ensure that the monetary policy stance would not be affected. In addition, a fixed-rate tender procedure with full allotment was re-adopted for the regular three-month longer term refinancing operations (LTROs) in May and June (accompanied by a six-month LTRO with full allotment in May) and the temporary liquidity swaps with the Federal Reserve System were reactivated. Reflecting the fact that these decisions have not only a European but also a global outreach, the G7 and G20 welcomed the ECB's action in their communiqués. In parallel, the European Council adopted a regulation establishing a European Financial Stabilisation Mechanism. Subject to strong conditionality, these facilities will be available to provide loans to euro area countries in difficulty.[2]

Following the implementation of these measures, market volatility was significantly reduced. Nevertheless, the experience of 2010 shows that the recovery in euro area financial integration following the 2007-08 financial turmoil is not likely to be rapid. Some market segments may settle on new equilibria characterised by wider spreads between financial instruments and markets than observed before the crisis. This may reflect a reassessment of risk and not necessarily a decline in the degree of financial integration, although the two are not always easy to separate.

This chapter represents a summary based on a host of indicators of financial integration that are broadly divided into price-based and quantity-based. Price-based indicators derive their logic from the law of one price, which implies that assets with the same cash flow and identical risk characteristics should have the same price and return. Quantity-based measures derive their logic from the presumption that integrated markets are characterised by a comparatively high volume of cross-border transactions. While both measures are imperfect, the current market environment makes price-based measures especially problematic, because they may not adequately control for underlying risk characteristics, and so not clearly distinguish effects stemming from changes in the credit standing of the issuers from the effects of financial integration itself. Therefore, such measures of financial integration, under stressed market conditions, must be treated with particular caution.

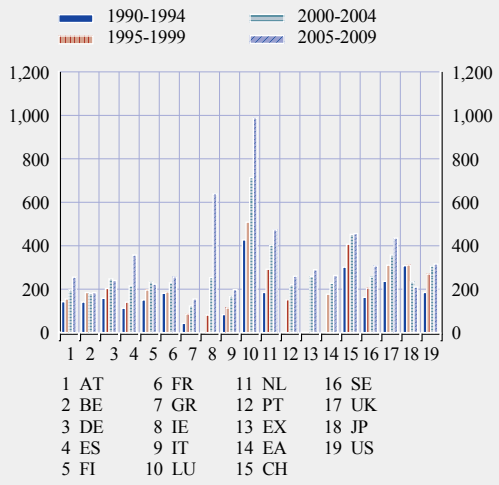
2 OVERVIEW OF THE FINANCIAL MARKET SEGMENTS

A broad summary statistic used in recent reports to gauge the state of development of a financial system is the total size of capital markets, which aggregates the size of stock, bond and loan markets as a share of GDP, both for the euro area and for a number of benchmark countries. Chart 1 illustrates the upward trend in this indicator since 1990. In order to minimise the impact of more cyclical market fluctuations on the value of the indicator and to avoid confusing booms and busts – as occasionally occur in financial markets – with advancing or diminishing financial development, five-year averages are taken. Despite the adverse

2 A permanent crisis mechanism to safeguard the financial stability of the euro area, the European Stability Mechanism, was agreed upon by Eurogroup ministers in October 2010.

Chart 1 Size of capital markets

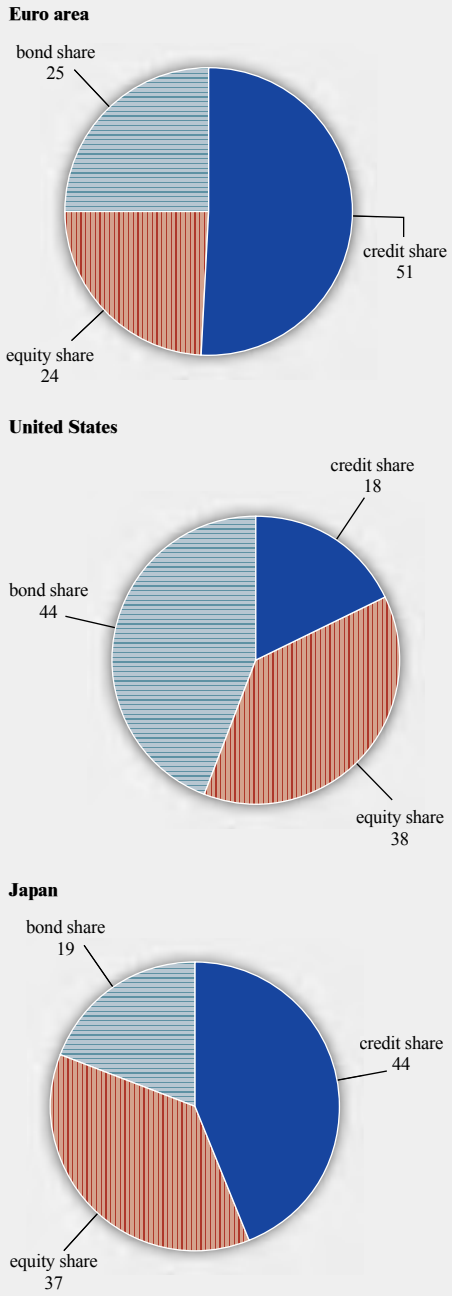
(percentage of GDP)



Sources: WFE, IMF, ECB, Thomson Reuters Datastream, Eurostat and ECB calculations.

Chart 2 Relative shares of credit, equity and bond finance

(percentages)



Sources: WFE, IMF, Thomson Reuters Datastream, Eurostat and ECB calculations.

conditions since 2007, the overall size of capital markets in the euro area grew by about 9% between the 2000-2004 and 2005-2009 periods shown on the chart, slightly above the 6% observed in the United States, but considerably below the 16% growth observed in the United Kingdom. Growth in size of capital markets can only be considered as positive if that is not the reflection of excessive asset price increases. More significant for financial integration is the fact that there is also a continued decrease in dispersion in capital market size (as a share of GDP) across euro area countries, with the exception of small financial centres such as Luxembourg and Ireland. By this particular measure, euro area capital markets are still smaller than their counterparts in the United States, the United Kingdom and especially Switzerland, but the euro area has overtaken Japan in the past 5 years.

Chart 2 illustrates some differences in the relative importance of credit finance, equity finance, and bond finance in the euro area, Japan, and the United States, respectively, over the 2005-2009 period. Clearly, banks are the most important source of finance in the euro area, accounting for more than equity finance and bond finance put together. By contrast, in the United States bank credit accounts for less than one-fifth of total finance,

and private bond finance for almost half, while in Japan credit finance and stock market finance seem to be of equal importance.

MONEY MARKETS

Following the introduction of the euro, the euro area money market was the financial market segment which achieved the fastest and most complete integration. At the same time, it was also the hardest hit in terms of measured integration once conditions in euro area and global markets started deteriorating in the third quarter of 2007. Since the emergence of interbank market tensions in August 2007, the money market has gone through five broad phases. The first phase, triggered by the collapse of the sub-prime mortgage market in the United States in the summer of 2007, led to rising yields on a variety of money market instruments. The sudden deepening of the crisis following the bankruptcy of Lehman Brothers in September 2008 had a sharp negative impact on the measured integration of the euro area money market. Next, during the first half of 2009, the money market gradually reverted to more stable conditions. During the fourth phase, lasting until the end of 2009, the extraordinary support measures and new liquidity provisions adopted by the ECB's Governing Council helped to strengthen and consolidate these gains, with further substantial improvement in most of the money market indicators compiled in this report. A fifth phase, which started in 2010 following tensions in euro area government bond markets and culminated around the middle of the year, was again characterised by rising tensions in the money market, with the cross-country standard deviation of the euro overnight index average (EONIA) rising in June and July to levels higher than those observed at the peak of the financial crisis in February 2009.

Once again, the ECB's Governing Council adopted a number of measures signalling the Eurosystem's resolve to support the smooth transmission of monetary policy and this helped to calm the markets. While the measured integration of the euro area money market has somewhat improved since the peak of the sovereign debt crisis in the second quarter of 2010, this progress remains fragile and the prospects are uncertain.

Based on all available data for 2010, price-based measures of integration imply that the euro area money market departed again from a satisfactory degree of integration, especially for instruments with lower maturities. For these, much of the integration gains registered in 2009 have been erased. This is confirmed by quantity-based indicators which point to a continuously increasing domestic component for turnover in the unsecured market.

While in 2010 the Eurosystem and euro area governments undertook a number of countermeasures, in many respects the money market has been less integrated in recent months than it was in 2009; the impact of the financial crisis and of subsequent tensions in government bond markets on the integration of the euro area money market still persists.

PRICE-BASED INDICATORS

The cross-sectional standard deviation of EONIA lending rates across euro area countries reveals clear signals of tensions in the money market registered most acutely in the middle of 2010 (see Chart 3). After having declined to

Chart 3 Cross-country standard deviation of average unsecured interbank overnight lending rates across euro area countries

(61-day moving average; basis points)

Sources: EBF and ECB calculations.

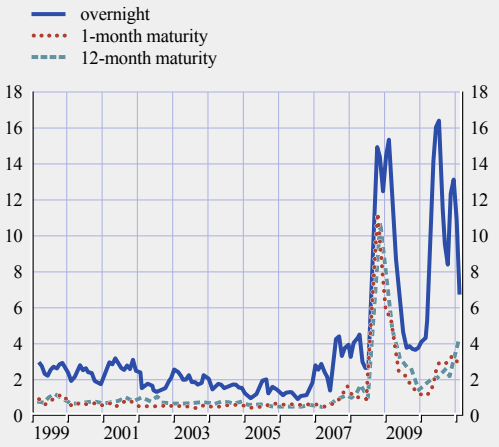
as low as 3.7 basis points at the end of 2009, corresponding to levels last observed before September 2008, the standard deviation increased steadily over the first half of 2010, peaking at 16.4 basis points in July, the highest monthly average observed since the adoption of the euro. It registered its biggest monthly jump between April and May when it increased from 8.2 to 14 basis points. The timing of the peak closely reflected the tensions in government bond markets stemming from the deteriorating fiscal positions of a number of euro area governments. It should be mentioned that the dispersion in EONIA rates is almost eliminated if certain countries are excluded from the sample, i.e. those that have experienced recent fiscal strains. Finally, by February 2011, this dispersion had declined to 6.7 basis points, a level seen last before the sovereign debt crisis.

Albeit not as dramatic as in the case of the overnight market, a moderate increase in the standard deviation of rates across longer maturities was also registered during 2010 (see Chart 4). In February 2011 the cross-country standard deviation of the average unsecured interbank lending rate stood at about 3 basis points for instruments with one-month maturity and at 4.4 basis points for instruments with 12-month maturity, erasing some of the gains in terms of measured integration realised in the second half of 2009. In both cases this dispersion index was clearly below the levels observed during the peak of interbank market tensions in late 2008, while the cross-country dispersion in overnight rates actually surpassed the end-2008 peak. One potential explanation for this difference is that the partial retrenchment of money market activity within domestic borders in 2010 was driven more by perceived liquidity risk than by perceived counterparty risk, and thus was more pronounced for instruments with shorter maturity.

Another perspective into developments in 2010 in money market integration is offered by the cross-country and within-country standard deviation of EURIBOR rates.

Chart 4 Cross-country standard deviation of average unsecured interbank lending rates across euro area countries for short and long maturities

(61-day moving average; basis points)



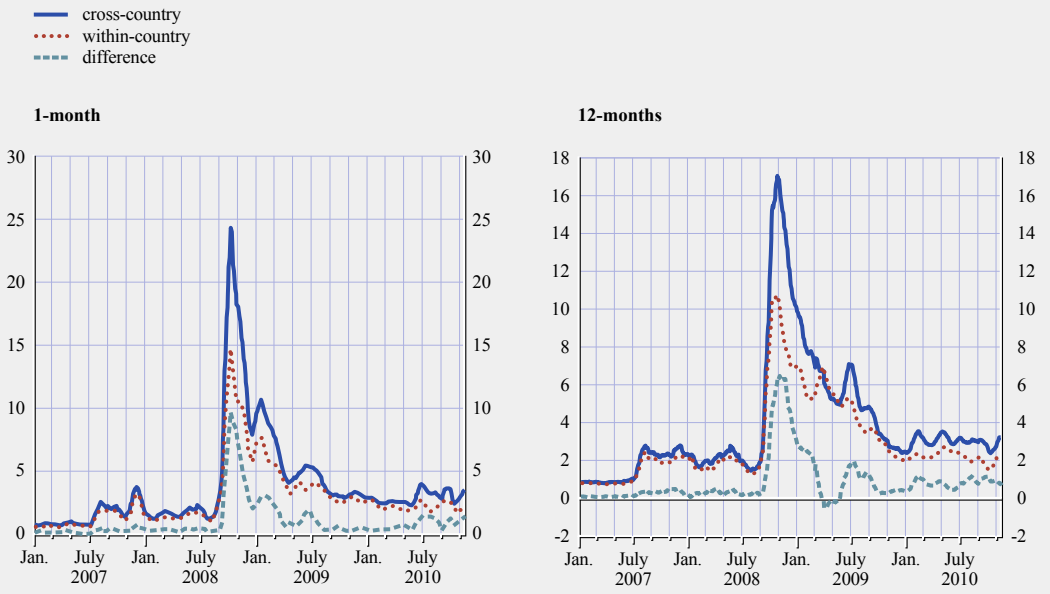
Sources: EBF and ECB calculations.

As pointed out in the 2008 and 2009 reports, the acute phase of the euro area money market tensions was characterised by a high cross-country segmentation, manifested in a large spread between the domestic and the cross-border standard deviation in EURIBOR rates. Over the course of 2009, this segmentation gradually declined, as the dispersion of rates within countries and across countries tended to decrease. In spite of this, 2010 started with levels of dispersion still significantly higher than the pre-crisis levels, but over the course of the year, this dispersion decreased further (see Chart 5).

In a repetition of some of the developments observed during the most acute phase of the financial crisis, perceived counterparty risk increased in 2010 owing to aggravated asymmetric information among interbank market players concerning their counterparties' asset quality. During the crisis counterparty risk was mostly related to holdings of opaque asset-backed securities, in particular mortgage-backed securities, and other potentially problematic loans to the private sector, but this time it was mostly related to holdings of government bonds.

Chart 5 Standard deviation of the EURIBOR

(61-day moving average; basis points)

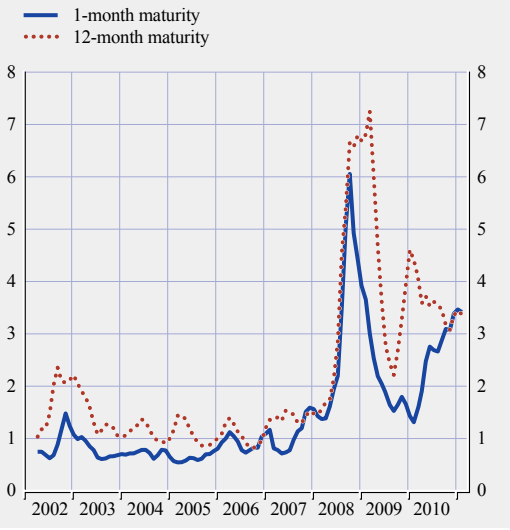


Sources: EBF and ECB calculations.

The increased spreads in the unsecured segments did not spill over fully into the secured interbank market. The cross-country standard deviation of average interbank repo rates for instruments with one-month maturity increased to 3.2 basis points in November 2010, after having fallen to 1.3 basis points in February (Chart 6). Measured integration in repo markets for instruments with longer maturities (12-month) deteriorated markedly at first and then strengthened, with the dispersion in repo rates being around to 3.5 basis points in November 2010, which was below the 2009 average. Some of the increase in the dispersion in repo rates on instruments with shorter maturities is undoubtedly related to deteriorating fiscal forecasts for a number of euro area countries and the consequently increased riskiness of some of the associated government bonds used as collateral in repo markets.

Chart 6 Cross-country standard deviation of average interbank repo rates across euro area countries

(61-day moving average; basis points)



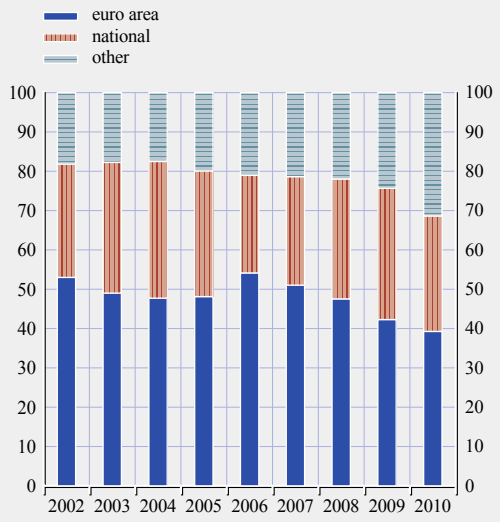
Sources: EBF and ECB calculations.

QUANTITY-BASED INDICATORS

After the crisis, a relative increase in bank exposure to domestic counterparties and a decrease in exposure to other euro area counterparties were observed for both secured and unsecured transactions. For secured transactions, exposure to domestic counterparties

Chart 7 Geographical counterparty breakdown for unsecured transactions

(percentages of total)

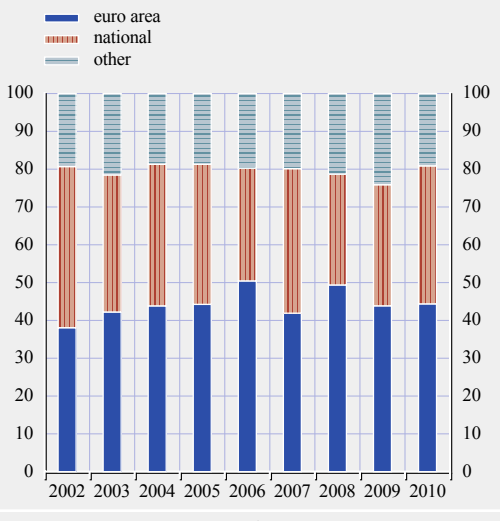


Source: ECB's Euro Money Market Survey 2010.

continued its upward trend in 2010, increasing from 32% in 2009 to 38% in 2010. Conversely, for unsecured transactions the exposure to domestic counterparties decreased in 2010, from 33% to 29% (see Chart 7 and Chart 8).[3]

Chart 8 Geographical counterparty breakdown for the secured transactions

(percentages of total)



Source: ECB's Euro Money Market Survey 2010.

The downward trend in overall unsecured transactions seems to have been driven mostly by decreased lending to and borrowing from domestic and euro area counterparties in the market for instruments with short maturities, where unsecured borrowing steadily declined between 2007 and 2010. This partial move away from domestic exposure was not accompanied by greater reliance on non-domestic euro-area counterparties, to which relative exposures also decreased in 2010. Interestingly, however, exposure to non-euro area counterparties (labelled "Other" in Chart 7) increased substantially, from 23% in 2009 to 32% in 2010.

The mirror image of this situation was observed in 2010 in secured transactions (Chart 8): exposure to both domestic counterparties and non-domestic euro area counterparties increased at the expense of exposure to non-euro area counterparties. Also, relative to unsecured markets, a stabilisation in lending volumes has been observed since the peak of the financial turmoil.

OTHER INDICATORS

Unlike interbank lending, the market for short-term securities has shown only limited signs of integration since the introduction of the euro (according to the available indicators). The main reason for this phenomenon has been differences in market practices and standards. The ECB has long maintained the position that a well-functioning commercial paper (CP) market is needed to ensure efficient financing for firms and a smooth and timely transmission of monetary policy.

In order to mitigate the negative effect on the integration of the short-term paper in Europe, stemming mainly from differences in legal systems and regulatory requirements, the STEP (Short-Term European Paper) initiative was launched in June 2006. The initiative

3 All figures come from the annual Euro Money Market Survey. The survey is available on the ECB's website at www.ecb.europa.eu.

helped foster the integration of this market by promoting convergence of market standards.

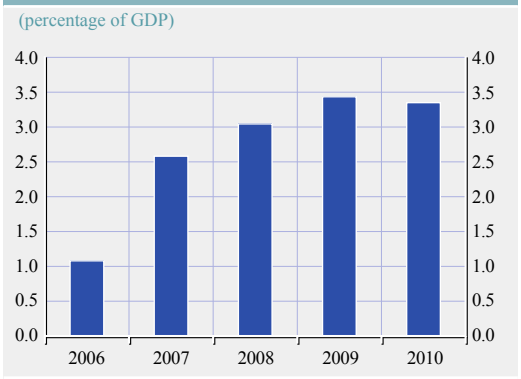
Euro-denominated commercial paper with the STEP label has increased substantially in terms of market share, even though the market itself has generally contracted since 2006, both in Europe and in the United States. The total outstanding volume of STEP debt securities amounted to €401.8 billion in January 2011, above the level prevailing when the turmoil started in August 2007. The outstanding amount of STEP debt securities as percentage of GDP has also increased since 2006 (see Chart 9). This market development reflects in part the fact that STEP is accepted by the Eurosystem for collateral purposes. In addition, in October 2008 the ECB's Governing Council decided to temporarily expand the list of assets eligible as collateral in Eurosystem credit operations to include STEP-labelled paper issued by credit institutions, i.e. certificates of deposit. This particular measure was discontinued at the end of 2010.

There were 168 active STEP-labelled programmes in place by end of January 2011.

The functioning of the money market is fully reliant on the smooth operation of the cash settlement system. Since 1999 large-value euro payments have been settled in TARGET (the Trans-European Automated Real-time Gross settlement Express Transfer system). In 2008 TARGET was replaced by an enhanced and technically more integrated version, TARGET2, which is based on a single shared platform allowing the provision of a harmonised service level with a single price structure.

In 2010 TARGET2 settled a daily average of nearly 345,000 transactions with a total value of €2.3 trillion. With a market share of 91% in terms of value and 60% in terms of number of payments processed, TARGET2 dominates the market for large-value payments in euro. The two latest members of TARGET2 are Slovakia, which joined in 2009, and Bulgaria, which joined in 2010. These latest additions brought the total membership to 23 EU central banks, of which 17 from euro area and 6 from non-euro area countries.

Chart 9 Outstanding amount of Short-Term European Paper (STEP) debt securities



Sources: ECB and Eurostat.

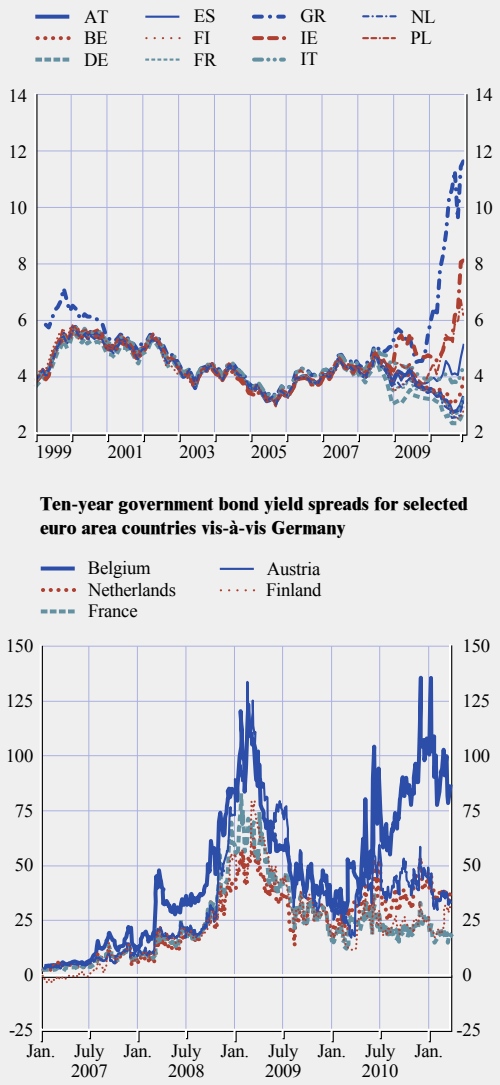
BOND MARKETS

The euro area bond market was one of the most integrated financial market segments before the financial crisis, according to the available indicators. After the convergence period, which ended with the introduction of the euro, differences in bond yields among euro area countries were never more than 50 basis points until August 2007. While low yield differentials stemming from potential underpricing of credit risk did not necessarily imply deeper integration, a host of indicators in previous reports had pointed to the fact that, during the pre-crisis period, low yield differentials were also accompanied by clear signs of co-movement in bond yields.

Since the onset of the financial turmoil, three separate phases have been observed (see the first panel of Chart 10). In the first phase, yields on sovereign bonds steadily diverged. In this phase, the impact of the crisis was heterogeneous, with some sovereign bond markets benefiting from a "flight to safety", while other euro area sovereign bond spreads rose sharply relative to the German benchmark, particularly in the last quarter of 2008 and the first quarter of 2009.

Chart 10 Nominal euro area ten-year sovereign bond yields

(percentages; basis points)



Sources: Thomson Reuters Datastream and ECB.

In the second phase, which lasted from March 2009 to the fourth quarter of 2009, sovereign bond spreads decreased substantially for most euro area countries, although spreads of a number of government bonds remained wider than they had been before the onset of the crisis.

The third phase, during 2010, was characterised by a renewed divergence of yield spreads between euro area countries and the German benchmark. On the one hand, bond yields of countries with severe fiscal problems increased, reflecting, among other things, the higher credit risk of the bonds issued by these countries. In this period, the uncertainty in sovereign bond markets interacted, in certain cases, with the confidence in the balance sheets of banks, some of which were known or thought to be holding large volumes of government bonds. Unequal or partial information about actual holdings of various types of government bond by the banking sector may have exacerbated the problem. On the other hand, bonds of several other euro area countries have been the target of a flight to liquidity, which reduced their yields substantially. Between these extremes, a whole range of volatile yield changes has been observed, with frequent sharp reactions to news and comments. In the presence of liquidity risk, spread differences may not be a good indicator of sovereign credit risk.

Despite this large divergence, the level of spreads vis-à-vis the German benchmark for a group of countries with broadly similar debt-to-GDP ratios and budget deficits is on average considerably lower than during the peak of the financial crisis (second panel of Chart 10). Nevertheless, it is clear that the financial turmoil and especially the sovereign debt crisis of 2010 have had a lasting effect on euro area bond markets.

It is important to stress, however, that the increase in yield spreads observed in recent periods does not necessarily signify, at least not entirely, a decline in bond market integration. The increase is likely to incorporate a large degree of reassessment and repricing of risk for the respective sovereign issuers. As such, yield spreads are not expected to return to pre-crisis levels when the market tensions subside.

Special Feature C reviews developments in the integration of euro area sovereign bond markets, the relative contribution of credit and liquidity risk to this process, and the effect of these developments on the corporate bond market.

Comparisons of bond yield differentials need to be carefully analysed to avoid giving a

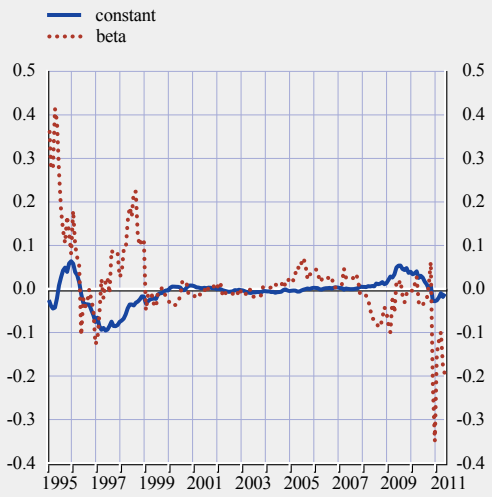
misleading indication of the state of integration of bond markets. Spread divergences may be due to differences in perceived credit risks, and as such they reflect the proper functioning of market discipline, rather than a lack of integration. To address this type of issue, most measures of integration in bond markets are based on the economic intuition that as integration progresses bond yields should be increasingly driven by common, rather than local, factors. A typical measure of cross-border integration of bond markets is based on a regression of changes in government bond yields of individual countries against changes in yields of a benchmark (beta convergence). As already mentioned in previous reports, the estimated slope coefficients varied substantially up to 1998, but converged afterwards towards perfect integration (expressed by a value of the regression coefficient close to 1). Greek government bond yields converged after 2001, when Greece joined the euro area. However, starting in 2008, the evolution of this beta convergence has clearly signalled potential problems in the integration of the government bond market. The problem became particularly acute over the course of 2010, with slope estimates for yields on Greek, Irish, Italian, Portuguese, and Spanish government bonds diverging substantially from 1 in the third quarter of the year.

In this context, the observed pre-crisis convergence of bond yields was partly driven by the fact that euro area countries were perceived to have an almost identical risk profile. Analogously, the divergence observed since the beginning of the crisis and its intensification in 2010, as already noted, is not necessarily an indication of a lack of integration, but rather an indication of investors' changing perceptions of default risks across euro area countries. A measured divergence of yields can therefore simply represent differential pricing (sometimes also underpricing or overpricing) of underlying risks.

To mitigate this problem, Chart 11 (see also Chart C7 in the Annex) presents the difference from perfect integration values of the estimated constant and slope coefficients of a similar model where sovereign risks are controlled with country rating dummies. Perfect integration would be implied by a value of 0 for the constant and 1 (0 in Chart 11 as it is normalised by subtracting 1) for the slope coefficient, assuming that no variables other than sovereign risk are affecting the change in yield. This indicator shows that even after accounting for differences in sovereign risks there are increasing signs of divergence from the theoretical benchmark value. The evidence suggests that spreads in the government bond market remain even after controlling for country credit risk, and that liquidity risk premiums are likely to be non-negligible. However, the divergence from zero for the intercept indicator is considerably lower than during the peak of the financial crisis in the fourth quarter of 2008 and the first quarter of 2009, implying that in 2010 country-specific sovereign risk was the main driver of the departure of yields on government bonds from a situation of supposedly perfect integration. Chart 11 thus confirms that a divergence of spreads is not always an indication of a lack of integration.

Chart 11 Evolution of intercept and beta coefficients for ten-year government bond yields, adjusted for sovereign risk

(difference from perfect-integration values)



Sources: Thomson Reuters Datastream and ECB calculations.
Note: The benchmark is the ten-year German government bond.

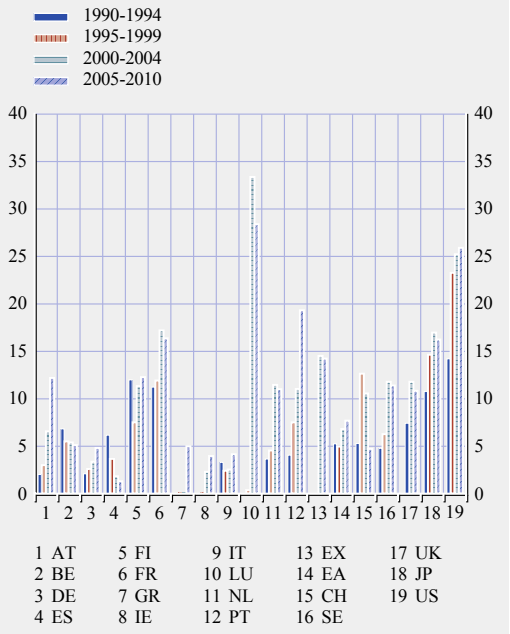
Turning the focus to the euro area corporate bond market, Chart 12 reports the development of debt securities issued by the private sector over the last two decades. Like the indicator of capital market size, it uses five-year averages to smooth out short run fluctuations. This financial development indicator shows that over the last few years there has been stagnation, and sometimes even a decline, in bond issuance in most euro area and benchmark countries, partly reflecting the impact of the financial turmoil. There is considerable heterogeneity of bond issuance across the euro area. In this regard, it must be borne in mind that companies may well take advantage of foreign subsidiaries when issuing bonds in order to take advantage of lower transaction costs and/or more favourable fiscal regimes. Despite the impetus from the introduction of the euro, the overall level of issuance in the euro area is smaller than in many other countries. 2010 saw a stabilisation in the higher volume of issuance carried out by euro area non-financial corporations in 2009, signalling a sustained return to this form of financing.

Progress in integration in this market can be assessed by measuring the relative importance of country components versus common factors in explaining risk-adjusted yields. As integration advances, the proportion of the total yield spread variance explained by country effects should decrease. To help identify the relevant factors, the within-country dispersion in CDS premia for two groups of firms producing relatively homogeneous products – the leading communications firms and the largest commercial banks in each country – are compared. Low dispersion would indicate a high degree of integration.

Chart 13 tracks the development in this respect since 2004. The country dispersion of CDS spreads for both commercial banks and

Chart 12 Outstanding amounts of debt securities issued by private non-financial corporations

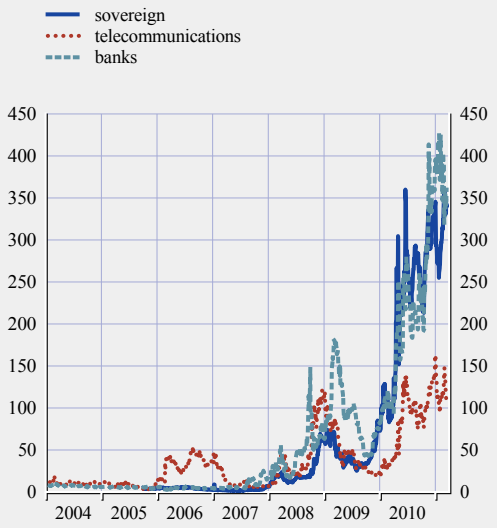
(percentage of GDP)



Sources: BIS, ECB, Eurostat and IMF.

Chart 13 Dispersion in the five-year CDS premia among sovereigns, leading telecommunications firms and commercial banks across euro area countries

(daily data; basis points)



Sources: Thomson Reuters Datastream and ECB.
Note: For detailed information on the construction of the sectoral indices, see Chart C8 in the Statistical Annex.

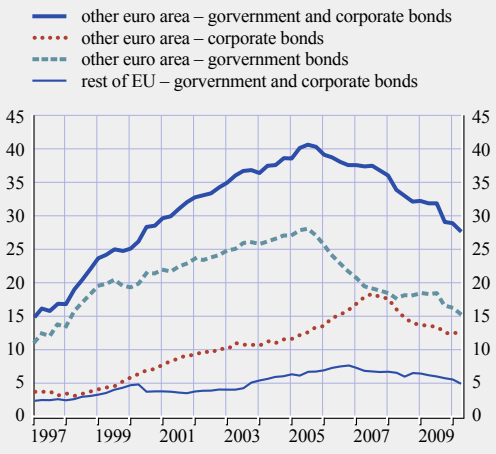
telecommunications firms was close to zero before the financial crisis, but it rose sharply after August 2007 and especially after September 2008. In the initial stages of the crisis, the increase in dispersion was most pronounced for commercial banks. However, at the end of 2009 the dispersion in five-year CDS premia on government bonds once again increased rapidly. Commercial bank CDSs followed suit, erasing all the gains realised in the wake of the ECB Governing Council's decision of 5 March 2009 to continue the fixed rate tender procedure with full allotment and, later, the implementation of the covered bond programme in July 2009.[4] In 2010 the dispersion in telecommunications firm CDSs rose too, but remained much lower than that of commercial banks and sovereign issuers. The indicator broadly suggests that the markets for commercial bank bonds and the market for government bonds have recently been subject to considerably more perceived credit risk than in earlier phases of the crisis.

Quantity based indicators also point to a declining degree of measured integration of the corporate bond market since the onset of the crisis, a process which was not reversed in 2010. Chart 14 illustrates that a reversal of the upward trend towards geographical diversification of governement bonds had been observed also before the crisis. As a result, cross-border holdings of long-term debt securities by MFIs decreased from almost 41% in 2005 to 29% in the beginning of 2010. Similarly, cross-border holdings of debt securities issued by euro area governments almost halved over the same period, declining from 28% to 16%. Most of this decline was due to substitution by domestic rather than by rest-of-the-world assets. Unlike previous years, when MFIs were substituting between government and corporate bonds in their portfolios, 2010 saw a decline in both government and corporate bond holdings.

The integration of bond and equity markets relies greatly on the degree of integration of the underlying infrastructure, in particular of securities settlement systems (SSSs) and central counterparties (CCPs).

Chart 14 Share of MFI cross-border holdings of debt securities issued by euro area and EU non-MFIs: outstanding amounts by residency of the issuer

(share of total holdings excluding the Eurosystem; percentages)



Source: ECB.
Note: This indicator shows the geographical counterparty diversification of securities held by euro area MFIs vis-à-vis the non-MFI sector as a share of the total outstanding amount. Debt securities issued by domestic and rest of the world non-MFIs are not displayed on the chart.

There were 22 legal entities operating central securities depositories (CSDs) in the euro area in 2010, unchanged relative to the previous year since no new country had joined the euro area. This number increased to 23 following the introduction of the euro in Estonia in 2011.

In recent years, concrete initiatives have been taken to achieve the technical integration of the clearing and settlement processes of different providers. The most significant initiative in this regard is the Eurosystem's pan-European securities settlement platform TARGET2-Securities (T2S), which is intended to come into operation in 2014.

EQUITY MARKETS

Euro area equity markets had achieved a considerable degree of integration before entering the financial turmoil. In addition, despite the sharp decline in equity prices between September 2008 and March 2009, the

4 See Chart 54 in Special Feature C for an in-depth illustration of developments in bond spreads of the largest banks in selected euro area countries during 2010.

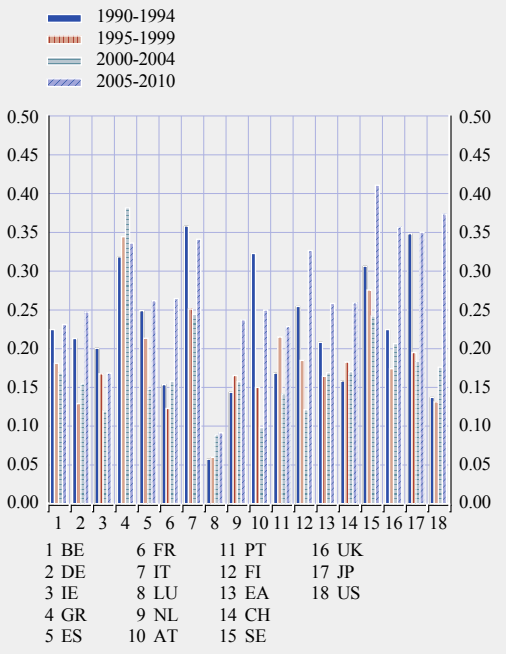
cross-border integration of equity markets was less affected by the turmoil than integration in other market segments, such as the euro area money market. Most available indicators suggest that the integration of these markets strengthened in 2010.

Chart 15 displays the synchronicity of stock returns across euro area and reference countries. The aim of this indicator is to summarise the information processing capacity of equity markets in terms of the synchronicity of firms' stock returns within a market. If firms' stock prices are driven by market-wide or global factors, then the prices will tend to move together, indicating that little firm-specific news is incorporated into prices. A high synchronicity of stock returns within a market indicates a low information content of individual prices. The indicator itself is obtained from the explained variance of stock returns when regressing them on a number of market-wide and global factors. Higher bars indicate higher synchronicity of stock returns. Comparing this with benchmark countries, the information efficiency of equity markets is somewhat higher than Japan, the United Kingdom, the United States, and especially Sweden. While the information efficiency of stock markets increased in the 1990s, most equity markets have become somewhat less efficient at incorporating firm-specific news into stock prices over the last five years. This is largely a result of the behaviour of stock markets in the fourth quarter of 2008 and the first quarter of 2009, when the general loss of confidence by investors globally increased the variation in returns that can be explained by common market-wide shocks. Since then, the information content of stock prices has somewhat increased.

It is generally more difficult to assess the degree of integration of equity markets than of money and government bond markets, because equity returns are not directly comparable. While in theory in a perfectly integrated market only common risk factors are priced, in practice it is difficult to disentangle the impact on equity returns of changing economic fundamentals

Chart 15 Pricing of firm-specific information in the stock market

(R^2 statistics)

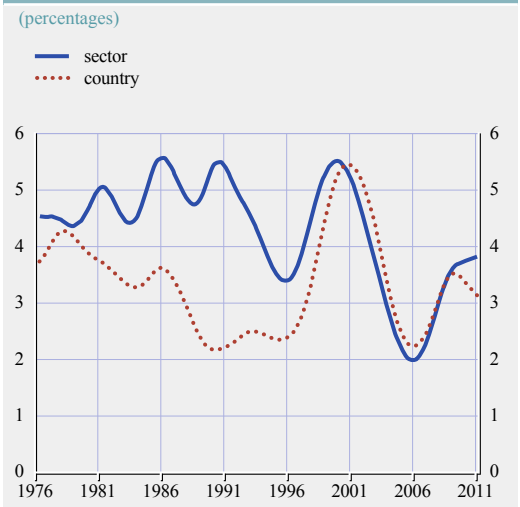


Sources: Thomson Reuters Datastream and ECB calculations.

from changes in the pricing mechanism. One simple indicator of equity market integration compares the country and sector dispersions of monthly stock returns over time. Dispersions reflect diversification opportunities: the greater the dispersion, the lower the correlation, and therefore the greater the benefits in terms of risk reduction from a proper diversification strategy. Chart 16 shows that since 2001 the benefits of diversification through sector-based equity investment strategies have been at least of the same size as those obtained through country-based strategies. Such results are generally consistent with a paradigm change in the asset management industry, moving from country-based to sector-based equity investment strategies. However, since April 2009 country and industry dispersion have diverged, indicating a somewhat greater home bias.

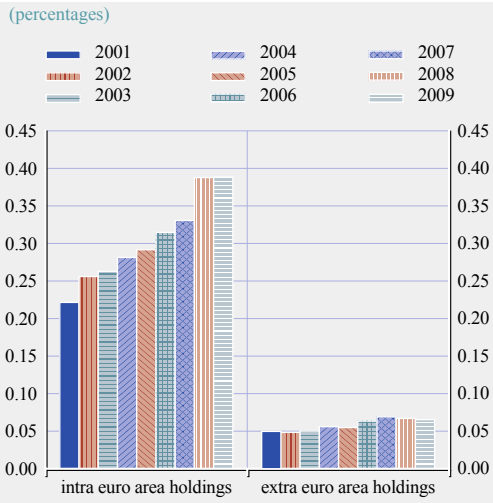
A complementary, direct strategy to quantify the impact of integration in equity markets is

Chart 16 Filtered country and sector dispersions in euro area equity returns



Sources: Thomson Reuters Datastream and ECB calculations.

Chart 17 The degree of cross-border holding of equities issued by euro area residents



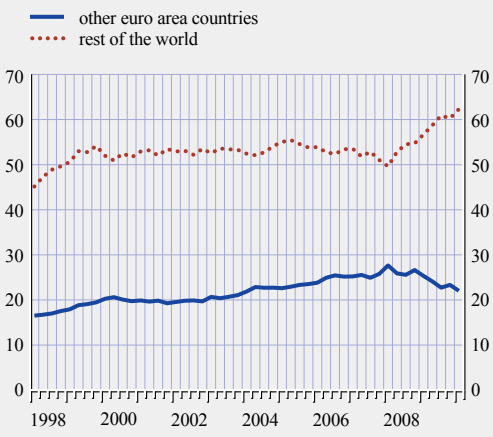
Source: ECB.

to look at the cross-country asset allocations in investors' portfolios. In a truly integrated market, investors should not prefer domestic over foreign equities, all other things being equal. Evidence of increased home bias may therefore indicate the appearance of psychological or physical barriers to cross-border investments.

Quantity-based measures also indicate a rising degree of integration in equity markets (see Chart 17). By 2010 almost 40% of the equity holdings of euro area residents were issued in other euro area countries (as a share of their total holdings of shares issued in their own country and elsewhere in the euro area), whereas the share of euro area equity assets held outside the euro area remained at a much lower level and increased only slightly.

Meanwhile, in 2010 there was a continuation of the trend witnessed in 2008 and 2009 for euro area institutional investors to move out of euro area equities and into equities issued elsewhere in the world. Chart 18 shows what share of investment funds' total holdings of all shares and other equity (excluding investment fund shares/units) is issued by euro area residents from outside the Member State in which the investment fund is located. While between 1999 and 2009 this share increased from 17% to 26%, over the course of 2010 it declined to 23%. At the same time, the percentage of investment funds' total holdings of shares and other equity issued by residents of the rest of the world continued on an upward trend in 2010. This might reflect a move away from assets

Chart 18 Investment funds' holdings of equity issued in other euro area countries and the rest of the world



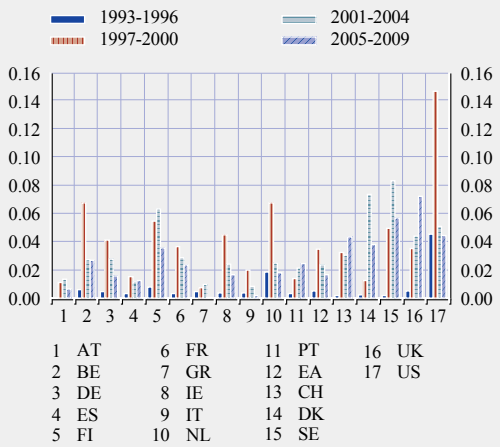
Source: ECB.

associated with specific euro area countries that have recently come to be perceived as risky.

Finally, an important indicator of risk capital finance is venture capital (VC). VC is a particular form of finance, usually provided by professional investors to young small research-based companies, to which they also act as advisors or even managers, with the main goal of taking them to an initial public offering or a trade sale. In that sense, it is a potentially important source of finance for small and innovative firms, well suited to fostering the process of technological innovation. At the same time, it is very sensitive to general stock market developments, to how liquid debt markets are, and to investor concerns about future growth opportunities. For these reasons, the financial turmoil had an immediate effect on the euro area VC industry. Chart 19 shows that VC financing was on average lower during the 2005-2009 period than during the 2001-2004 period. This decline was driven partly by a sharp drop in risk capital investment when debt markets seized up in late 2008. This decline was somewhat sharper than in benchmark countries like the United States, pointing to a difficult period for the European VC industry, which in some countries was relatively underdeveloped even before the financial turmoil. The decline between 2007 and 2009 was particularly large because 2006 and 2007 were boom years.

Chart 19 Venture capital financing, in particular early investment stage

(percentage of GDP, by country of management)



Sources: European Private Equity and Venture Capital Association, PricewaterhouseCoopers, and Eurostat.

Regarding market infrastructures, the euro area securities settlement infrastructure for equities is even less integrated than the one for bonds. For instance, while cross-border settlement of bonds is largely concentrated in two international CSDs, international settlement of equities still relies heavily on domestic CSDs. In addition, other qualitative barriers – such as differences in settlement cycles or the handling of corporate events and taxation – continue to hinder progress in the integration of equities infrastructures considerably.

The number of CCPs for equity instruments in the euro area declined from 13 to 10 in the period from 1998 to 2008 as a result of some progress in consolidation. In 2008 there was a considerable restructuring at the clearing level. Following the Markets in Financial Instruments Directive (MiFID) and the introduction of multilateral trading facilities, two new CCPs have been established to serve these new trading facilities. 2010 brought no significant further developments.

BANKING MARKETS

Before the financial turmoil, the available indicators of financial integration generally signalled a lower degree of integration of euro area retail banking markets relative to euro area wholesale banking markets. This was due to a number of legal, regulatory, and information-related barriers, but also to the fragmented underlying infrastructure and payment instruments. This explains to a large degree why, during the financial crisis, there were fewer signs of domestic retrenchment in retail banking markets than in cross-border wholesale activities. Nevertheless, since the global financial crisis was to a large degree a crisis of confidence in banks, banking activities were affected considerably more than other market segments. While banking markets in

2010 initially showed signs of a normalisation of lending conditions, a number of indicators confirm that this process is still relatively slow.

One crucial element that emerged during the crisis was the degree of coordination of domestic bank support measures, especially with reference to cross-border banks.

Special Feature A contains an examination of the state of crisis management and resolution in the EU, seen from the perspective of how they may have affected financial integration. The Feature presents evidence for domestic retrenchment of the euro area banking sector; the reduction of cross-border activities was in part due to some support operations that required as a condition a streamlining of non-core operations. It also discusses how various crisis management measures currently under discussion at European level (e.g. bank resolution funds, stability levies, reform of deposit guarantee schemes, resolution framework for cross-border financial firms) are expected to increase coordination and aim at ensuring a better functioning of the internal financial market in the future.

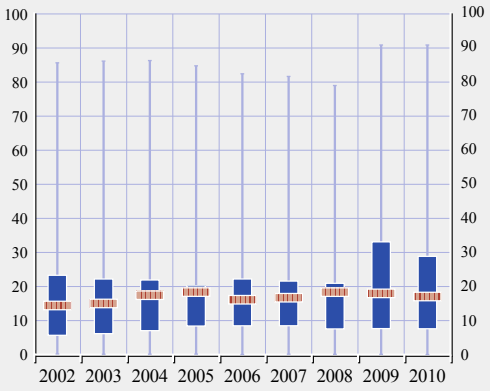
STRUCTURAL INDICATORS

Indicators confirm that the euro area retail banking markets, which were less affected by the financial turmoil, continue to be somewhat fragmented, whereas the euro area interbank (or wholesale) market and capital market-related activities, which were more affected by the turmoil, have made a faster return to pre-crisis levels of integration.

Cross-border activity of banks is one prime indicator of how the process of euro area integration is developing in the post-crisis phase. One simple way to measure the development of cross-border activity is to monitor the establishment and activity of foreign branches and subsidiaries over time.

Chart 20 Dispersion of the total assets of foreign branches and subsidiaries of euro area banks across euro area countries

(percentage of the total assets of the euro area banking sector)



Source: ECB.
Note: The lower and upper markers show the minimum and maximum observations among euro area countries. The bottom and top of the box show the first and third quartile. The red line shows the median share of assets of branches in all euro area countries.

Chart 20 shows that, in spite of a generally rising tendency since 2001, the share of assets held by foreign branches and subsidiaries established in other euro area countries continues to be rather limited. At the same time, however, it is noteworthy that the crisis has not induced a setback in the degree of cross-border penetration of banking institutions. After a moderate tendency towards a more pronounced domestic business model among euro area banks, on average, in the wake of the financial turmoil, a reversal has been observed since 2009, although, on the whole, these movements were rather small. In addition, the increase in the overall dispersion observed in this indicator suggests that the cross-country differences in the degree of integration have increased in the wake of the financial crisis.

Another indicator of the cross-border presence of euro area banks is their cross-border merger and acquisition (M&A) activity, as shown in Chart 21 below. The total value of such deals has steadily declined since 2008.

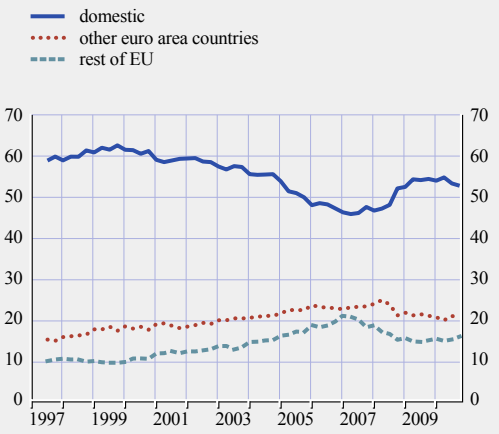
Chart 21 Euro area cross-border bank M&A activity

(value of intra euro area cross-border M&A and absolute numbers)

Sources: Bureau van Dijk (Zephyr database) and ECB calculations.

Chart 22 Interbank (MFI) loans: outstanding amounts by residency of the issuer

(share of total lending excluding the Eurosystem; percentages)



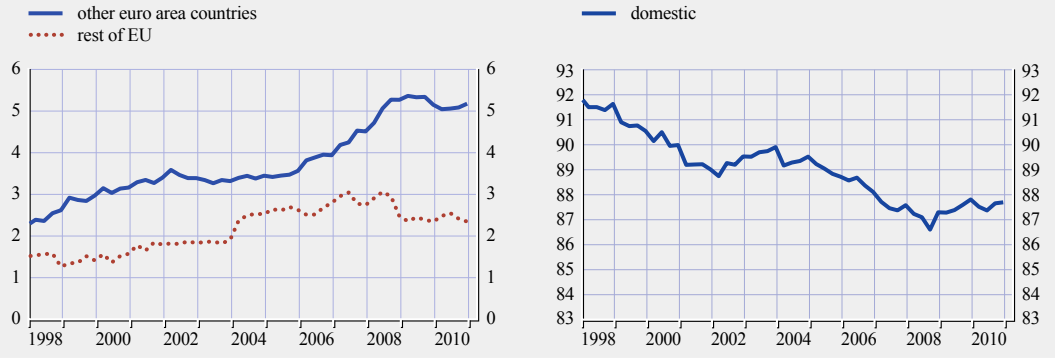
Source: ECB.

ACTIVITY-BASED INDICATORS

The evidence in this section confirms that markets which were historically more integrated were more affected by the turmoil, but that they also tended to re-integrate more rapidly in the subsequent period. Chart 22 shows that the share of loans granted to MFIs from MFIs of other euro area countries increased in the ten years before the turmoil at the expense of the domestic share. After the start of the financial crisis, this share declined somewhat, but it stabilised at levels of integration that were, nonetheless, deeper than in the pre-euro period. As in 2009, in 2010 the share of cross-border interbank lending in total interbank lending still revealed a substantial level of integration, with around 45% of all interbank loans being extended across borders. The share of domestic lending activity, which had declined from 61% in 1999 to 46% at the onset of the financial crisis, has increased again to almost 55%. It remains to be seen whether this is just a temporary reversal of the process of gradual growth in cross-border lending activity which has been seen since the introduction of the euro.

Chart 23 MFI loans to non-MFIs: outstanding amounts by residency of counterparty

(share of total lending excluding the Eurosystem; percentages)



Source: ECB.

On the other hand, Chart 23 shows that retail cross-border lending by euro area MFIs to non-bank borrowers in other euro area countries was slightly above 5% in the fourth quarter of 2010, which is slightly lower than the record level of 5.4% seen in the first quarter of 2009. Cross-border lending to borrowers in the rest of the EU stood at around 2.3%.

PRICE-BASED INDICATORS

The conclusion that the financial crisis had a significant negative effect on banking integration is confirmed by our price-based indicators. Chart 24 reports the euro area cross-country dispersion of bank interest rates applied to new loans to non-financial corporations. For most instruments and maturities, this dispersion increased substantially in the wake of the crisis, and the signs of re-integration since the last report are mixed. In particular, the dispersion in interest rates on loans of short maturities (up to one year) is at twice its pre-crisis level. At the same time, the dispersion in rates on loans of longer maturities shows signs of a more rapid return to normal. The dispersion in rates on small loans (up to €1 million) is roughly at pre-crisis levels, while the dispersion in rates on large (and in particular, long-term) loans is at half its crisis peak levels, having returned to where it was on average during the 2003-2007 period. While, in general, differences in bank interest rates can be attributed to institutional factors and the structure of the banking industry, both the increase in dispersion of loan rates during the crisis and the observed re-integration for some instruments and maturities in 2010 should rather be attributed to variations in bank financing conditions and different conditions in domestic economies, like credit risk.

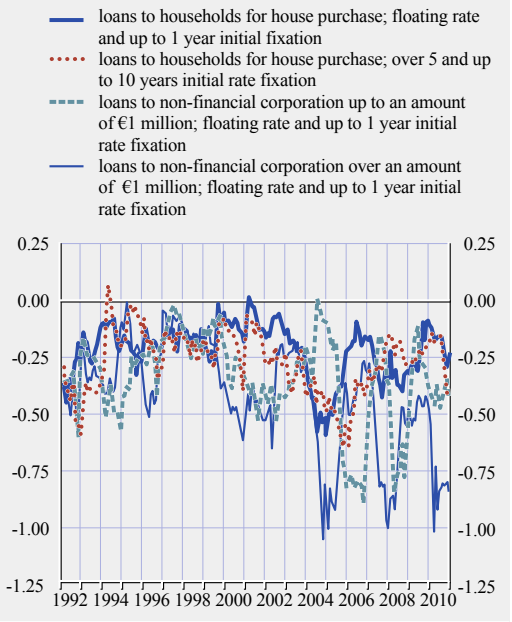
Chart 25 reports the evolution over time of the estimated slope coefficients of the regression of changes in spreads (and lagged spreads) between a country-specific interest rate and a

Chart 24 Cross-country standard deviation of MFI interest rates on new loans to non-financial corporations

(basis points)

Source: ECB.

Chart 25 Beta convergence for selected banking retail interest rates



Source: ECB.

benchmark (the German rate in this case) for selected interest rates (see Statistical Annex for details). While the consistently negative coefficient since the early 1990s signals continuous convergence over time, the speed of convergence somewhat decreased during the crisis. Lately re-integration, as measured by this indicator, seems to have picked up again, with the beta convergence based indicator for most customers and maturities again at levels observed in the pre-crisis period. The evidence thus confirms the cautiously optimistic message coming from the dispersion-based indicator, especially for smaller loans and for instruments of longer maturities.

OTHER INDICATORS

The low level of retail banking integration is also associated with a relatively high level of fragmentation of retail payment infrastructures, where procedures, instruments and services offered to customers are not yet harmonised. This shortcoming is being addressed in the context of the Single Euro Payments Area (SEPA) project. In SEPA, payment systems and infrastructures are expected to establish Europe-wide reach and become pan-European. Although integration is still low in terms of the concentration ratio of retail payment systems in the euro area, in 2010 the five largest payment systems in the euro area continued to process the bulk of the total market volume.

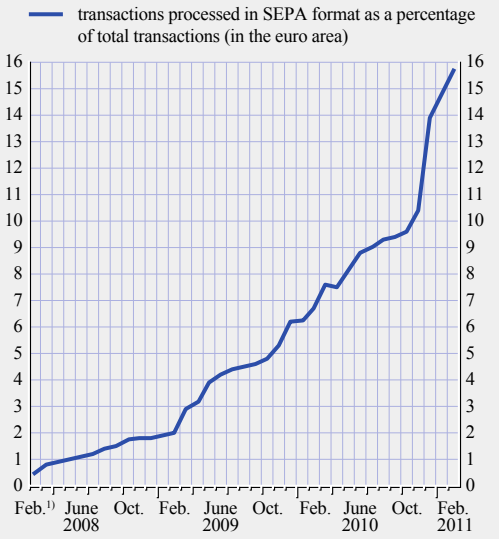
Measuring the progress of migration to SEPA, the euro area SEPA credit transfer (SCT) indicator shows that the use of the SCT has been rising steadily since the launch of SEPA on 28 January 2008; by February 2011 it had increased from 0.5% to 15.7%. It is expected that the migration will continue on this upward trend for the near future (Chart 26).

INSURANCE COMPANIES AND PENSION FUNDS

This year's report offers for the first time a detailed look into the financial integration role played by insurance companies and pension funds (ICPFs). Since the start of the euro area, ICPFs have become increasingly important financial players and promoters of integration. As of 2010, ICPFs account for 14% of the financial assets of the euro area financial sector, hold 20% of the debt securities issued by euro area general government, and 57% of the mutual fund shares issued by euro area investment funds. Their cross-border activity, while still limited, is non-negligible. For example, in 2010 the share of total financial assets held by the sector which are issued by domestic counterparties, represented around 60% of total financial assets (right-hand scale), while the remaining 40% was split between those issued by other euro area countries and the rest of the world (left-hand scale) (see Chart 27). At the same time, there seems to have been an increase in the sector's home bias starting at the beginning of 2009, characterised by an increase in the already high domestic proportion of their portfolio investments to the detriment of assets issued outside the euro area.

Chart 26 Credit transfer transactions processed in SEPA format

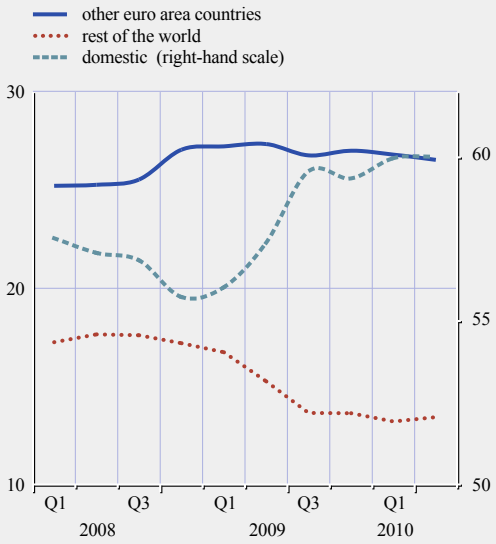
(percentage of total transactions)



Source: ECB.
1) 28 January-29 February.

Chart 27 Insurance corporations and pension funds: geographical breakdown of assets by location of counterparty

(percentage of total assets)



Source: ECB.

Special Feature B looks in detail at these developments, utilising data from new time series. It also focuses on a number of recent institutional initiatives affecting ICPFs, like the Solvency II requirements for insurance companies and the ongoing pension reforms, which are also expected to affect the integration role played by these two types of financial market participant.

CHAPTER II

SPECIAL FEATURES

A. CRISIS MANAGEMENT AND RESOLUTION: A FINANCIAL INTEGRATION PERSPECTIVE

The financial crisis has given rise to a wide array of measures and interventions by national authorities, undertaken at various stages of the crisis with the aim of restoring financial stability. These actions were undertaken with a predominant focus on domestic economies and were initially not coordinated at EU level. This Special Feature discusses the impact these measures have had on EU financial integration and competition, and the likely effect of some of the policy initiatives currently under consideration at European level in the area of crisis management and resolution. The main conclusion is that the absence of adequate crisis management and resolution arrangements has resulted in a loss of financial integration, and that this points to a need for solutions which are more European.

1 INTRODUCTION

Following the recent financial crisis, various exceptional measures were taken by national governments, central banks and international institutions to support their ailing banking sectors. At first, such measures were taken without an adequate degree of coordination at the European level, though this was somewhat improved at a later stage.[1] Some of these support measures raised level playing field concerns as they may provide an unfair advantage to national financial institutions at the expense of financial institutions of other Member States. Even where ailing banks were supported by the private sector (e.g. through take-overs), there may be competition concerns resulting from the increased size and market power of the new group.

The primary goal of both national and coordinated aid measures was to secure the stability of the financial system at a time of crisis. However, it has been argued that an unintended consequence of the conditions imposed by the European Commission (e.g. divestitures) for its approval of some of the government support measures could result in a de facto retrenchment of banks within national borders. State aid and merger control rules are applied by the European Commission in order to safeguard the internal market. The various crisis management measures currently under discussion at European level (e.g. bank resolution funds, stability levies, reform of deposit guarantee schemes (DGSs), a resolution framework for cross-border financial firms) should increase coordination and are aimed at ensuring the proper functioning of the internal market in the future.

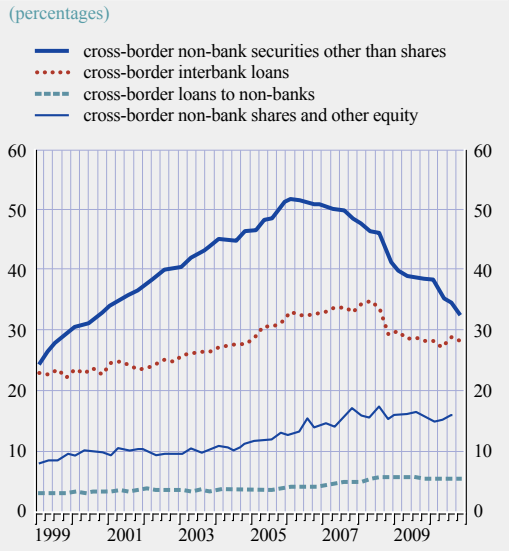
The purpose of this Special Feature is to review the aforementioned measures from the financial integration and competition perspectives. Section 2 provides an overview of developments in cross-border banking during the crisis while Section 3 reviews the policy measures taken to ease the effects of the crisis. Section 4 examines the initiatives presently being discussed at EU level to reinforce the crisis management framework and their likely impact on competition and cross-border concerns. These include shareholder rights, a stability levy, bank resolution funds, an EU-wide DGS and thoughts on a resolution framework. Section 5 concludes by giving an overall evaluation from a financial integration perspective.

2 DEVELOPMENTS IN CROSS-BORDER BANKING DURING THE CRISIS

Since the beginning of the financial crisis, a considerable decline in financial integration has been observed, as shown by price-based indicators and by falling volumes in cross-border banking activities. Cross-border provision of financial services in the euro area has declined rapidly since the second half of 2008, in particular in wholesale and securities-related activities.[2] By contrast, retail banking integration, which had originally remained at a lower level, seems to have been less affected.

1 Coordination among central banks, within and outside the EU, was very strong throughout the crisis in the area of liquidity providing measures. In other areas, however, policy actions were less coordinated, though coordination improved at a later stage.
2 See also ECB – EU banking structures report, September 2010.

Chart 28 Cross-border provision of financial services in the euro area – assets



Source: ECB.
Note: Cross-border activity is expressed as a percentage of the total provision of financial services in the euro area.

Banks have clearly been relying more on domestic than on foreign counterparties in their transactions (see Chart 28). Comparing the development of the growth rates for foreign loans and domestic loans, the focus on the domestic markets has increased in the majority of the Member States since the beginning of the crisis.[3] However, since the total amount of foreign lending activity accounts for only 13% of total lending of European banks, a given absolute change in foreign lending will have a proportionally larger effect than the same change in domestic lending.

The differentiation in the cutbacks in domestic and foreign lending may have several causes, but these cannot be classified separately due to data limitations.

First, the deterioration in macroeconomic conditions was probably more significant in host countries than in home countries.

Second, there may have been changes in the business models of European banks. Pressure on banks to strengthen their capital positions rose due to increasing write-downs and an expected tightening of capital standards. This might have led banks to reduce leverage in foreign markets in particular. The large differences between the reactions of individual countries (for national funding and liquidity reasons)[4] may also have been a factor when banks assessed the impact of the conditions prevailing in various countries on their business models. In addition, the refocusing on core markets could have had an influence on decisions by banks to dispose of non-core assets, and thus on their presence in foreign markets regarded as peripheral. A cutback in foreign lending may also reflect a loss of confidence in foreign markets and a home bias owing to better knowledge of and more background information on home markets compared with foreign markets. In addition, banks may also have acted in response to government intervention. These are some of the reasons why banks may have decided to reduce foreign borrowing and lending disproportionately as a result of the financial crisis.

Third, another potential explanation for a preference for domestic lending over foreign lending could be that national governments have asked banks to maintain or increase their lending to the real economy. In the aftermath of the financial turbulence, a substantial concern was that the financial crisis would impact the real economy as banks cut down their lending. Therefore, in some instances, policy makers have encouraged banks to keep domestic lending high in order to mitigate the impact on the home economy. Banks may have tried to rebalance this situation by cutting lending in foreign markets.

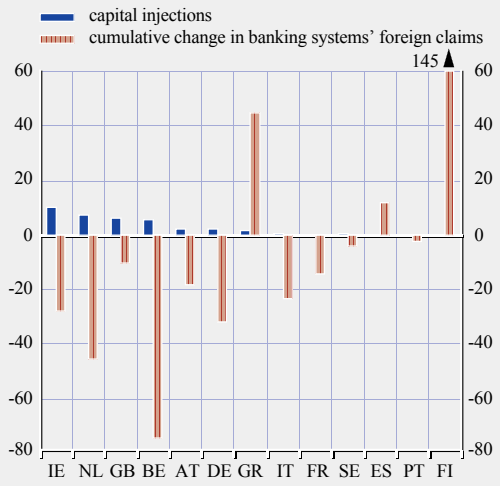
Fourth, the potential need for banks to draw down capital from state aid programs might have played a role in reducing lending outside the home country. Furthermore, banks which

3 In ten of the sixteen countries of the EMU, the growth rates of domestic loans to non-MFIs have been higher or less declining than growth rates of foreign loans in the period from Q2 2008 to Q2 2010 according to ECB statistics.

4 See Bank of England (2010), "Understanding international bank capital flows during the recent financial crisis", *Financial Stability Paper*, No 8, September 2010.

Chart 29 Government support to banking systems

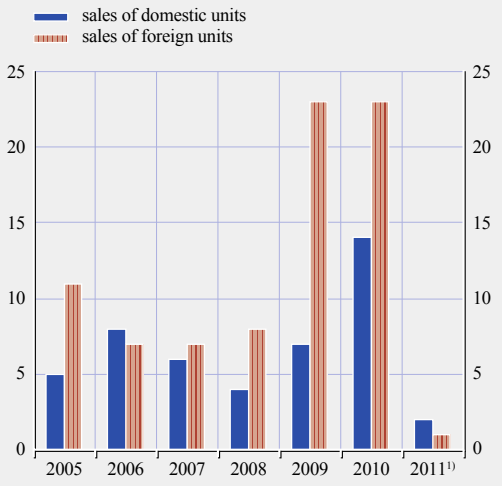
((percentage of 2010 GDP) and cumulative change in their foreign claims (percentage))



Sources: BIS (for foreign claims) and ESCB.
Note: Foreign claims from end of Q1 2008 to end of Q3 2010; accumulated capital injections from 2008 to 2010; 13 EU countries.

Chart 30 Sales of foreign units and domestic units

(absolute figures)



Source: Bankscope Zephyr.
Notes: The data cover a sample of 19 European banks which received state aid in 2008/2009 and include deals announced since 2005, completed or pending, with a minimum final stake of 15%, in which those banks act as vendors.
1) Until 22 March 2011.

had already received state aid had to fulfil national or supranational requirements to get approval for their restructuring or viability plans. These sometimes explicitly mandated, but more often implied, the closure, reduction or sale of foreign business areas to concentrate on core domestic activities.[5] Chart 29 below shows the development of foreign claims, compared to government support in terms of capital injections. The majority of these countries experienced an increase in capital injections while foreign claims declined, with the exception of Finland, where no government support was provided and an increase in foreign claims occurred. This may provide an indication of a relationship between capital injections and foreign claims but other reasons may also have influenced the results.[6]

However, banks that received state aid[7] have increasingly sold off business units, branches and subsidiaries since the beginning of the crisis. In general, this development was expected because of the banks' need to strengthen their capital position. It is worth noting that these banks have divested more heavily from foreign units than from domestic units since 2009 (see Chart 30). These foreign units were mainly based in non-European countries. In most cases the new owners were from the same country as the unit being sold. For example, a foreign unit in country x of a bank based in country y would have been sold to a bank which is domiciled in country x.

5 To offset the market-distorting effects of the aid measures, the European Commission concluded that appropriate and proportional measures had to put into place. In many cases banks had to divest non-core business units. For example, in the case of KBC, these measures amounted to around 17% of KBC's total balance sheet, including the sale of Centea (banking) and Fidea (insurance), businesses in central and eastern Europe and various merchant banking and leasing ventures. For further details, see Commission staff working document – Accompanying the Report from the Commission on Competition Policy 2009, COM(2010) 282 final, June 2010.

6 Based on a similar comparison, the Bank of England draws the conclusion that the national banking systems "that have tended to cut back lending relatively sharply were the ones that have received the largest capital injections from their governments", see Bank of England (2010), "Understanding international bank capital flows during the recent financial crisis", *Financial Stability Paper*, No 8, September 2010.

7 See reference in footnote 5.

This downsizing therefore had a negative impact on cross-border integration. An important role in this development may have been played by the restructuring requirements for state aid of the European Commission. While the aim of these requirements was to secure a level playing field in the EU financial market, there are indications that they may have had negative side effects from the perspective of financial integration in Europe.

In summary, the above analysis provides some evidence that integration in the European banking market lost momentum from the beginning of the financial crisis onwards. It will be important to monitor whether the observed developments continue or reverse once state aid and guarantees are phased out.

3 INTERVENTIONS DURING THE CRISIS

The preceding analysis provided evidence of domestic retrenchment of European banks during the financial crisis. This retrenchment may be linked at least partly to public intervention in the banking sector to stem the crisis. Such intervention can also affect competitive conditions between domestic and foreign banks.

In the first phase of the crisis, most countries had to act quickly, and hence unilaterally, and they addressed individual problems ad hoc. This may have distorted competition in three ways.[8] First, recapitalisations in one Member State may mean that banks in that state enjoy a competitive advantage over banks from other Member States in the absence of appropriate, risk-based justification. This is not compatible with a level playing field and could even lead to a subsidy race. Second, if a scheme is open to banks within a Member State without appropriate differentiation between risk profiles of banks this may give an undue advantage to those banks that have been the least successful or sustainable. Third, recapitalisations can change access conditions to money markets and disadvantage banks which do not have access to public funding and seek their funding in the market.

The EU was conscious of these problems resulting from public intervention and therefore, even before the crisis, had guidelines in place to ensure a level playing field within the Single Market. These concern three areas of competition law: merger control, antitrust and state aid.

Merger control is applied in cases where national authorities try to prevent a merger or takeover of a domestic firm by a foreign firm due to protectionist motives. A framework for the exchange of views and further proceedings is in place.

Antitrust and cartel rules are another important safeguard to preserve competition and limit abuse of market power. Cartels are often international and require an international response to sanction them accordingly. The European Commission checks whether national laws allowing certain cartels (e.g. postal services or energy providers) are compatible with EU law.

State aid is direct, often financial, aid from national governments provided to individual firms or under an aid plan covering an economic sector. State aid must be approved by the European Commission to be admissible. If inadmissible state aid has been paid out, it can be recovered by the European Commission. However, there is no additional penalty. State aid has been the most important of the three areas of competition law in the recent past, since most crisis measures fall under this category.

As it became apparent that, owing to the crisis, many Member States felt the need to support their banks, the European Commission clarified the application of state aid rules in a Communication[9]

8 See Communication from the Commission – The recapitalisation of financial institutions in the current financial crisis: limitation of aid to the minimum necessary and safeguards against undue distortions of competition (OJ C 10, 15.1.2009, p. 2).

9 Communication from the Commission – The application of State aid rules to measures taken in relation to financial institutions in the context of the current global financial crisis (OJ C 270, 25.10.2008, p. 8).

in October 2008 to make the decision-taking more predictable. The European Commission also issued further communications in 2009 detailing the use of recapitalisations[10], impaired assets[11] and restructuring measures.[12]

In order for a state aid to be authorised by the EU, the bank has to submit a restructuring plan explaining how the bank's underlying problems would be remedied and how soon the bank will be viable without state aid, as well as giving going-concern and gone-concern solution alternatives. This required a reduction of non-core activities. Since these activities were often peripheral in both the business and the geographical sense, the restructuring plans resulted in reduced cross-border business and hence contributed towards a reduction in financial integration, even though this was not intended by the European Commission.

Another impediment to a level playing field was the lack of an adequate resolution framework for cross-border banks. This resulted in an uneven resolution of some of the European cross-border banks that entered into difficulties following the crisis. The case of the Icelandic banking sector (see Box 1) as well as Dexia and Fortis[13] are examples of how differently cross-border rescue efforts can turn out, with much depending on the cooperation between supervisory or resolution authorities in the countries concerned in a crisis setting.

Member States also increased deposit guarantees in an uncoordinated way. Ireland unilaterally raised its deposit guarantees from €20,000, which had been the coverage amount in most euro area countries, to €100,000 on 20 September 2008, and then gave a 100% guarantee for all deposits in six banks[14] two weeks later under the Credit Institutions Financial Support Scheme (CIFS). Subsequently, other Member States followed suit, some even giving a blanket guarantee to all funds of private depositors, others only increasing the maximum coverage amount. This created friction with those Member States that had not raised the coverage amount and led to confusion among account holders.[15] Shortly thereafter, the European Union proposed an amendment to the DGS Directive which immediately raised the minimum coverage amount to €50,000 with a further increase to €100,000 after one year[16] to help address the situation.

Government interventions in the banking sector in the period from the third quarter of 2007 onwards in response to the credit crisis have also affected shareholder and creditor rights. To some extent the level of interference with private law rights depends on the nature of the government support. Shareholder rights impede emergency bank restructuring in several ways. The crisis highlighted the problem that many supervisory authorities did not have the appropriate administrative tools to force a bank to restructure in an emergency without entering insolvency proceedings. The legal dispute which delayed the restructuring of Fortis illustrates this problem of acting without a clear legal framework regulating the rights of shareholders in such situation. The problem is even more complex if the subject is a cross-border banking group.

10 Communication from the European Commission – The recapitalisation of financial institutions in the current financial crisis: limitation of aid to the minimum necessary and safeguards against undue distortions of competition (OJ C 10, 15.1.2009).

11 Communication from the European Commission on the treatment of impaired assets in the Community banking sector (OJ C 72, 26.3.2009, p. 1).

12 European Commission communication on the return to viability and the assessment of restructuring measures in the financial sector in the current crisis under the State aid rules (OJ C 195, 19.8.2009, p. 9).

13 The Fortis and Dexia cases are discussed in Stolz, S. and Wedow, M. (2010), "Extraordinary measures in extraordinary times – Public measures in support of the financial sector in the EU and the United States", *Occasional Paper Series*, No 117, ECB, pp. 22-23.

14 Bank of Ireland, Anglo Irish Bank, Irish Life Permanent, EBS, Irish Nationwide Building Society, and Postbank. Ireland introduced an additional liability guarantee scheme in December 2009.

15 See Edmonds, T. (2010), "Irish banks: deposit protection", *Standard Note SN/BT/5005*, House of Commons Library.

16 Directive 2009/14/EC of the European Parliament and of the Council of 11 March 2009 amending Directive 94/19/EC on deposit-guarantee schemes as regards the coverage level and the payout delay. Further changes are being discussed at the European level and the ECB has published an Opinion on this topic on 31 March 2011.

Box 1

THE COLLAPSE OF THE ICELANDIC BANKING SECTOR AND ITS CONSEQUENCES FOR FINANCIAL INTEGRATION IN THE EU

The events following the collapse of the Icelandic banking sector in autumn 2008 and its repercussions have highlighted several issues concerning financial integration in the European Union. They relate mainly to cross-border supervision and DGSs. In earlier years, the growth of the Icelandic banking sector was triggered by a combination of expansion in the banking sector's foreign liabilities and a structural maturity mismatch on the local banks' balance sheets. In the months preceding their collapse, Icelandic banks had aggressively entered the EU market through subsidiaries and branches, attracting (retail) depositors mainly from the United Kingdom (UK), the Netherlands, Belgium, and Germany by offering comparatively high interest rates, with the aim of diversifying their funding away from the more volatile wholesale market.

Despite the change in strategy towards retail deposits, the freezing up of the interbank market and the loss of confidence in financial markets after the Lehman Brothers bankruptcy restricted the Icelandic banks' access to funding. A run on Icelandic banks and the subsequent problems with Icesave[1] followed. Accounts of depositors were held at branches of Landsbanki located in the UK and in the Netherlands. This use of branches as opposed to subsidiaries became a source of controversy for cross-border banking supervision.

The "European passport"[2], which had allowed Icelandic banks to operate in the whole of the EU, created an asymmetry of information between host and home supervisors. Crucial was the ability of branches of foreign banking groups to run online banking operations such as Icesave and Kaupthing Edge in other EEA countries. Under the European passport scheme, the final supervision of foreign branches of the Icelandic banking groups was the responsibility of the home supervisor (Fjármálaeftirlitið, the Icelandic Financial Supervisory Authority). Given the insufficient exchange of information with host countries, this increased the uncertainty about the degree of risk taken on by Icelandic banks. The very different responses of the various host countries to the Icelandic banks' liquidity crisis may be a reflection of this uncertainty.

The supervisors and central banks of the host countries had different judgements of the financial "health" of the branches and subsidiaries of Icelandic banks. Among several initiatives undertaken by national authorities in the EU, those taken in the UK and Sweden[3] may serve as an example to illustrate this point. In the UK, the case of Landsbanki became a political issue when the UK froze all the UK assets of the bank under the Anti-Terrorism, Crime and Security Act and took control of its UK branch. Kaupthing's UK subsidiary was declared insolvent by the UK Financial Services Authority, whereas in Sweden the central bank provided liquidity assistance to Kaupthing's local subsidiary, implicitly

1 Icesave was an online savings account offered by branches of Landsbanki mainly in the Netherlands and the United Kingdom.
2 The "European single passport" is a system which allows financial services providers legally established in one Member State to operate/provide services in other Member States without further authorisation requirements; the passport conditions also apply to EEA countries.
3 In Luxembourg, for example, the Luxembourg District Court declared the suspension of payments for Kaupthing Luxembourg S.A., which also applied to Kaupthing Belgium, its Belgian branch. Moreover, a limit on the outbound payments was also imposed on Kaupthings's Geneva's office, a branch of the Luxembourg entity. As regards Landsbanki Luxembourg S.A., this subsidiary also was put into suspension of payments from the local District Court. For more information, see http://www.iceland.org/info/iceland-crisis/timeline/ and the national authorities' websites.

acknowledging its financial soundness and systemic relevance to the Swedish financial system. The different approaches of authorities (in method and scope of intervention) in the UK and Sweden highlighted the lack of a consistent EU framework as regards the measures undertaken by local supervisors. The clarification of the scope for initiatives by national supervisors in banking crises remains a critical issue.

Finally, the complicated cross-border structure of Icelandic banking groups in conjunction with an insufficiently harmonised EU regulatory framework, prompted a discussion on burden sharing following the default of the Icelandic banks. Foreign depositors of Icelandic banks were covered under Iceland's DGS. However, the DGS in Iceland was less generous than those in the jurisdictions where Icelandic branches were located. Moreover, the way Icelandic banks operated through subsidiaries and branches in third countries complicated burden sharing among DGSs. This may not have been clearly disclosed to depositors, who were attracted by the higher deposit rates offered.

4 CRISIS-RELATED MEASURES PRESENTLY UNDER DISCUSSION

The financial crisis has painfully illustrated that, as regards measures to deal with financial crises, we are at a crossroads and that choices made now will have an impact on future financial integration.

Regulatory measures are being developed at both EU and national level, and it remains to be seen how the various national initiatives will fit into the yet unfinished EU framework.

Due to their potential impact on financial integration, the following regulatory measures currently under discussion at the European level are presented: (i) a crisis management and resolution framework; (ii) a stability levy; (iii) bank resolution funds; (iv) an EU deposit guarantee scheme; and (v) shareholder rights. Finalising and implementing harmonised EU solutions would lower the risk of reducing banking integration in crisis situations.

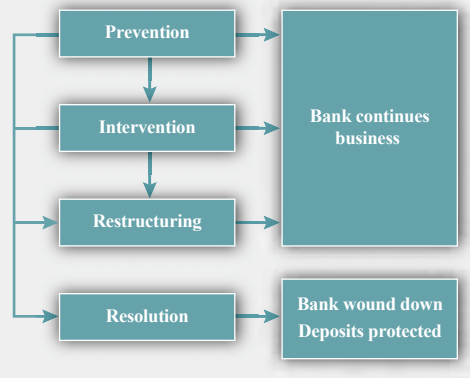
CRISIS MANAGEMENT AND RESOLUTION FRAMEWORK

The different stages of crisis management are illustrated below in a very simplified way (Chart 31).

On 20 October 2010 the European Commission published a communication outlining a proposed new legal framework for crisis management in the European financial sector.[17] The new framework is aimed at providing authorities with common and effective tools and powers to tackle bank crises at the earliest possible moment and avoid costs for taxpayers. A comprehensive crisis management framework would, among

17 Communication from the European Commission – An EU Framework for Crisis Management in the Financial Sector (COM(2010) 579 final).

Chart 31 Stages in crisis management



Source: ECB.

other things, ensure that resolution would be a credible option even in the case of a systemically important cross-border institution.

The crisis management framework that the European Commission is developing comprises three classes of measures: preparatory and preventative measures (e.g. asset transferability); early supervisory intervention (e.g. appointment of special managers); and resolution tools and powers. Some of these tools already exist under national regimes, but a number of them would be new in some Member States.

By developing a common terminology and a minimum toolbox, the European Commission proposal also aims to improve harmonisation and coordination between authorities.

Currently, the main obstacles to a common EU resolution framework are the large differences between Members States' insolvency and company laws and the gap between organisational and legal structures of cross-border banks.[18]

The European Commission is currently working on the legislative proposals for an EU framework for crisis management in the financial sector as well as on the impact assessment that will inform its development and accompany the formal proposal that is scheduled to be released in June 2011. In this context it has issued a number of communications, both on the general framework and specifically on resolution funds.[19] In view of adopting its proposal, the European Commission has launched a public consultation[20] on the technical details of its possible provisions with a deadline for responses in early March 2011.

Implementation of a more harmonised crisis management and resolution framework would be beneficial to integration, as evidenced by the experiences in the recent financial crisis.

STABILITY LEVY

In view of better anticipating and defraying the cost of a possible crisis, there is broad agreement among policy makers that the financial sector should make a fair and substantial contribution towards paying for any burdens associated with government interventions where they occur, to repair the financial system or to fund resolution. On the basis of a number of proposals which have been developed by international financial institutions, the June G20 Summit in Toronto agreed that countries intending to implement measures to this end would respect a number of agreed principles[21] to ensure a minimum level of coordination.

In the EU, general principles for levies on financial institutions have also been agreed by the European Council on 17 June 2010, which agreed that "Member States should introduce systems of levies and taxes on financial institutions to ensure fair burden-sharing and to set incentives to contain systemic risk"[22] and that "such levies or taxes should be part of a credible resolution framework".

Accordingly, several Member States have already implemented country-specific systems, while others are contemplating future

18 According to the work programme of the European Commission, an assessment of how to better deliver an integrated resolution framework for cross-border banking groups will not take place until at least 2014, in parallel with consideration of the need for an EU resolution fund to complement an integrated approach to the resolution of cross-border banking groups.

19 Communication from the European Commission – An EU Framework for Cross-Border Crisis Management in the Banking Sector (COM(2009) 561 final), Communication from the European Commission – Bank Resolution Funds (COM(2010) 254 final).

20 On 6 January 2011, the European Commission released for public consultation the working document "Technical details of a possible EU framework for bank recovery and resolution", with the a view to developing a formal legislative proposal by Summer 2011.

21 G20 principles on levies/taxes: (i) protect taxpayers; (ii) reduce risks from the financial system; (iii) protect the flow of credit in good times and bad times; (iv) take into account individual countries' circumstances and options; and, (v) help promote a level playing field.

22 The Czech Republic reserved its right not to introduce these measures.

implementation.[23] These systems present various parameters reflecting different objectives of the levy and specific domestic circumstances as well as fiscal sovereignty. Such divergence in parameters between Member States may raise double taxation issues within the Single Market and distort the level playing field among banks or between banks and other financial actors.

Although the different national systems are likely to co-exist in the short term, this will in principle result in double charging of financial institutions in those cases where a country introduces a levy that also covers (i) subsidiaries of its own financial institutions in other EU countries or (ii) branches of foreign EU banks on its own territory.

Other level playing field issues, such as spillover effects, distortion of competition and relocation of businesses may also be relevant. The simple fact that not all Member States will introduce a levy in the short term may create further distortions in this section of the EU's internal market. Whether these distortions will be significant enough for financial institutions to relocate their activities depends on the definition of the different parameters of the levy, on how the levy impacts the banks' profits, on the overall fiscal attractiveness of Member States and on the temporary or permanent nature of the measures taken. While it is unlikely that financial institutions would relocate their business in the short term, there is a potential risk that these levies may influence the flow of business, even in a relatively short term.

The Economic and Financial Committee (EFC) analysed the potential magnitude of these concerns, and in particular, the issue of double taxation in late 2010. Based on the EFC report, the EU Council agreed in December 2010 on:

– the need to address any level playing field issues arising in the short term with practical solutions, including by bilateral agreements where appropriate;

– the practical recommendations in respect of base, geographical and institutional scope and rate for such a levy, which aim at limiting double charging in the short term, as agreed in its report on financial levies;

– the importance of built-in flexibilities in the national systems of levies and taxes in the short run in view of the ongoing changes in the regulatory area and developments towards an appropriate EU-wide solution in the medium term.

Proper coordination at EU level is therefore critical, and should also be pursued at international level as far as possible. A lack of coordination could not only distort the level playing field, but also reduce the effectiveness of the measure. A failure to adopt an EU approach to bank levies could compromise the ability of Member States to cooperate effectively in a way which ensures prompt action in the event of major banking failures, protects the broader financial system and minimises costs to public finances.

BANK RESOLUTION FUNDS

The debate in this domain is mainly between those Member States that prefer to use these contributions to reduce their public deficit, out of concern that earmarked resolution funds may generate moral hazard, and those that see it more appropriate to establish dedicated resolution funds, ready to be used when crises occur.

The primary purpose of the resolution funds should be to mitigate the effects of a failure on various stakeholders by trying to maximise the value of remaining assets and facilitate, if possible, a quick return to their productive use. This implies that resolution funds should not be used for any form of bail-out or to

23 For instance, Sweden has had a levy since 2008. On 22 June 2010, the French, UK and German governments announced plans to introduce levies based on banks' balance sheets, and on 22 July 2010 the Hungarian Parliament voted to introduce a bank levy.

avert bankruptcy. Indeed, they should only be activated after an institution has failed, and consequently it is not their objective to restructure, avoid, or mitigate losses for shareholders. Resolution funds would contribute to improving the crisis management toolkit. The funds would be financed by contributions from the financial institutions in order to ensure that these make a fair and substantive contribution to the cost of future financial crises.

From an integration perspective, a single European solution would be preferable, since it would reduce national fragmentation, provide for a level playing field and ensure consistent usage of funds. However, the setting-up of resolution funds at national level with a strong degree of harmonisation at the EU level regarding their main features appears to be the most likely solution at this stage. This decentralised approach is supported by the European Commission,[24] which, however, foresees the need for a more European solution in the longer run. Therefore, the current approach should not preclude the possibility of establishing a European fund-of-funds at a later stage. This fund-of-funds could be used to address the issues which may arise in respect of cross-border banks and help to further integrate the financial market. In this context, it should also be noted that if private sector funds are available in some Member States but not in others, this may create obstacles to the efficient handling of crises or use of resolution tools and may render the burden-sharing of costs more complex, if not impossible.

Synergies between resolution funds and DGSs should also be fully explored.

EU DEPOSIT GUARANTEE SCHEME

DGSs reimburse depositors for their deposits if a bank fails. The EU has already come a long way since its first DGS Directive in 1994.[25] The Directive was amended on 11 March 2009 in response to the crisis. A recast was proposed in July 2010, making permanent some of the changes of 2009 and introducing further harmonisation,[26] partly motivated by the difficulties observed in the unilateral extensions of DGSs in late 2008 and the cross-border issues raised by the Iceland case mentioned above. The recast, which is based on proposals from the European Commission, is still under discussion.

These proposals include several important changes that may improve harmonisation among DGSs in EU Member States. The most important of these is a fixed level of cover of €100,000 that Member States would not be allowed to exceed ("gold-plating") in place of the current minimum level. Another big step could be harmonised ex ante funding of the DGSs by the private sector, which has already been put into practice in some Member States, and making the funding risk-based to a degree. The proposal also includes introducing limited cross-funding of DGSs to increase harmonisation after other options – ex ante and ex post contributions of scheme members – have been exhausted. The timeframe for pay-outs to depositors may also be significantly decreased in the future.

Looking forward, the recast will significantly improve harmonisation of DGSs thus creating a level playing field in the EU. This should be kept in mind when the Commission assesses how a more integrated EU cross-border resolution framework can be achieved in 2014.

SHAREHOLDER RIGHTS

EU company law directives impose certain mandatory requirements on measures that affect the share capital or capital structure of an ailing bank. In particular, the Second Company Law Directive[27] requires that "any increase in capital

24 See Communication from the European Commission – Bank Resolution Funds (COM(2010) 254 final).

25 Directive 94/19/EC of the European Parliament and of the Council of 30 May 1994 on deposit-guarantee schemes.

26 The ECB has provided input in both cases, with a response to a public consultation in August 2009 and an opinion published on 31 March 2011.

27 Article 25(1) of the Second Company Law Directive 77/91/EEC. This directive has been amended several times and on 2nd January 2011 the Commission has proposed a recast, including further amendments (COM(2011) 29 final, 2011/0011 (COD), see http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0029:FIN:EN:PDF). In this proposal, the current Article 25 (1) becomes Article 29 (1).

must be decided upon by the general meeting", which can lead to time delays.[28] This mandatory requirement is not exempted or qualified by any public interest, such as financial stability or economic necessity. Although some exceptions to this requirement are foreseen,[29] these are unlikely to be practical in an emergency situation. Indeed, the financial crisis has shown that, in practice, the board will not be authorised under its statutes to recapitalise the bank to the extent necessary in a systemic crisis.

As regards takeovers, the Takeover Directive[30] requires the acquirer of a threshold level of control of a publicly listed company to make a public offer to buy out the shares of the minority shareholders at a fair price.

Finally, the EU Shareholders' Rights Directive[31] requires a minimum 21-day notice period for the calling of a shareholders' general meeting.

These requirements, which are mandatory, may undermine attempts by authorities to deal with a crisis at a distressed bank quickly, for instance by recapitalising the bank, taking it over or arranging a private sector solution. These considerations may have influenced some governments to "nationalise" several distressed banks or take them into temporary public ownership[32] rather than recapitalise them under normal corporate procedures, because the authorities did not have the necessary restructuring powers.

From the point of view of financial integration, the EU company law requirements serve an important purpose. They represent a minimum protection for shareholders under EU law against dilution of their equity investment and are meant to be applied uniformly across Member States. This is important for the free movement of capital and for international bilateral treaties on protection of direct investments and supports good corporate governance.

The national responses to the crisis, such as the financial support measures for banks, were mostly based on ad hoc special legislation. Many of these primary legal acts contain provisions which at minimum dilute or temporarily depart from the minimum shareholders' rights under the EU company law directives.[33]

Emergency bank restructuring measures must not override fundamental property rights and other civil rights of shareholders, such as those provided for under domestic constitutional law or under the European Convention for the Protection of Human Rights and Fundamental Freedoms. The risk associated with legal challenges may be reduced, however, if the measures are based on a bank resolution regime which carefully balances these fundamental rights with the public interest in a prompt restructuring of non-viable banks.

Present national law provisions, many of which were adopted in emergency situations, may not be fully compatible with shareholder rights under the EU company law directives.

Arguably, these rights should no longer be the main priority in a systemic crisis where the primary interest is the public good of restoring financial stability. However, the EU company law requirements do represent minimum protections for shareholders against

28 As it did during the restructuring of Fortis and other banks.

29 Article 25(2) of the Second Company Law Directive 77/91/EEC provides that the statutes or the general meeting may authorise the board to decide on an increase up to a certain maximum amount; see Article 29 (2) of the proposed recast (COM(2011) 29 final, 2011/0011 (COD)).

30 Directive 2004/25/EC of the European Parliament and of the Council of 21 April 2004 on takeover bids.

31 Directive 2007/36/EC of the European Parliament and of the Council of 11 July 2007 on the exercise of certain rights of shareholders in listed companies.

32 For example, Anglo Irish Bank in Ireland under nationalisation legislation and Northern Rock in the United Kingdom under the Banking (Special Provisions) Act 2008.

33 For example, in Germany, a special ad hoc "omnibus" law, the Financial Market Stabilisation Act (*Finanzmarktstabilisierungsgesetz*, FMStG), included a law on the transfer of risks and positions in public companies which allowed shareholder rights in such companies to be temporarily derogated or diluted. This special law was used in 2009 to squeeze out minority shareholders from the Financial Market Stabilisation Fund (*Sonderfonds Finanzmarktstabilisierung*, SoFFiN) controlled bank, Hypo Real Estate AG.

dilution of their equity investment. They are supposed to be applied uniformly across the Member States. Thus, unless EU law is changed, the compatibility of these national law provisions with EU company law directives remains uncertain and they are therefore a possible obstacle to integration.

As stated above, the European Commission is working on a legislative proposal for an EU framework for crisis management in the financial sector, including harmonised resolution tools and an EU network of bank resolution funds.[34] The Commission Communication foresees separate stages of crisis management including prevention, early intervention and resolution. Resolution tools may involve interference with shareholder rights e.g. the right to transfer shares in a failing bank or to curtail corporate governance rights.[35]

This initiative, if it results in an EU law instrument, should improve legal certainty in this area. The new framework should include safeguards and mechanisms for compensation where necessary, guided by the principle that shareholders should not suffer greater losses than they would have suffered during a winding down proceeding. However, if the losses of a failing bank are so large as to wipe out its share capital, shareholder rights should be restricted or even removed, as necessary, in the public interest. The new framework is thus likely to include explicit exemptions from the above-mentioned shareholder rights.

5 THE WAY FORWARD

The public interventions that took place in response to the financial crisis were needed to restore financial stability. However, they also had unfavourable impacts from a financial integration perspective.

First, the integration progress of the EU's Single Market in financial services was negatively affected. This was mainly due both to the behaviour of firms, reducing cross-border activities during the phases of high uncertainty, and, in some cases, to conditions imposed in the restructuring plans of banks receiving state aid. In the latter case, the restructuring and viability plans often required a reduction in non-core activities. Since these activities were often peripheral initiatives in both the business and the geographical sense, the restructuring plans resulted in reduced integration in some cases, even though this was not intended.

Second, a reason why the level playing field among financial institutions was distorted within the single financial market may well have been the initially nationally-based and uncoordinated actions. This applied to government measures, with different magnitudes of and conditions for state support measures in each country, usually with a different scope and length. This negative effect was mitigated by subsequent action at the EU level to coordinate public support for the banking sector and the related guidance from the European Commission.

Overall, the experience of the last three years has shown that the path of further financial sector integration towards a single European market becomes challenging in a crisis situation, both in terms of intensity and speed.

Looking forward, the European proposals for a harmonised crisis management and resolution framework should lower the risk of reducing banking integration in crisis situations and would help restore the development towards an integrated financial market. Moreover, the initiatives towards harmonisation of stability levies, as well as of bank resolution funds in tandem with deposit guarantee schemes are important steps towards providing a stable, increasingly integrated financial sector.

34 See Communication from the Commission – An EU Framework for Crisis Management in the Financial Sector (COM(2010) 579 final). Resolution funds – see page 39 above – are the subject of a separate Communication from the Commission – Bank Resolution Funds (COM(2010) 254 final).

35 Commission Communication COM(2010) 579, p. 10.

B. INSURANCE CORPORATIONS AND PENSION FUNDS IN THE EURO AREA

Enhanced statistics currently developed by the ECB allow an investigation of the structural developments and trends in the insurance corporations and pension funds (ICPF) sector in the euro area. As the data are available from the first quarter of 2008, they also provide some information on the impact of the financial crisis on the sector.

While there was a significant shrinkage of the value of total financial assets of euro area ICPFs just after the Lehman brothers collapse, their financial position improved in 2009 and stabilised in 2010. The data do not show major changes in the securities and equities portfolio allocations across euro area countries, as the sector remains predominantly home-oriented.

Recent institutional initiatives, such as the new Solvency II requirements for insurance corporations and the ongoing pension reforms, are expected to have a positive impact on the integration of the sector across Europe.

1 INTRODUCTION

Insurance corporations and pension funds represent a significant share of non-bank financial intermediaries (around 35%). They have remained important in the euro area over the past 15 years and, owing to the role of ICPFs in portfolio decisions of households and their interaction with financial and capital markets, which will increase due to demografic changes, the importance of harmonised, more detailed and timely macroeconomic statistics for this sector has increased significantly over the last few years.

In the context of the work ongoing at the ECB towards improving the statistical coverage of the (non-bank) financial sector, there has also been substantial progress in developing new enhanced ICPF statistics. This Special Feature makes use of these newly available statistics to investigate structural developments and trends in the euro area ICPF sector, focusing in particular on the crisis period and its impact on the integration of the sector in the euro area.

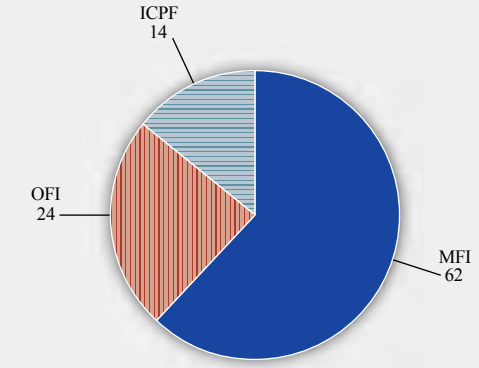
2 TRENDS IN INSURANCE CORPORATIONS AND PENSIONS FUNDS

Euro area ICPFs account for 14% (€6.9 trillion) of the financial assets of the euro area financial sector (2010 third quarter data) and have significant links and interconnections with the various sectors of the euro area economy (Chart 32). In particular, ICPFs hold around 20% of the total debt securities issued by euro area governments and 57% of the mutual fund shares issued by euro area investment funds (Chart 33).

In parallel with this active role as providers of financing, euro area ICPF liabilities are an important component of euro area households' financial wealth (accounting for 30% of the total) and compete with deposits in attracting household investments. In addition, their role as providers of insurance is essential for the smooth functioning of the euro area economy.

Chart 32 Share of the ICPF sector in the euro area financial sector

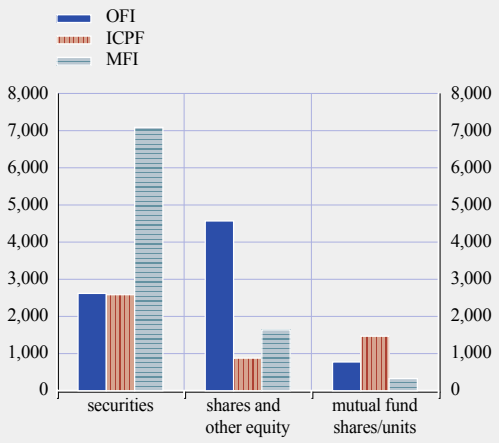
(2010Q3, percentage of total financial assets)



Source: ECB.
Note: MFIs are monetary financial institutions, OFIs are other financial institutions, ICPFs are insurance corporations and pension funds.

Chart 33 Holdings by euro area financial sector of selected instruments

(2010Q3, EUR billions)



Sources: Euro area financial accounts, ECB.
Note: MFIs are monetary financial institutions, OFIs are other financial institutions, ICPFs are insurance corporations and pension funds.

Table 1 ICPFs sector in an international comparison

(total assets as percentage of GDP)

Euro area ICPF: Assets/liabilities outstanding amounts in EUR billions	2008	2009
Total financial assets	6,028.0	6,490.0
of which		
Securities other than shares	2,241.0	2,384.2
Shares other than equities	790.0	797.0
Insurance technical reserves	5,206.0	5,554.5
of which		
Net equity of households in life insurance reserves	2,932.0	3,197.7
Net equity of households in pension funds reserves	1,455.0	1,534.3
Prepayments of insurance premiums and reserves for outstanding claims	818.0	822.5
Assets as a share of GDP	**2008**	**2009**
Autonomus pension funds		
Euro area[1)]	13.1	14.3
United Kingdom	67.0	80.6
USA	57.9	67.7
Insurance corporations		
Euro area[1)]	52.1	58.2
United Kingdom	91.0	99.6
USA	40.6	44.1
ICPFs		
Euro area	65.2	72.5
United Kingdom	158.0	180.2
USA	98.5	111.8

Sources: Federal Reserve, OECD, UK ONS, EUROSTAT and ECB calculations.
1) ECB estimates.

As a whole, the euro area ICPF sector is relatively small compared with those in the United States and especially the United Kingdom (see Table 1). In particular, while the size of the insurance sector in the euro area is half of that in the United Kingdom, the pension funds sector is much smaller, partly reflecting different institutional settings of pension systems across the countries[36].

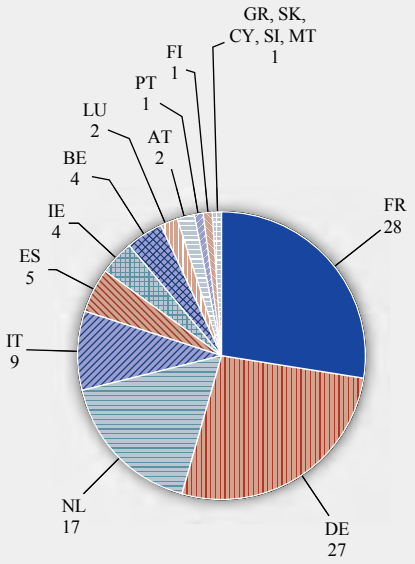
In some euro area countries, retirement assets are also accumulated in the form of life insurance and investment fund assets so the overall size of "private funding" exceeds that included in the autonomous pension funds column (which does not include social security pensions either). In addition, insurance companies are important managers of pension fund assets and pension funds are also important investors in insurance companies. Owing to the dominance of pay-as-you-go pensions, the scope for expansion of private pension funding is greater in the euro area than in the relatively mature markets of the United States and the United Kingdom, where pension systems already have major funded elements. In the euro area, pension saving is likely to increase sharply over the next years as individuals seek to provide for their retirements. These elements help to explain the considerable attention being paid to European markets by the industry in general. The scope for change is also enhanced by EMU and mentioned in Section 4 below.

The ICPF sector in the euro area is dominated by institutions resident in three countries, France, Germany and the Netherlands, which together account for nearly three quarters of the total financial assets of the sector. Italy and Spain account for 9% and 5% respectively (see Chart 34).

36 The social insurance schemes may be organised by employers or by governments. This table includes only autonomous pension funds which are separate institutional units established to hold and manage the assets to be used to meet the pensions and to distribute the pensions. The pension fund subsector consists of only those social insurance pension funds that are institutional units separate from the units that create them. In the euro area, governments take more responsibility for providing pension benefits to large sections of the community and the social security function fills the role of a multi-employer scheme. The social security schemes for pensions are not included in Table 1.

Chart 34 Euro area ICPF sector – country share

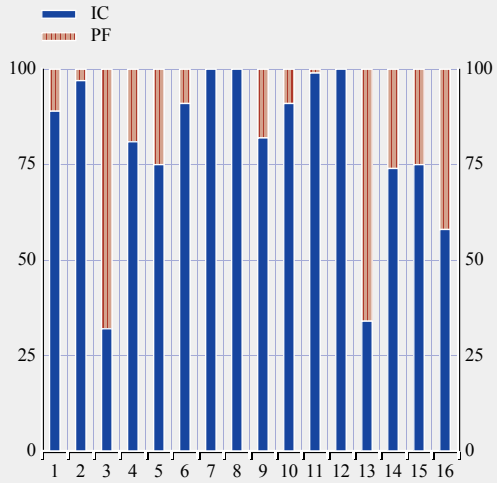
(2010Q3; percentage of total financial assets)



Source: ECB.

Chart 35 Breakdown between insurance corporations and pension funds by country

(2010Q3; percentage of total financial assets of the ICPF sector)



Sources: ECB and OECD.
Notes: 2009Q4 data for ES and IE. OECD data with reference period 2009 for IT.

Insurance corporations account for around 80% of the total financial assets of the ICPF sector. However, the structure of the sector varies from country to country (see Chart 35), largely reflecting institutional differences.[37] In some countries the weight of the pensions funds sub-sector is higher than that of insurance corporations, as in the Netherlands where pension funds have a share of 66%, and Cyprus where they have a share of 68% (other countries with a sizeable pension funds sub-sector are Slovakia and Portugal with 42% and 26% respectively, and Spain and Slovenia both with 25%). In some countries there is no pension sub-sector (as in the case of France[38] and Greece[39]) due to the specific characteristics of the pension systems in those countries. In these countries pension contributions and benefits are not handled by autonomous pension funds (which is what is covered in the ECB statistics).

While caution must be exercised on account of the lack of transaction data for the new ICPF statistics,[40] according to these statistics, total financial assets fell by nearly €220 billion (4% of the initial stock) in 2008, probably reflecting a larger reduction in the value of equity portfolios than of other assets (Chart 36).[41] With regards to total liabilities, these declined roundly by €34 billion (less than 1% of the initial stock).

37 The enhanced statistics cover autonomous pension funds, so countries in which private pension schemes are mainly provided through non-autonomous pension funds (not separate institutional units), linked in particular to non-financial corporations and MFIs, have a smaller autonomous pension funds sub-sector. See Box 2 for a description of the new statistics.

38 In France, pension plans are managed by insurance corporations and PERCO (corporate pension schemes which are non-autonomous pension funds).

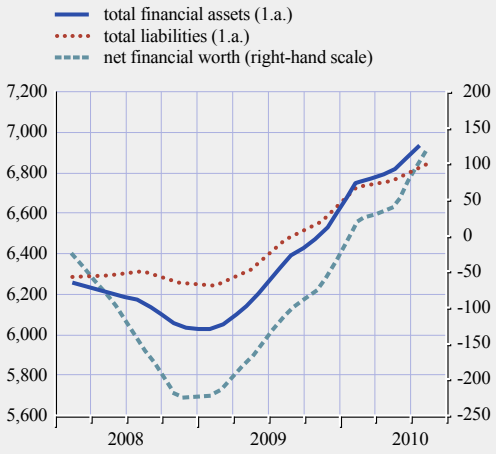
39 The pension system in Greece is predominantly based on a public pension pillar that provides comparably high statutory replacement rates. Voluntary occupational and private pension plans exist, but are of minor importance.

40 The analysis is performed on outstanding amounts; this implies that comparisons against previous periods may be affected by valuation changes and reclassifications.

41 Euro area Investment Funds (IFs) had qualitatively similar developments, however, the reduction in IF financial assets was greater than the reduction in ICPF financial assets (18% against 4%). Both sectors invest around 40% of their financial assets in securities other than shares, but the relative investment by IFs in shares and other equity is about twice as high as that by ICPFs.

Chart 36 Euro area ICPF balance sheet (2008Q1-2010Q3)

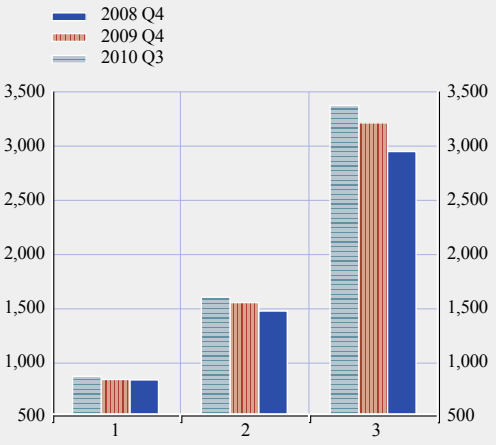
(EUR billions)



Source: ECB.

Chart 37 Euro area ICPF insurance technical reserves (2008 Q4-2010 Q3)

(EUR billions)



1 prepayment of insurance premiums and reserves for outstanding claims
2 net equity of households in pension funds reserves
3 net equity of households in life insurance reserves

Source: ECB.

This led to a sharp decrease of around €187 billion in net financial worth (the difference between financial assets and liabilities)[42] from -€36 billion to -€223 billion.

The financial position of euro area ICPFs improved through 2009 and stabilised in 2010, and net financial worth reached a positive value in the first quarter of 2010 and rose to €124 billion in the third quarter. In the period from the first quarter of 2009 to the third quarter of 2010, financial assets increased by 16% (€952 billion)[43] and securities from euro area issuers other than shares increased by 18% (€333 billion) (see below). These positive developments were partially offset by an increase of 10% (€604 billion) in liabilities incurred, in particular in relation to life insurance products (Chart 37). The €312 billion increase in net equity of households in life insurance reserves is mainly attributable to developments in France, the Netherlands and Germany.

Both the reduction in total assets in 2008 and the subsequent recovery in 2009 were widespread across euro area countries (Chart 38).

The balance sheet statistics indicate that the ICPF sector was a stabilising factor within the financial sector during the crisis, as it was less exposed to the boom-bust pattern in financial assets and liabilities than banks and other financial intermediaries. In particular, the combination of conservative investment strategies and regulatory requirements limited the direct impact of the crisis on the whole sector.[44]

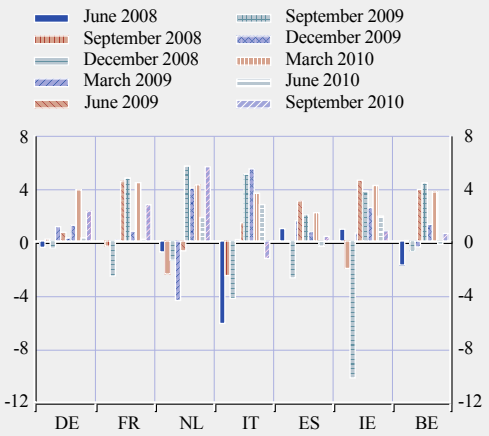
42 Calculated as total financial assets minus total liabilities. Please note that non-financial assets are not included in this calculation, while on the liabilities side shares and other equity are included, so net financial worth can be negative. However, total financial assets are higher than insurance technical reserves.

43 This increase was mainly due to investments in mutual funds/units (which increased by €477 billion, 43% of the initial stock). The increase in investments in mutual fund shares/units was driven by the reorganisation of the investment strategies of some large pension funds in the Netherlands that replaced their investments in shares and securities by investments in mutual fund shares/units. These pension funds organise part of their investment through special investment funds mainly for reasons of economy of scale. The asset managing companies have set up these funds in a way that makes it possible for other, smaller pension funds and other institutional investors to join. This allows them to reduce unit costs and achieve higher efficiency.

44 See *The Impact of the Financial Crisis on the Insurance Sector and Policy Responses*, OECD, April 2010.

Chart 38 ICPF financial assets for selected euro area countries

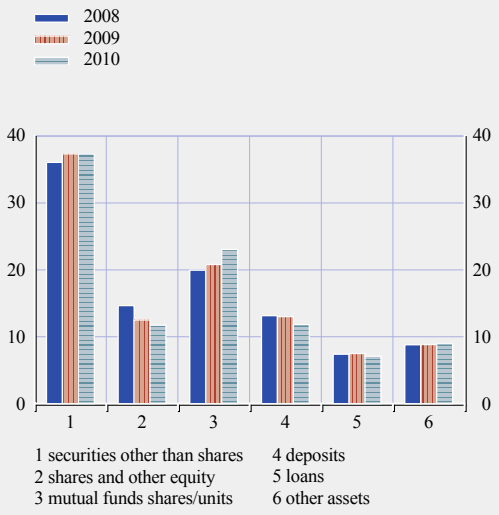
(quarterly rates of growth; 2008Q1-2010Q3; percentages)



Source: ECB.
Notes: Growth rates are calculated on the basis of outstanding amounts. This implies that comparisons against previous periods may be affected by valuation changes and reclassifications.

Chart 39 Main asset classes for investment by the euro area ICPF sector

(percentage of total assets)



Source: ECB.
Note: 2010 figures refer to the first three quarters.

From an historical perspective, the ICPF sector had already seen significant portfolio shifts away from equity and towards debt securities (which amounted to some 40% of their total portfolio at the end of 2009) in the wake of an earlier stock market bust in 2001-02 and as a consequence of national regulations limiting their investment in the stock market.[45]

At the same time, negative developments in stock markets, high volatility in interest rates and widening credit spreads – all indirect consequences of the crisis – led to a substantial fall in the value of portfolio holdings. However, this channel appears to have been generally limited, as equity holdings represented only 11% of total assets in the third quarter of 2010 (Chart 39).

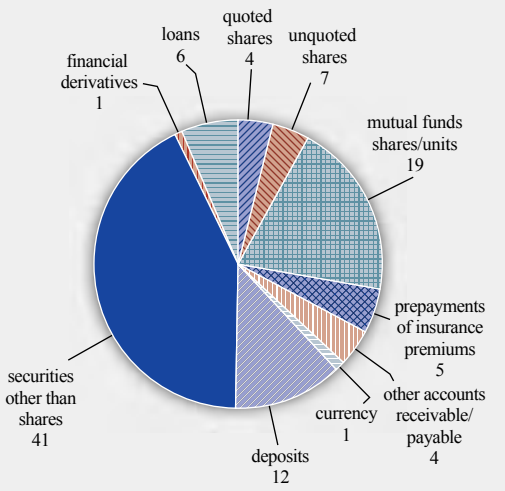
This trend was reinforced during the crisis as the equity to total financial assets ratio declined between 2008 and 2010. Chart 39 also indicates that the largest asset class in which euro area insurers and pension funds invest remains "securities other than shares". During the financial crisis this area of investment suffered first from increased risk aversion towards securities issued by private corporations (in particular MFIs) and then from the emergence of the sovereign debt crisis. Hence, in aggregate terms this has implied a shift in the composition of assets, with, just after the Lehman Brothers collapse, a reduction in holdings of securities issued by banks and other financial intermediaries and an increase in the share of holdings of government bonds. At that time, many insurers and pension funds shifted their investment strategies away from equities, especially those issued outside the EU (see next section).

Despite the recent deepening of the sovereign debt crisis, the share of government bonds increased slightly to 16% of total assets. There has been, however, a remarkable change in the composition, with an increasing preference for

45 See "The importance of insurance companies for financial stability", *Financial Stability Review*, ECB, December 2009.

Chart 40 Asset allocation of insurance corporations

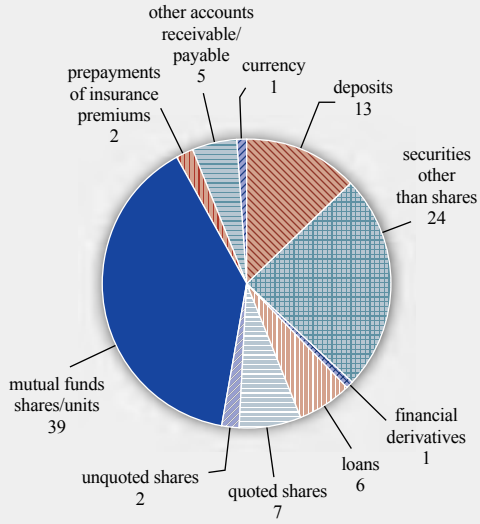
(2009 Q4; percentages)



Source: ECB.
Notes: The data cover euro area countries except IT and IE.

Chart 41 Asset allocation of pension funds

(2009 Q4; percentages)



Source: ECB.
Notes: The data cover euro area countries except IT and IE.

domestic government bonds (see next section). Overall, from a stability point of view, large and increasing investment exposures to government bonds have left insurers more vulnerable to changes in long-term risk-free interest rates.[46]

The Table in Box 2 presents the main balance sheet items of the sector according to the latest available data.

Furthermore, despite similarities the activities of insurers (life insurance) and pension funds[47], their investment policies are different. Insurance corporations invest mainly in securities (41% of total financial assets), followed by mutual funds shares (19% of total financial assets) (Chart 40). However, for pension funds, mutual funds shares are the largest investment class (39% of total financial assets) and securities other than shares the second largest (24% of total financial assets) (Chart 41).

The large share of mutual funds in the investments of pension funds is driven by developments in the Netherlands. Since the second quarter of 2009 some of the largest Dutch pension funds changed their investment policies, deciding to organise their investments through investment funds. Consequently, direct investments in securities and shares were converted into units/shares in these investment funds.[48]

3 ICPF CROSS-BORDER BUSINESS

Although a large number of insurance corporations submitted applications to provide services in foreign markets under the freedom of services in 2008, the actual market share of these activities is small, except in the case of reinsurance. The market share of foreign

46 For a discussion of the impact on insurers of low risk-free interest rates, see Box 16 in *Financial Stability Review*, ECB, June 2010.

47 Life insurance must also be considered in the context of private pension funding, since life insurers tend to be the principal sellers of personal pension products and providers of annuities for defined contribution pensions.

48 This policy change can also be seen in the new investment funds dataset, in which the transactions of these new investments funds are recorded. For further information on investment funds statistics see the ECB's website at www.ecb.europa.eu.

branches in terms of gross premiums written was greater than 10% in 2008 in only two countries: Cyprus and Malta.[49]

This pattern is also seen when looking at a breakdown of financial assets held by the sector into domestic, other euro area countries and the rest of the world.[50] Chart 42 shows the share of total financial assets held by the sector issued by domestic issuers, which in the third quarter of 2010 amounted to around 66% of total financial assets, while the rest is split between assets issued by other euro area countries (23%) and by the rest of the world (11%). Owing to the short time dimension of the new statistics, it is not possible to form a complete picture of the developments before the financial turmoil, but the figures indicate that the sector has increased its home bias since the beginning of 2009 by increasing slightly the already high proportion of domestic assets in portfolio investments to the detriment of assets issued outside the euro area.[51] However, as from 2010 the major shift concerns assets issued by other euro area countries.

Chart 43, which looks at developments in portfolio investments in securities broken down by geographical origin of the issuer, indicates that until 2009 the ICPF sector had been investing slightly more in securities from other euro area countries rather than in domestic securities. However, in late 2009 and early 2010 there was some retrenchment towards securities issued domestically. Looking at country level data, this also appears to be the case for a large majority of euro area countries.

As for shares and other equity, while investment strategies remains predominantly oriented towards domestic markets, the share of equity issued by the rest of the world is almost 30%

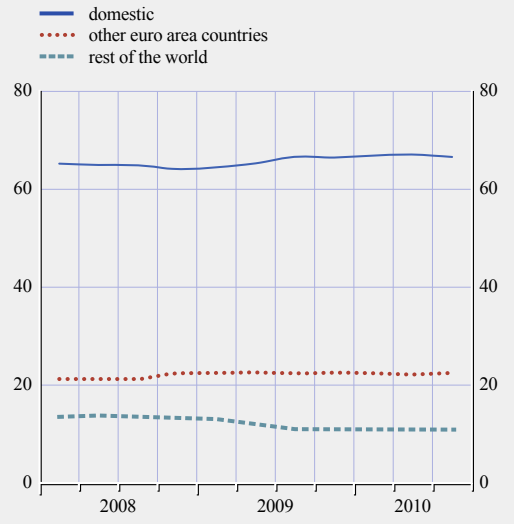
49 See *Spring Financial Stability Report 2010*, Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS), June 2010.

50 The ICPF sector is oriented towards local markets (particularly in the case of pension funds). One exception is reinsurance which has a very high level of cross-border activity due to market concentration.

51 It should, however, be taken into consideration that part of the increase in the domestic share was driven by developments in the Dutch pension fund sector, as explained in Section 2.

Chart 42 Breakdown of assets by residency of issuer

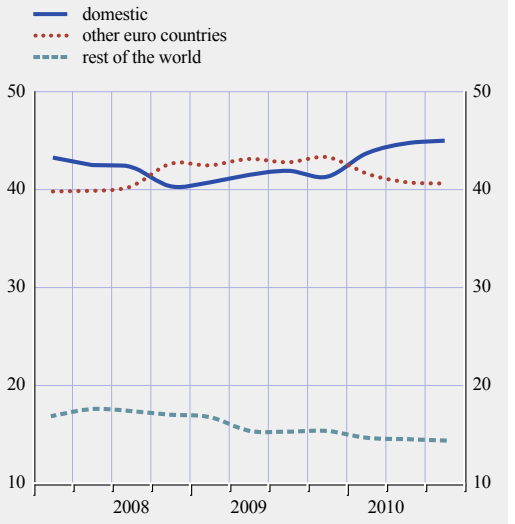
(percentage of total)



Source: ECB.

Chart 43 Breakdown of securities other than shares by residency of issuer

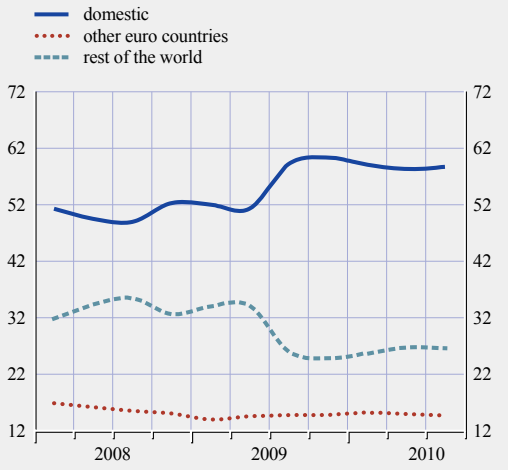
(percentage of total assets)



Source: ECB.

Chart 44 Breakdown of shares and other equity by residency of issuer

(percentage of total assets)



Source: ECB.

of the total (Chart 44). The financial crisis, as manifested in both disinvestment and a fall in the value of portfolio holdings, seems to have hit shares issued in the rest of the world more than those issued within the euro area.

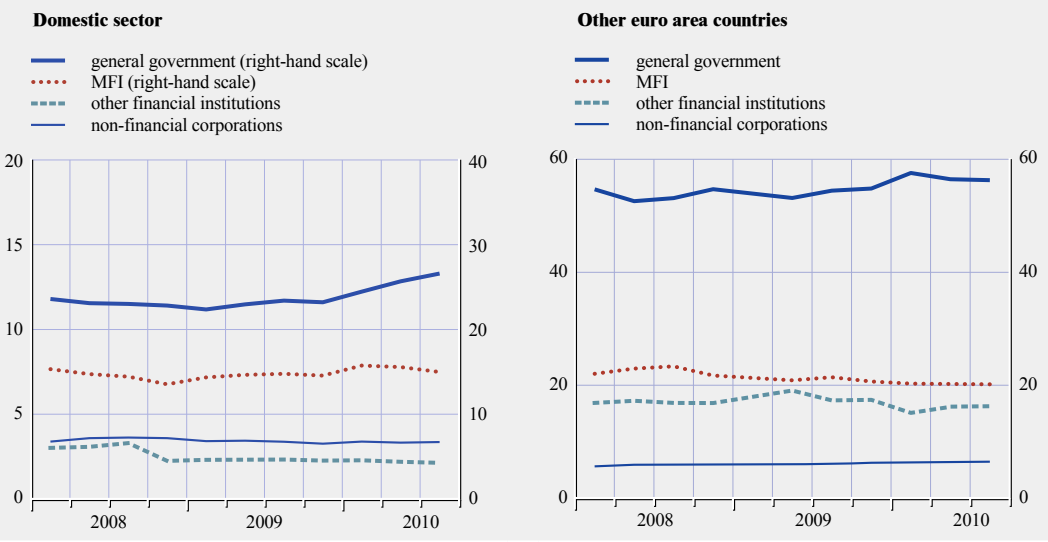
The financial crisis does not seem to have greatly affected the composition in terms of type of issuer. Securities issued by general government still account for the largest share, followed by securities issued by banks (Chart 45).

The ICPF sector as a whole has continued to invest moderately in corporate securities, focusing predominantly on the investment-grade segment. In more detail, during 2010 holdings of securities other than shares increased by €273 billion in the euro area (12% of the initial stock). At country level, France (€112 billion) and Italy (€45 billion) had the largest increases. With regard to the location of issuers, the increase related to issuers within the euro area, in particular general government (€174 billion) and MFIs (€47 billion).

On the liabilities side, there is also a particularly large home bias (Chart 46). Most of the insurance technical reserves (which represent around 90% of the total liabilities of ICPFs) are domestic. However, since the beginning of the crisis cross-border activities with other euro area countries have been gaining in importance, while cross-border activities with

Chart 45 Breakdown of securities other than shares by sector of issuer

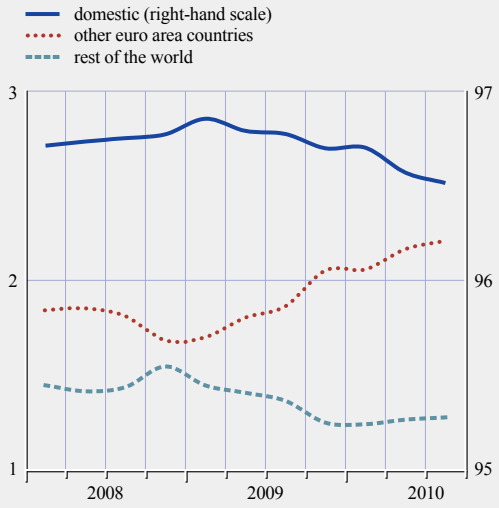
(percentage of total assets)



Source: ECB.

Chart 46 Geographical breakdown of insurance technical reserves

(percentage of total technical reserves)



Source: ECB.

the rest of the world have remained stable. Finally, the highest proportion of cross-border activity is in reinsurance, where other euro area countries and the rest of the world account for 35% and 11% respectively.

The fact that the degree of home bias is different for assets and liabilities (much stronger for the latter) might signal that the amount of risk sharing is significant in the ICPF sector but that competition remains rather weak.

4 OUTLOOK FOR THE ICPF SECTOR AND KEY CHALLENGES

This section reviews briefly recent developments, such as the new solvency requirements for insurance corporations and the ongoing pension reforms, and discuss how these could impact on the ICPF sector and the integration of the market across Europe.

From an institutional point of view, there have been some new developments which should encourage cross-border activities. Some insurance corporations have new pan-European managements and have started to integrate the operations of their various businesses across Europe. These insurance corporations have centralised their operations to allow a pan-European or regional approach to distribution, simplifying the product range and shortening the time taken to launch new products to customers. By adopting this new operating model, insurance corporations will make significant efficiency gains and build a competitive advantage in the region.[52] In this respect the new solvency requirements for insurance corporations (e.g. Solvency II[53]) are expected to provide capital relief for diversification, particularly for those companies that rely on integrated internal models, and are also expected to lead to some consolidation or acquisitions by larger groups of small and medium-sized companies.

Alternatively, some insurance corporations can consider registering as a European company (*Societas Europaea*, SE). An SE can be registered in any EU Member State,[54] and the registration can be transferred easily to another Member State. There is no EU-wide register of SEs (an SE is registered in the national register of the Member State in which it has its head office), but each registration is published in the Official Journal.[55]

With regard to the envisaged review of the solvency framework for insurance corporations following the Solvency II Directive, one of the primary aims of the Directive is to produce more consistent solvency standards to protect consumers across all markets. For this reason, the Solvency II regime aims to achieve

52 For instance, UK insurer Aviva decided to integrate its operations in 12 businesses across Europe, creating a single European holding company and simplifying its structure.

53 Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II). OJ L 335, 17.12.2009, p.1.

54 Council Regulation (EC) No 2157/2001 of 8 October 2001 on the Statute for a European company (SE), OJ L 294, 10.11.2001, p. 1.

55 An example of an insurance corporation registered as a European company is Allianz SE, which is Germany's largest insurance and financial services group.

a high degree of convergence in regulatory standards across Europe. Harmonised reporting templates[56] are being developed for use throughout the European Economic Area (EEA).[57] By contrast, the current Solvency I regime merely applies minimum standards, which have long been regarded as outdated and lacking harmonisation.

With regard to pension funds, there are still considerable barriers to cross-border activity.[58] These prevent the full realisation of efficiency gains from economies of scale and cross-border competition, thereby raising the cost of pensions.[59] The barriers are often the result of regulatory differences and legal uncertainties, such as an unclear definition of cross-border activity, a lack of harmonisation of prudential regulation and complex interaction between EU law and national law. Removing these obstacles may require a review of the Institutions for Occupational Retirement Provision Directive[60], further supervisory convergence and more transparency about national differences.

An important recent development which may affect the pension funds sector is that many European countries have introduced or have started to introduce reforms to improve the sustainability of their retirement income systems. These reforms include steps to strengthen the link between pension benefits and contributions, to extend the contribution period to qualify for a final pension, and to diversify sources of retirement provision so that private pension funds can play a larger role in securing adequate retirement income.

Finally, with regard to the solvency of the pension funds, the IORP Directive's minimum prudential requirements include solvency rules for defined-benefit schemes. These solvency rules are currently the same as those that apply to life insurance undertakings. The Solvency II Directive will enter into force in 2012, but this new regime will not apply to pension funds. However, according to the Commission's Green Paper on pension reform, "the Solvency II approach could be a good starting point, subject to adjustments to take account of the nature and duration of the pension promise, where appropriate". The suitability of Solvency II for pension funds needs to be considered in a rigorous impact assessment, as some elements might still be incompatible with national pension systems in some countries.

56 The European Insurance and Occupational Authority (EIOPA) is in the process of developing harmonised reporting templates for supervisory purposes in the case of insurance corporations. The ECB is cooperating closely with EIOPA with the aim of reducing reporting burdens for reporting agents.

57 At present, the contracting parties to the EEA Agreement are the European Union and its 27 members plus Iceland, Liechtenstein and Norway.

58 See the European Commission Green Paper "Towards adequate, sustainable and safe European pension systems" COM(2010) 365, July 2010. [http://europa.eu/documentation/official-docs/green-papers/index_en.htm.

59 In some countries substantial economies of scale and efficiency might still be realised at the national level as well.

60 Directive 2003/41/EC of the European Parliament and of the Council of 3 June 2003 on the activities and supervision of institutions for occupational retirement provision (the IORP Directive), OJ L 235, 23.09.2003, p. 10.

Box 2

NEW ICPF STATISTICS FOR THE EURO AREA

The new provisional ECB statistics for the ICPF sector permit the analysis of the structure of and trends in the ICPF sector on an aggregate basis. Compared to previous data on ICPFs,[1] the new provisional data are derived from an ongoing ECB project to develop more detailed, regular and

1 Until now, data on the ICPF sector have been part of the euro area accounts (see ECB Monthly Bulletin Table 3.5 and ECB Statistical Data Warehouse (SDW) on the ECB's website at www.ecb.europa.eu).

timely statistics on the assets and liabilities of insurers and pension funds. Apart from insurers (insurance and reinsurance) the enhanced statistics cover autonomous pension funds, i.e. funds that have autonomy of decision and keep a complete set of accounts. Non-autonomous pension funds set up by, for example, credit institutions or non-financial corporations are not covered since they are not separate institutional units. Furthermore, social security schemes are not included in this definition.

This new dataset follows the 1995 European System of Accounts (ESA 95) concepts and definitions. It comprises quarterly stock data for the ICPF sector as a whole, available three months after the end of the reference quarter. Assets and liabilities are valued at market prices, with the exception of deposits and loans which are at nominal value. The data are broken down by type of financial instrument (with a maturity breakdown where applicable), euro area and non-euro area issuers, and institutional sector counterparty. The data are compiled mainly in accordance with a host approach and therefore cover all business of ICPFs resident in the euro area, whether domestic or foreign-owned, on a non-consolidated basis.

The ECB compiles quarterly ICPF statistics for the euro area based on existing information available at the national level. Improved data reported by euro area national central banks have enabled the ECB to start producing quarterly estimates of euro area aggregates of outstanding amounts. In addition, estimated euro area transaction data are being developed. Regular publication is planned to start in mid 2011. Besides improved timeliness, the new ICPF statistics, unlike the existing ones, also provide a breakdown between the insurance corporation and pension fund sub-sectors as well as more detailed information on the sector counterparty, the geographical and maturity breakdowns and the breakdown of the technical reserves (life insurance, pensions, unit linked/non-unit linked, defined-benefit/defined-contribution).

The table below shows the financial assets and liabilities of the euro area ICPF sector at the end of the third quarter of 2010 with the geographical and sectoral breakdowns of the main instruments.

Euro area (ECB estimates based on ICPF national data)

(ICPF aggregate balance sheet – stock data at the end of 2010Q3; currency: EUR billions)

	Total	Euro area									Rest of the world	Not allocated
		Total domestic	MFIs	Non-MFIs								
				Total non-MFIs	General government	Other residents						
						Total	Other fin. interm.	ICPFs	Non-fin. corporations	Households		
Total financial assets	**6,969**	**5,961**	**1,549**	**4,411**	**1,276**	**3,135**	**1,843**	**473**	**615**	**205**	**932**	**76**
Currency	9	0	0	0	0	0	0	0	0	0	0	9
Deposits	807	736	736	0	0	0	0	0	0	0	71	0
Securities other than shares excluding financial derivatives	2,620	2,156	612	1,543	1,135	408	237	20	151	0	464	0
Financial derivatives	105	56	32	24	0	24	23	0	0	0	49	0
Loans	500	469	22	447	136	311	33	87	41	149	31	0

Euro area (ECB estimates based on ICPF national data) (cont'd)

(ICPF aggregate balance sheet – stock data at the end of 2010Q3; currency: EUR billions)

	Total											
	Total	Euro area									Rest of the world	Not allocated
		Total domestic	MFIs	Non-MFIs								
				Total non-MFIs	General government	Other residents						
						Total	Other fin. interm.	ICPFs	Non-fin. corporations	Households		
Shares and other equity	797	575	65	510	0	510	95	21	394	0	221	0
Mutual funds shares/units	1,595	1,525	70	1,455	0	1,455	1,455	0	0	0	70	0
of which: money market fund shares	76	70	70	0	0	0	0	0	0	0	5	0
Prepayments of insurance premiums	325	303	0	303	0	303	0	303	0	0	22	0
Other accounts receivable/ payable	211	141	11	130	4	125	0	41	29	56	3	67
Total liabilities	**6,845**	**6,492**	**194**	**6,298**	**49**	**6,249**	**111**	**472**	**319**	**5,347**	**284**	**69**
Securities other than shares excluding financial derivatives	66	59	32	27	1	26	3	20	2	2	6	0
Financial derivatives	30	10	10	0	0	0	0	0	0	0	20	0
Loans received	271	240	82	157	6	151	36	87	4	24	31	0
Shares and other equity	491	384	60	324	21	303	73	21	144	65	107	0
Insurance technical reserves	5,793	5,674	3	5,672	9	5,663	0	303	148	5,212	118	0
Net equity of households in life insurance and pension funds reserves	4,941	4,921	0	4,921	0	4,921	0	0	0	4,921	20	0
Net equity of households in life insurance reserves	3,358	3,338	0	3,338	0	3,338	0	0	0	3,338	20	0
Net equity of households in pension funds reserves	1,583	1,583	0	1,583	0	1,583	0	0	0	1,583	0	0
Prepayments of ins. premiums and res. for outstanding claims	851	753	3	751	9	742	0	303	148	291	98	0
Other accounts receivable/ payable	196	126	7	118	13	105	0	40	21	44	1	69
Net financial worth [1)]	124											

1) Difference total financial assets minus total liabilities

C. DEVELOPMENTS IN EURO AREA BOND MARKETS DURING THE FINANCIAL CRISIS

After several years of negligible spreads between euro area sovereign bond yields, during the financial crisis, and especially during 2010, yields on single-currency government issues diverged sharply. Several interrelated factors can explain this development. On one hand, differences in the fiscal situations in countries increased, in some cases sharply, resulting in sizeable credit risk spreads. On the other hand, government bonds considered comparatively safe and liquid were targets of "flights to liquidity", which compressed their yields. Between these extremes, a whole range of patterns has been observed, often characterised by high volatility and pronounced sensitivity to news.

Against this background, this Special Feature analyses recent developments in sovereign bond markets in the euro area. In addition, it also studies whether developments in sovereign bond markets have had an impact on developments in corporate bond markets.

1 INTRODUCTION

After 10 years of virtually no differences among sovereign bond yields of euro area countries, a substantial divergence has been observed in this market since 2008, especially during 2010. Yield spreads between euro area countries have been increasing, and in some periods yields have moved in sharply different directions.

Two major groups of factors explain these developments. First, factors reflecting the perceived credit risk play a major role in the pricing of government bonds. In particular, the different fiscal positions and economic prospects of euro area countries affect the ability of countries to face challenges arising from unexpected adverse shocks, their ability to grow and, in extreme cases, their ability to fulfil debt obligations. The different fiscal positions and growth prospects should therefore be reflected in the costs of bond financing.[61] For this reason, as discussed in previous editions of this report, sovereign bond spreads alone are not sufficient indicators of financial integration. An exaggerated perception of credit risk, however, can lead to a worsening of financial integration.

A second group of factors influencing bond yields, more directly related to financial integration, are the liquidity factors. These encompass the effects on yields of changes in investor demand that are not induced by changes in issuer quality or the risk-free rates.[62] In particular, they might reflect portfolio allocation decisions motivated by the preference for more liquid instruments (permanent effects) or by short-term trading strategies (temporary effects). For example, the fact that certain sovereign bonds are an underlying asset for heavily traded futures contracts can increase the investor preference or the investor base for them, thus increasing their liquidity.[63] An example of temporary increases in investor demand influencing yields is the phenomenon of "flight to liquidity" observed during the recent crisis.[64] Furthermore, in extreme cases, investors may suddenly become unwilling to trade at all in some bond markets.[65]

61 Several studies show the role of fundamental factors in the yields of sovereign bonds (e.g., Bernoth, K., von Hagen, J. and Schuknecht, L. (2004), "Sovereign risk premia in the European government bond market", *Working Paper Series*, No 369, ECB).

62 Generally, bond yields for any issuers depend on the level of risk-free rates. This Special Feature focuses on the differences between yields of issuers within the euro area, and it analyses cross-country differences in the quality of the issuers and observed liquidity effects. The risk-free rates are the same for all euro area issuers due to the single monetary policy.

63 For the documentation of the yield premium in the German sovereign bond market due to the existence of a large futures market for these bonds, see Ejsing, J. and Sihvonen, J. (2009), "Liquidity premia in German government bonds", *Working Paper Series*, No 1081, ECB. Another example of a permanent yield effect of investor demand for liquid assets is an "on-the-run premium", which was first documented for the US Treasury in Warga, A. (1992), "Bond returns, liquidity and missing data", Journal of Financial and Quantitative Analysis, 27, pp. 605-617.

64 For the euro area such effects were documented in Box 4 of the September 2009 issue of the ECB's Monthly Bulletin, entitled "New evidence on credit and liquidity premia in selected euro area sovereign yields".

65 Such cases were indeed observed for certain euro area sovereign bond markets. For more details, see Box 3 in the June 2010 issue of the ECB's Monthly Bulletin, entitled "Developments in financial markets in early May".

This Special Feature analyses euro area government bond markets from a cross-country perspective, taking into account the effects of perceived credit quality and the shift in investor preference towards liquid and safe assets, which was the cause of the divergence in sovereign yields in recent years, especially in 2010. Furthermore, it discusses divergence in euro area corporate bond markets.

2 CONVERGENCE AND DIVERGENCE OF YIELDS

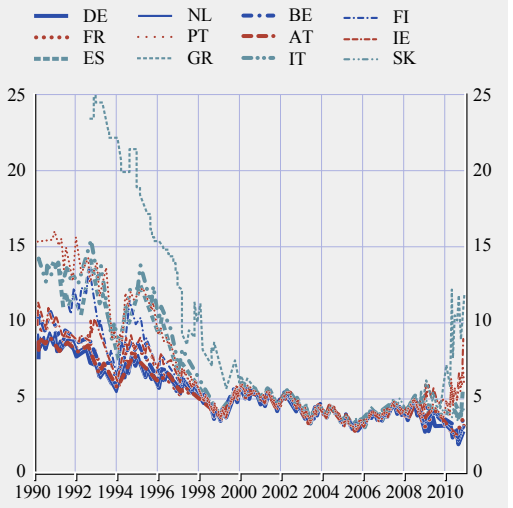
Chart 47 shows developments in ten-year government bond yields for euro area countries in the period from 1990 to 2010. After a period of convergence in the early 1990s (for Greece in the late 1990s), for several years the differences in yields among euro area countries were not larger than 50 basis points. During the last three years, and especially during the 2010 sovereign crisis, government bond markets in the euro area have been showing increasing yield differences. However, the level of spreads for most countries is still not comparable to the levels observed in the years before the launch of EMU.[66]

Another aspect of the integration of sovereign bond markets, in addition to the level of yields, is their co-movement. In particular, if bond yields of different countries react in a similar way to the same events, the degree of heterogeneity due to idiosyncratic effects decreases. To analyse this aspect of the developments in the euro area sovereign bond markets, Chart 48 presents the results of a principal component analysis conducted for daily yield changes.

66 It also remains an open question, what level of spreads would be sufficient to draw conclusions about disintegration, rather than just divergence, of the euro area sovereign bond markets. Given that pricing took virtually no account of discrepancies in the fiscal positions of countries in the years preceding the financial crisis, it is plausible that the recent spread divergence might be partly due to the correction in the pricing in of fiscal figures, rather than a sign of disintegration of this market.

Chart 47 Euro area ten-year sovereign bond yields from 1990 to 2010

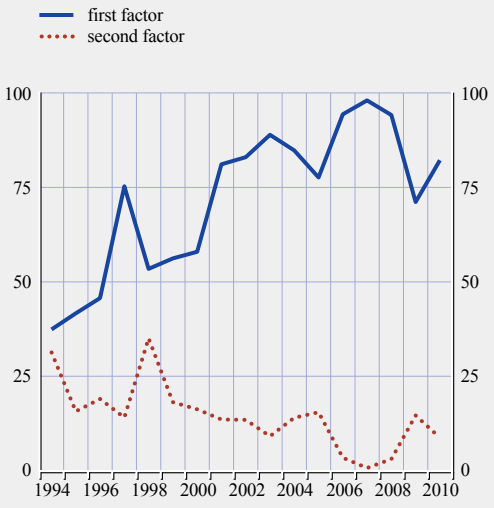
(daily data; percentage points)



Sources: Thomson Reuters Datastream and ECB.
Notes: The chart presents the yields of euro area sovereigns for the country composition as in 2010. The yields for Cyprus, Luxembourg, Malta and Slovenia are excluded due to a lack of or infrequent observations.

Chart 48 The information content of factors explaining daily yield changes in euro area sovereign bond markets

(yearly data; percentages)



Sources: Thomson Reuters Datastream and ECB calculations.
Notes: Principle components of daily yield changes were computed for each year, starting with 1994, in which the whole sample of yields is available from the beginning of the year. Differentiation and partition of the sample ensures the stationarity of time series used for the analysis. The chart presents the percentage of the variance explained by the first and the second principle components. The sample includes 11 euro area countries (excluding Cyprus, Luxembourg, Malta, Slovakia and Slovenia).

The explanatory power of the first principal component, i.e. the factor most important for reflecting the co-movement of yield changes, has grown since the 1990s. In 2007 it even reached almost 100%, meaning that yields in euro area countries followed exactly the same pattern. The explanatory power of the first common factor was reduced during most of the crisis.[67] Further results show that at the same time, the number of factors important for explaining sovereign yield changes increased. Overall, similar to the patterns observed for the yield levels, there are indications of convergence before 2008 and a subsequent divergence in the co-movement of euro area sovereign markets.

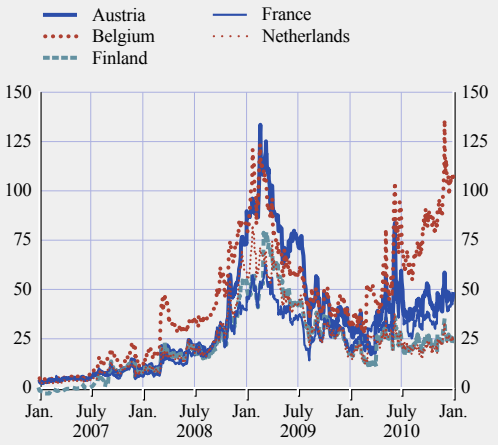
The recent period of divergence in euro area sovereign bond markets has not only been characterised by increases in spreads for countries with very severe fiscal problems. The process of building up cross-country yield differences has affected all euro area countries. Chart 49 shows that the yield spreads also increased for countries whose fiscal positions are broadly similar.[68]

In addition to the differentiation among the levels of cost of accessing the bond market faced by various euro area sovereigns, their yields developed in different directions in 2010. Table 2 shows that, while the yields of some countries decreased substantially, the yields of others increased.

Overall, sovereign bond yields diverged considerably during the recent crisis. The following section focuses in more detail on the factors driving the divergence within the euro area sovereign bond markets. In particular, it analyses the extent to which the effects resulting from the changing perceived credit risk and risk aversion and the changing preference for liquid and safe assets played a role in the observed developments.

Chart 49 Ten-year sovereign bond spreads of selected euro area countries vis-à-vis Germany

(daily data; basis points)



Sources: Thomson Reuters Datastream and ECB.

67 More recently, in 2010, the explanatory power of the first principal component has picked up again somewhat, indicating that also common risk factors contributed to sovereign spread developments in 2010.

68 A recent overview of fiscal indicators for euro area countries can be found in Rother, P., Schuknecht, L. and Stark, J. (2010), "The benefits of fiscal consolidation in uncharted waters", Occasional Paper Series, No 121, ECB.

Table 2 Changes in ten-year sovereign bond yields of euro area countries during 2010

Country	Yield change in 2010
Austria	-30
Belgium	25
Finland	-40
France	-23
Germany	-50
Greece	662
Ireland	388
Italy	72
Netherlands	-40
Portugal	263
Slovakia	-2
Spain	151

Sources: Thomson Reuters Datastream and ECB.
Note: The change in yield is computed between 1 January 2010 and 31 December 2010.

3 PERCEIVED CREDIT RISK AND LIQUIDITY EFFECTS IN SOVEREIGN BOND MARKETS

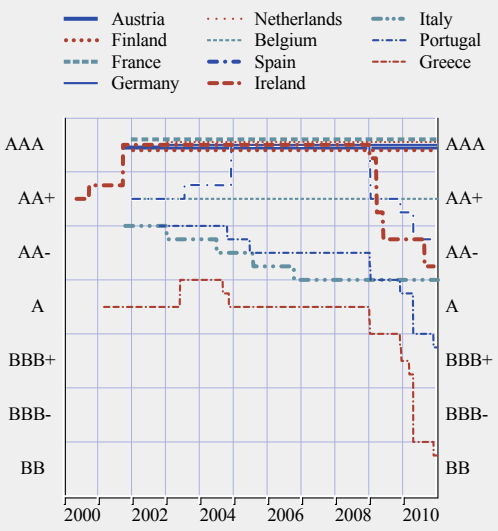
Bond markets are influenced by various factors, such as the level of the nominal long-term risk-free interest rate, the perceived quality of the issuer, the degree of liquidity of the markets where the instruments are traded, the co-movement of returns with other portfolio assets, investor preference for liquid instruments, and currently followed trading strategies. Due to the single monetary policy in the euro area, the level of nominal long-term risk-free rates is the same for all sovereign bonds.[69]

The cross-country divergence in yields can be explained by the increasing differences in the perceived issuer credit risk or liquidity factors. More specifically, credit risk factors are perceived as (possibly) affecting the real return on a bond, even if it is being held to maturity. Liquidity factors are price changes caused by shifts in investor demand towards more liquid assets.

Issuer quality, and thus the premium for credit risk, is very difficult to assess. In industrialised countries in particular, default is a tail event and its occurrence is determined by the interplay of various circumstances. Still, some gauges of sovereign quality can be derived by analysing fiscal positions and economic variables which allow growth opportunities to be assessed. One example of an assessment of the sovereign debt quality of euro area issuers is presented in Chart 50, which tracks sovereign ratings over the last ten years.

Based on this measure, a significant divergence in the debt quality of euro area countries can be observed during 2010. This is caused by the negative economic shock of the recent crisis, which influenced growth prospects and, in some countries, future growth potential, and resulted in strains on the income side of sovereign budgets. At the same time, dealing with the consequences of the crisis involved a large effort on the expenditure side.[70] These two factors resulted in the deterioration of the fiscal situation in euro area countries. Sovereigns which entered the crisis with weaker debt-deficit positions and/or unsustainable external positions or growth paths were particularly badly affected and therefore suffered a more marked deterioration in their perceived credit quality.

Chart 50 Sovereign debt ratings of selected euro area countries



Sources: Thomson Reuters Datastream and ECB.
Note: The chart shows Standard & Poor's ratings for long-term sovereign debt.

Apart from the divergence in credit quality, another important reason for the divergence in the yields on euro area sovereign bonds during 2010 is the market focus on and increased scrutinising of fiscal figures. Much less attention was paid to the differences in economic and fiscal indicators in the years preceding the crisis than recently,

69 The concept of long-term risk-free interest rates became difficult to operationalise during the recent sovereign crisis as sovereign bonds yields were distorted either by credit risk or by liquidity premia. From an analytical perspective, however, the concept of risk-free rates is nevertheless crucial as it refers to the part of a long-term bond yield that reflects expected future policy rates and is not affected by credit risk components.

70 A comprehensive study documenting the risk transfer from the banking sector to the sovereign sector during the 2008-2009 crisis is presented in Ejsing, J. and Lemke, W. (2011), "The Janus-headed salvation: sovereign and bank credit risk premia during 2008-2009", Economic Letters, 110 (1), 28-31.

when investors started to price these differences much more carefully, owing to increased awareness, risk aversion and vulnerability to shocks.[71] Moreover, the market started to react more sensitively to any public announcements and official statements which allowed conclusions to be drawn and predictions to be made about the future state of public finances in a given country.

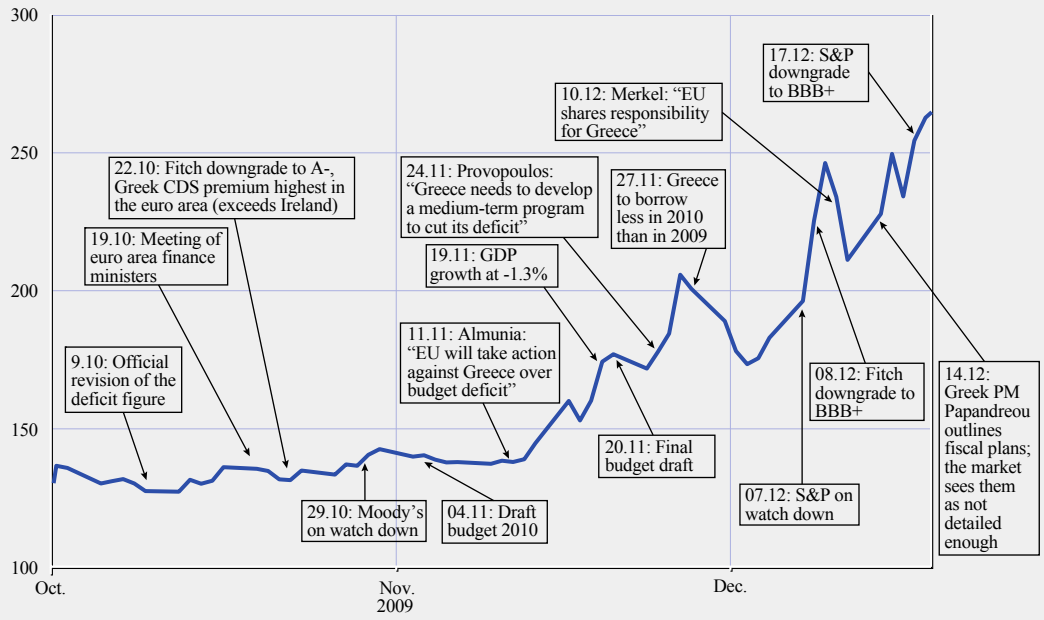
A good example is the reaction to the news regarding Greek state deficits and the country's fiscal prospects during the initial phase of the sovereign crisis (see Chart 51).[72] Although revisions of figures, changes in ratings and statements by European and Greek officials had been taking place since the beginning of October 2009, it was not until late November and December 2009 that the market started to react to such events. In 2010, however, almost every piece of news provoked strong reactions. Such high sensitivity to the information flow resulted in increased volatility of sovereign bond yields. Moreover, numerous analyses of fiscal prospects for Greece and other euro area countries have been produced by market observers, reflecting their increased interest in assessing the credit risk of sovereign bonds.

71 The observed behaviour of market participants' risk perception could reflect, for example, a non-linear threshold effect. It is possible that market participants started monitoring fiscal situations more carefully only after reaching a certain level of sovereign risk.

72 The starting date for the period in which Greek budget problems have been broadly discussed is defined as 9 Oct 2009, the date of the official revision of deficit figures following the Greek parliamentary elections. However, other revisions had occurred earlier in 2009 and in preceding years.

Chart 51 Sovereign yield spread of Greece vis-à-vis Germany in the early phase of the sovereign crisis

(daily data; basis points)



Sources: Thomson Reuters Datastream and ECB.
Note: The chart shows the Greek ten-year sovereign yield spread vis-à-vis the German ten-year yield along with events during the initial phase of the sovereign crisis (from 9 October 2009, the date of the official revision of deficit figures after the parliamentary elections, to mid- December 2009).

Whether the increase in risk discrimination between sovereign bonds by market participants is a healthy return to the "pricing of risk" or an exaggeration of market perceptions is difficult to gauge at this stage.

Another, market-based, gauge of credit risk is the credit default swap (CDS) premium.[73] This market has also been widely observed to track the developments in sovereign credit risk during the crisis. Box 3 analyses in more detail the interconnections between the CDS and bond markets.

73 The buyer of a CDS contract is buying protection against the default of the issuer of the paper against which the CDS contract is written. The premium on a CDS on a sovereign bond therefore reflects the cost of buying protection against sovereign default.

Box 3

THE INTERACTION BETWEEN SOVEREIGN CDS AND THE UNDERLYING GOVERNMENT BONDS

Since the beginning of 2010 euro area sovereign bond markets have experienced significant strains as reflected in a considerable further widening of yield spreads across Member States from the already higher spreads which had been observed in earlier stages of the financial and economic crisis. The increased dispersion of bond yields of the different governments was caused by changing market perceptions of the creditworthiness of sovereign issuers and by differential impacts of changing liquidity conditions.[1] Against this background, this box investigates the additional information content of credit default swap (CDS) contracts written against euro area sovereign entities. In theory, CDS premia and bond spreads should move in parallel, but, as this box highlights, very different patterns were seen across euro area countries in the period from May 2008 to October 2010.

A CDS contract transfers the risk that a certain entity will become insolvent from the "protection buyer" to the "protection seller" in exchange for the payment of a regular fee.[2] In general, sovereign CDSs are traded over-the-counter and have a maturity of one to ten years. Rather than being pure insurance instruments, sovereign CDSs are also used to take positions on spreads, depending on investment views over a short horizon.

The relationship between the CDS premium and the bond spread for the same entity and maturity can be represented by the CDS-bond basis which can be defined as:

CDS-bond basis = CDS premium – bond spread = CDS premium – (bond yield – benchmark rate), where the CDS premium reflects the market's assessment of the sovereign's credit risk and the bond spread is the difference between the yield-to-maturity of the underlying bond and a benchmark rate with equal maturity, such as the overnight indexed swap (OIS) rate.[3] As the CDS is meant to hedge the solvency risk, the CDS premium should roughly equal the bond spread, resulting in a zero CDS-bond basis in the case of a perfect market. In practice, however,

1 See "Chapter 1: Recent developments in financial integration in the euro area", *Financial integration in Europe*, ECB, April 2010.
2 For example, if the agreed rate is 6% and the notional is €100 million, the annual protection fee is €6 million. If the borrower becomes insolvent the protection buyer will be compensated for the difference between the notional amount of the loan and its recovery value.
3 The overnight indexed swap is the interest rate swap where the floating rate of the swap equals the average of an overnight index (EONIA) over the respective period. It is the most widely used benchmark rate because it guarantees a homogenous reference across the euro area. Alternatively, market participants use the German government bond yield as a benchmark rate, but the main disadvantage with this is that this yield may incorporate a substantial convenience yield.

CDS premia and bond spreads are not equal and the CDS-bond basis is typically above zero (around 20 to 30 basis points) even in quiet market conditions. A number of factors, such as trading costs, counterparty risk in the CDS market and market frictions, can impede the arbitrage opportunity. One factor in particular, market liquidity, plays a key role in the determination of the CDS-bond basis. In fact, while the CDS is a derivative contract, the bond is a cash instrument and its yield is affected by a liquidity premium. Therefore, the CDS-bond basis can be interpreted as an indicator of bond market liquidity conditions.[4]

Recent ECB research documents the following facts concerning the CDS-bond basis.[5] The chart below depicts the CDS-bond basis for selected euro area countries over the period from June 2008 to December 2010 and illustrates two significant phenomena. First, for one group of countries (Austria, Belgium, Germany, France, Italy, the Netherlands and Spain), the sovereign CDS premia have been larger than the underlying government bond spreads, especially during the period following the bankruptcy of Lehman Brothers, meaning that the CDS-bond basis has deviated from zero and remained positive. A possible explanation in the case of some of the countries, like Germany and France, could be "flight to liquidity" effects.[6] In periods of market

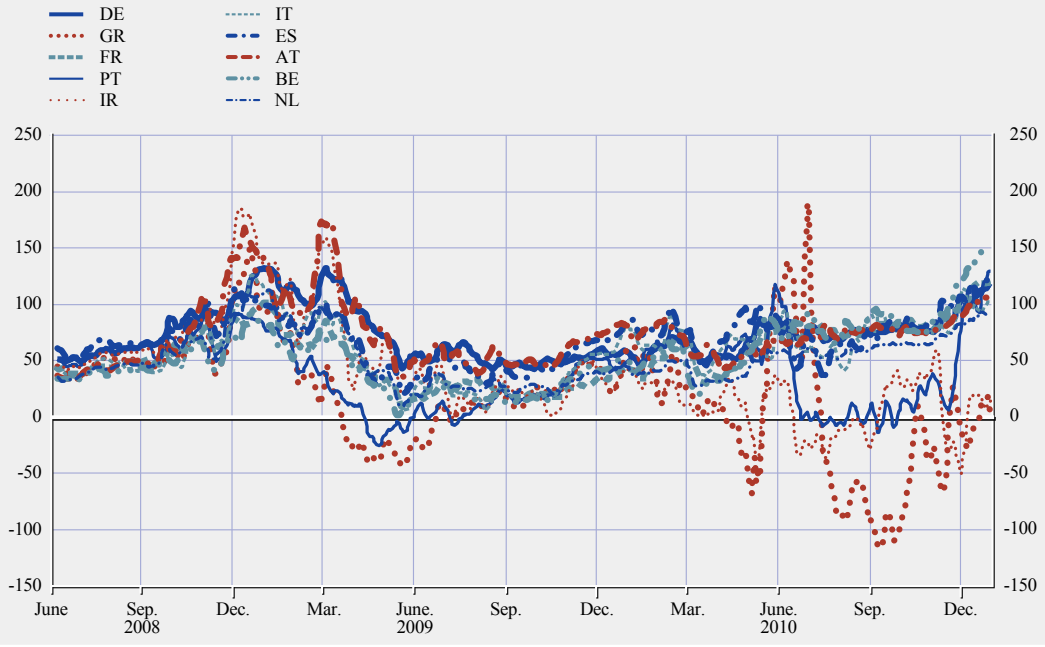
4 However, the degree of liquidity may also vary in the market for the CDS on different issuers which might also have an impact on the CDS-bond basis (Bongaerts, D., de Jong, F. and Driessen, J. (2011), "Derivative pricing with liquidity risk: theory and evidence from the credit default swap market", *Journal of Finance*, 66 (1), 203-240.

5 Fontana, A. and Scheicher, M. (2010), "An analysis of euro area sovereign CDS and their relation with government bonds", *Working Paper Series*, No 1271, ECB.

6 Beber, A., Brandt, M.W. and Kavavejc, K.A. (2009), "Flight-to-quality or flight-to-liquidity? Evidence from the euro-area bond market", *Review of Financial Studies*, 22, pp. 925-57.

CDS-bond basis (= CDS premium – bond spread) for selected euro area countries

(daily data; basis points)



Sources: Bloomberg, Thomson Reuters Datastream and ECB.
Notes: The chart shows the CDS-bond basis (= CDS premium – bond spread) for the ten-year maturity in the period from 1 July 2008 to 31 December 2010. The government bond spread is calculated with respect to the ten-year overnight indexed swap rate.

distress, higher demand for government bonds which are perceived as particularly liquid drives down the liquidity premium and thus the yield of these bonds, but the perceived credit risk and thus the corresponding CDS premia remain constant, so the CDS-bond basis increases. This is captured in the chart, for example, by the larger CDS-bond basis for Germany than for France over the period from November 2008 to February 2010.[7] This is consistent with the "flight to liquidity" effects discussed in Box 4. A further explanation for the positive CDS-bond basis could be that CDS premia rose due to increasing demand for CDS protection and capital constraints which limited the supply of protection, while the degree of liquidity of the reference bonds was not much affected. This would apply to countries for which there have been solvency concerns, such as Italy and Spain.

The second phenomenon illustrated in the chart is that the CDS-bond basis for countries for which there have been significant solvency concerns exhibits a different pattern. For Greece, Portugal and Ireland, the chart shows pronounced variations in the basis. For example, for Greece there were three periods in which the CDS-bond basis was temporarily negative: March-June 2009, April-May 2010 and July-December 2010. In these circumstances, deterioration in bond market liquidity strongly drove up bond spreads relative to the CDS premia. The sharp increase in the CDS-bond basis for Greece (and to a lesser degree for Portugal and Ireland) in May 2010 coincided with three policy announcements: two concerning the establishment of the European Financial Stabilisation Mechanism and the European Financial Stability Facility, both aimed at preserving financial stability by providing assistance to members in difficulty, and one concerning of ECB interventions in bond markets under the Securities Markets Programme to ensure depth and liquidity in dysfunctional market segments. However, CDS and bond spreads reverted to their upward trend and, moreover, in July 2010 the CDS-bond basis for Greece shifted dramatically and persistently into negative territory.

To summarise, while in normal times the CDS-bond basis is expected to be close to zero, this does not necessarily hold true in times of financial crisis. In the recent crisis euro area sovereign bond markets were characterised both by episodes of "flight to liquidity" in some markets and by episodes of deterioration in liquidity in others, besides the potential importance of solvency concerns. Recent policy actions helped improve sentiment in euro area sovereign debt markets, although cross-country divergence of the CDS-bond basis within euro area sovereign bond markets persists.

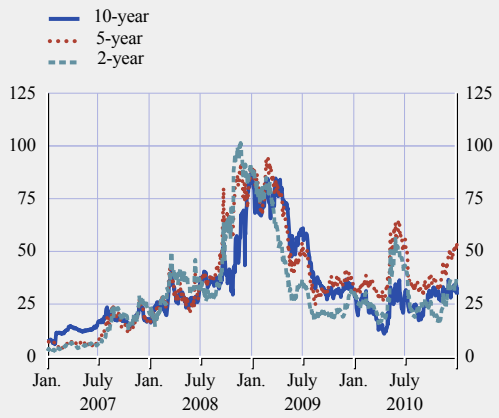
7 Interestingly, the empirical relationship between CDSs and bonds for sovereign entities differs from the pattern observed in the corporate bond markets, where the CDS-bond basis has become negative. See Fontana, A. (2010), "The persistent negative CDS-bond basis during the 2007/2008 financial crisis?", *Working Paper Series*, Ca' Foscari University of Venice.

The divergence of yields observed in recent years among euro area sovereigns was also to some extent caused by liquidity factors. Accounting for such effects is particularly important when analysing the bond markets of issuers with quite similar fiscal positions.[74] Specifically, after the bankruptcy of Lehman Brothers, high uncertainty and resulting

74 For the first documentation of such effects in the euro area bond markets during the crisis, see Box 4, "New evidence on credit and liquidity premia in selected euro area sovereign yields", in the September 2009 issue of the ECB Monthly Bulletin.

Chart 52 German sovereign bond liquidity premia

(daily data; basis points)



Sources: Thomson Reuters Datastream and ECB.
Note: Zero-coupon spreads between German agency (Kreditanstalt für Wiederaufbau) and government bond yields.

tensions in world markets caused the swift re-allocation of assets to safe and liquid instruments, in particular US Treasuries and German government bonds. This "flight to liquidity", although temporary, compressed the affected yields substantially.[75] The shift in investor preference towards highly liquid assets contributed to a divergence in euro area sovereign yields. The quantification of the magnitude of this effect for German sovereign yields with various maturities as presented in Chart 52 suggests the existence of a non-fundamentals based euro area yield discrepancy of up to 100 basis points at the peak of the crisis.

Box 4 presents the methodology of isolating liquidity effects in sovereign yields, as well as the results for German and French markets in more detail.

75 It cannot be excluded that some of the assets redirected to large and safe bond markets were withdrawn from smaller and more vulnerable bond markets.

Box 4

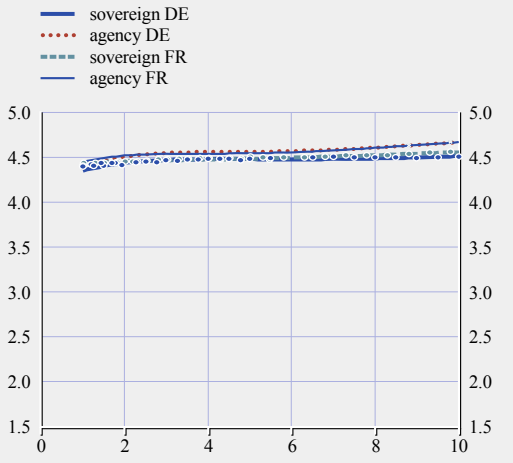
EPISODES OF "FLIGHT TO LIQUIDITY" FOR GERMAN AND FRENCH SOVEREIGN BONDS IN 2008-2009 AND IN MAY 2010

Liquidity premia can be measured by comparing yields on government bonds and government-guaranteed agency bonds. In the presence of explicit and full government guarantees, the credit risk of agency bonds is exactly the same as the sovereign credit risk. Therefore, the spread between agency and government yields should reflect the price of liquidity.[1]

In the euro area, two large agencies – the German Kreditanstalt für Wiederaufbau (KfW)[2] and the French Caisse d'Amortissement de la Dette Sociale (CADES)[3] – issue a considerable amount of bonds at various maturities which can be used for estimating reliable yield curves. While the objectives and the core business areas of these two institutions are different, both of them have an explicit and full debt guarantee from the respective state. This implies that the credit risk of KfW and CADES should be the same as the credit risk of the German and French state, respectively.

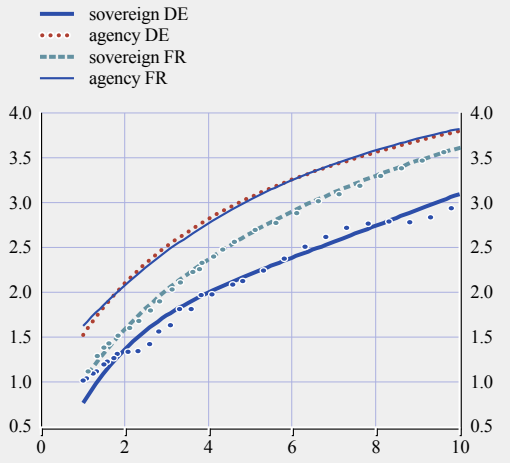
1 A similar logic was applied in Longstaff (2004) for the United States and, more recently, in Schwarz (2009) for Germany. See Longstaff, F.A. (2004), "The flight to liquidity premium in U.S. Treasury bond prices", *Journal of Business*, 77, pp. 511-526, and Schwarz, K. (2009), "Mind the gap: disentangling credit and liquidity in risk spreads", Working Paper, Columbia University.
2 KfW is a German development bank involved in supporting public policies like lending to SMEs, housing, infrastructure and environmental projects. The bank is owned by the Federal Republic of Germany (80%) and the German Länder (20%). KfW has an explicit guarantee from the German state which is written in a special law on the KfW.
3 CADES is a French public entity created to refinance and amortise the accumulated debt of the French social security system. It uses the proceeds of a dedicated tax to amortise the debt. It is fully owned by the French state, which guarantees its obligations against insolvency and offers liquidity support if needed.

Chart A Par yield curves on 2 July 2007



Sources: Bloomberg and ECB calculations.
Note: The circles refer to the yield-to-maturity on the individual bonds used in the estimation of the curves. Data in percentage points. Residual maturity in years on the x-axis.

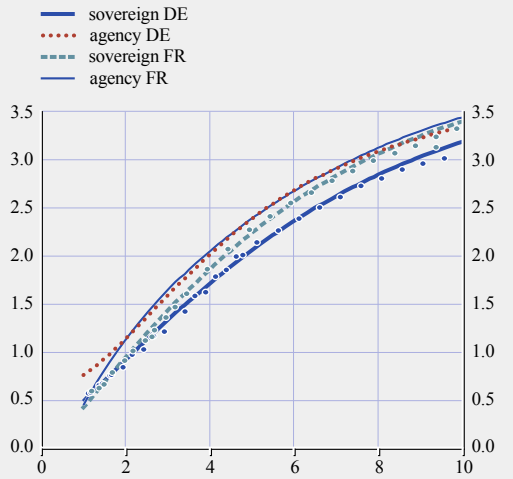
Chart B Par yield curves on 9 March 2009



Sources: Bloomberg and ECB calculations.
Note: The circles refer to the yield-to-maturity on the individual bonds used in the estimation of the curves. Data in percentage points. Residual maturity in years on the x-axis.

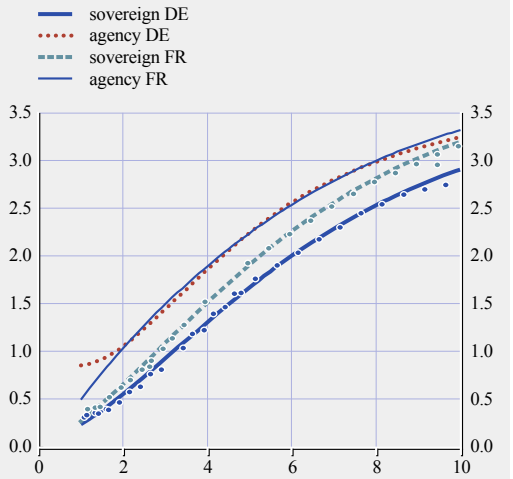
Charts A to D show the configurations of the four yield curves (German and French sovereign and agency yield curves) on the following dates: (A) 2 July 2007, just before the onset of the money-market turmoil, (B) 9 March 2009, when the ten-year French-German sovereign spread peaked (at 54 basis points), (C) 26 April 2010, just before the confidence crisis in May 2010, and (D) at the peak of the sovereign bond market tensions on 7 May 2010. For all four charts,

Chart C Par yield curves on 26 April 2010



Sources: Bloomberg and ECB calculations.
Note: The circles refer to the yield-to-maturity on the individual bonds used in the estimation of the curves. Data in percentage points. Residual maturity in years on the x-axis.

Chart D Par yield curves on 7 May 2010



Sources: Bloomberg and ECB calculations.
Note: The circles refer to the yield-to-maturity on the individual bonds used in the estimation of the curves. Data in percentage points. Residual maturity in years on the x-axis.

the scaling of the y-axis ensures the comparability of the distances between the curves (while the levels are shifted where necessary).[4]

Before the onset of the turmoil in mid-2007, all yield curves essentially overlapped. Throughout the crisis, even when the wedge between the French and German sovereign curves was wide, the agency curves still almost overlapped. This suggests that significant liquidity premia observed through the crisis are very likely to reflect mainly downward pressure on "safe haven" government bonds, rather than upward pressure on agency bond yields.

While liquidity premia declined before late April 2010, the sovereign curves returned closer to the initial position of overlapping with the agency curves. In early May 2010 another "flight to liquidity", particularly towards German sovereign bonds, could be observed, which again resulted in downward pressure on sovereign curves.

4 We have estimated the yield curves for the four issuers using exponential basis functions, as proposed in Vasicek, O. and Fong, G. (1982), "Term structure modeling using exponential splines", Journal of Finance, 37, pp. 339-348. For details of this method, see also Bolder, D.J. and Gusba, S. (2002), "Exponentials, polynomials, and Fourier series: more yield curve modeling at the Bank of Canada", *Working Paper*, 02-29, Bank of Canada.

4 DEVELOPMENTS IN CORPORATE BOND MARKETS

Sovereign bonds are often perceived as the benchmark for the pricing of other debt instruments. Thus the divergence in yields across euro area sovereign bonds can be related to yield movements in corporate bond markets. Such an effect could occur through, again, perceived credit risk and liquidity channels.

For example, if increasing sovereign yields reflect the deteriorating economic outlook of a country, this could be also reflected in the corporate bond yields, because of the risk of lower profits in the future, which would in turn increase credit risk of a company. Liquidity channels could, for example, be related to investors' portfolio shifts. Sovereign yields may increase as a result of a temporary withdrawal of funds by investors. If the market participants decide to generally close positions on products issued by all entities in a country, sudden shocks will be visible in both, sovereign and corporate yields.[76]

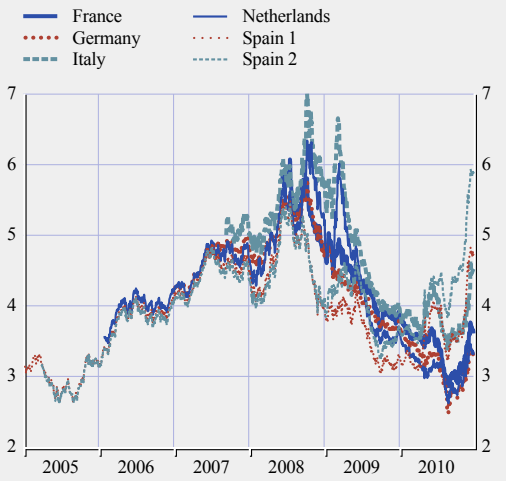
Observing corporate bond markets from a longer-term perspective, Chart 53 presents the estimated bond yields of several large banks in various euro area countries.[77] It shows that

76 Spillovers from corporate to sovereign bond markets can also happen, for example through the transfer of risk (as in the case of bank bailouts during the crisis).

77 Only banks for which a sufficient number of bonds were available to estimate the whole bond yield curve, or at least to have a robust gauge of the five-year maturity, were chosen. At the same time, these are the banks that make the most use of bond market financing.

Chart 53 Yields of bank bonds in selected euro area countries

(daily data, percentage points)



Sources: Bloomberg and ECB calculations.
Note: The chart presents five-year zero-coupon bond yields of large banks in several euro area countries (for Spain, covered bond yields of two banks are presented). The yields are computed for the five year maturity from the estimated yields curves for each bank. The curves are estimated using the same methodology as referred to in Box 4.

during the crisis, this market was characterised by a much higher dispersion of yields than during the years before. This, of course, does not imply a uni-directional causality from sovereign bonds to corporate bonds but rather complicated interactions in the markets. In some countries the bailout of the banking sector adversely affected the fiscal situation. By contrast, in some other countries a huge decline in sovereign bond prices amid worsening fiscal situations adversely affected the banking sector.

Taking a more detailed view of the most recent developments, Chart 54 presents the spreads of individual bonds issued by banks in different euro area countries vis-à-vis the overnight indexed swap rate.[78] Some spillovers of tensions in the sovereign bond markets in May 2010 can be observed in the bonds of several banks. Overall, since the beginning of the year, a significant divergence within this market is evident.

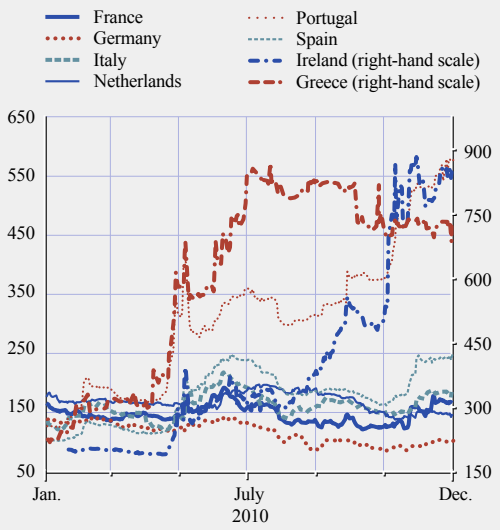
In addition to the cross-country divergence in the market for financial corporate bonds, there is also some evidence of this divergence in non-financial corporate bond markets. Some examples can be found of the widening of spreads during 2010 between the bonds of companies of the same sector based in different countries. As an example of the developments in one of the non-financial sectors, Chart 55 presents the corporate CDS on telecommunications companies in several euro area countries.[79] This market also became less homogenous in the course of 2010, although not to the extent observed in sovereign CDS and bond markets.

78 The sample of banks is larger because the chart reports yields of single bonds and not yields from estimated yield curves. Thus, even banks with only a few bonds can be reported. The bond closest to the five-year maturity is chosen. The benchmark OIS rate used is the one which matches exactly the maturity of the reported bond.

79 Due to data availability, it is much easier to analyse the corporate CDS market in this case. However, due to the structure of CDS contracts, the quoted premia should be correlated with the credit risk component of the respective bond yields. Also, experience from other bond and CDS markets shows that there is usually a correlation between CDS premia and corresponding bond spreads.

Chart 54 Bond spreads of the largest banks in selected euro area countries during 2010

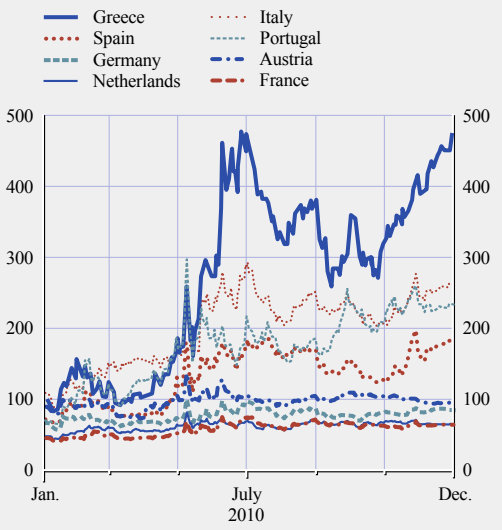
(daily data; basis points)



Sources: Bloomberg and ECB calculations.
Note: The chart presents spreads between bond yields of one of each country's largest banks and the overnight indexed swap (OIS) rate with the corresponding maturity (ca. five years).

Chart 55 CDS premia of telecom companies in selected euro area countries during 2010

(daily data; basis points)



Source: Thomson Reuters Datastream.
Note: The chart presents 5-year CDS spreads on telecom companies from the selected euro area countries.

5 CONCLUSION

This Special Feature presented recent evidence on the cross-country divergence of yields within the euro area sovereign bond markets observed since the beginning of the financial crisis and most notably in the course of 2010. These developments occurred after ten years of very tight co-movement among the bond yields of various euro area sovereigns.

The evidence presented here shows that the divergence in this market was caused by both perceived credit risk and liquidity effects, although to a different extent for different countries. The relative importance of each factor is in general very difficult to determine, and also changed as the crisis evolved.

The increasing divergence observed in the sovereign bond markets can also to some extent be seen in the euro area financial and non-financial corporate bond markets.

The recent widening of sovereign bond spreads reflects pricing of increased risk of some government bonds but also indicates market overreaction to some extent, which is potentially problematic for sovereign bond market integration. Further monitoring of developments in sovereign bond markets from the perspective of financial integration is warranted, in order to better gauge the nature and implications of the phenomenon.

CHAPTER III

EUROSYSTEM ACTIVITIES FOR FINANCIAL INTEGRATION

The Eurosystem distinguishes between four types of activity through which it contributes to the enhancement of financial integration: (i) advising on the legislative and regulatory framework for the financial system and direct rule-making; (ii) acting as a catalyst for private sector activities by facilitating collective action; (iii) enhancing knowledge, raising awareness and monitoring the state of European financial integration; and (iv) providing central bank services that also foster European financial integration. The following sections provide an overview of the Eurosystem's contributions in these areas, focusing on the initiatives pursued during 2010.

1 THE LEGISLATIVE AND REGULATORY FRAMEWORK FOR THE FINANCIAL SYSTEM

While the Eurosystem considers financial integration to be first and foremost a market-driven process, the legislative and regulatory framework for the financial system clearly plays an important facilitating role. In order to support the efficient and effective conduct of cross-border financial activities, the EU framework should be designed to lower legal and regulatory impediments and provide a level playing field, while ensuring that the necessary financial stability safeguards are in place. In particular, strong mechanisms for information-sharing and coordination between home and host authorities are needed to ensure that potential cross-border vulnerabilities are detected and adequately addressed.

Against this background and in line with their advisory and regulatory functions,[1] the ECB and the Eurosystem monitor and actively contribute to the development of the EU legislative and regulatory framework.

More specifically, the ECB and the Eurosystem provide input for strategic policy reflections, such as on the overall EU financial services policy strategy or on the further development of the EU framework for financial regulation and supervision. Examples of such input are the publication of Eurosystem position papers on the websites of the ECB and NCBs and informal discussions with the regulatory and supervisory committees. Furthermore, the ECB and the Eurosystem provide both formal opinions and informal input for EU legislation in the area of financial services. They may also contribute to ex post evaluation of regulatory measures.

During 2010 the activities of the ECB and the Eurosystem in this area related in particular to the following issues.

EU SUPERVISORY ARRANGEMENTS

Following the proposals of the de Larosière report in February 2009, formulating a comprehensive set of recommendations relating, in particular, to the EU supervisory architecture, the legislative process concerning the reform of the EU supervisory arrangements has been finalised. Subsequent to the legislative proposals formulated by the European Commission in September 2009, the European Parliament gave the final seal of approval to the legislative package on 22 September, and it was formally adopted by the ECOFIN on 17 November 2010.

The ECB and the Eurosystem have actively contributed to the development of the new EU supervisory framework, which rests on two pillars:

– *A macro-prudential pillar, which consists of the European Systemic Risk Board (ESRB)*, which is responsible for the macro-prudential supervision of the whole EU financial sector. This pillar is based on: (i) a Regulation of the European Parliament and of the Council on EU macro-prudential oversight of the financial system and establishing the ESRB[2]

1 The ECB must be consulted, within its fields of competence, on any proposed Union act or any draft legislative provision proposed by national authorities. Furthermore, the ECB has the right to issue regulations in certain areas, for example in the field of payment systems and statistics.

2 Regulation (EU) No 1092/2010 of the European Parliament and of the Council of 24 November 2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board (OJ L 331, 15.12.2010, p. 1).

and (ii) a Council Regulation conferring specific tasks upon the ECB concerning the functioning of the ESRB;[3]

– *A micro-prudential pillar, which consists of three European Supervisory Authorities (ESAs)* with tasks related to the banking, insurance and securities sectors respectively. The legislative framework is based on: (i) three Regulations of the European Parliament and of the Council relating to the establishment of the three ESAs[4] and (ii) a Directive of the European Parliament and of the Council amending EU legislation in respect of the powers of the ESAs (the "Omnibus Directive").[5]

In accordance with the newly adopted provisions, the ESRB and the ESAs were formally established on 16 December 2010 and on 1 January 2011, respectively. Together with the competent national supervisory authorities, they form part of a European System of Financial Supervision (ESFS), the purpose of which is to ensure the supervision of the EU financial system.

As regards macro-prudential supervision, the ESRB's main objective is to contribute to the prevention and mitigation of systemic risks to financial stability in the EU arising from developments within the financial system and taking into account macroeconomic developments. For this purpose, the ESRB carries out the following four main tasks: risk surveillance (or risk identification), risk assessment (or evaluation of risk severity), followed by potential risk warnings and, where relevant, policy recommendations.

In terms of structure, the ESRB comprises (i) a decision-making body – the General Board – for the performance of the tasks entrusted to the ESRB, (ii) a steering committee which assists the decision-making process, and (iii) two advisory committees – the Advisory Scientific Committee (ASC) and the Advisory Technical Committee (ATC) – providing advice and assistance on issues relevant to the work of the ESRB.

The ECB provides the Secretariat and thereby analytical, statistical, administrative and logistical support to the ESRB. The national central banks are actively involved as (i) the Governors of all national central banks (NCBs) are members of the ESRB; (ii) representatives of NCBs and national supervisory authorities participate in the ATC.

As regards micro-prudential supervision, the mission and main tasks of the three ESAs – the European Banking Authority (EBA), the European Insurance and Occupational Pensions Authority (EIOPA) and the European Securities and Markets Authority (ESMA) – comprise issuing binding (and also non-binding) technical standards, the settlement of disagreements between supervisory authorities, and direct supervision of certain institutions (e.g. credit rating agencies). Cross-sectoral consistency in the activities of

3 Council Regulation (EU) No 1096/2010 of 17 November 2010 conferring specific tasks upon the European Central Bank concerning the functioning of the European Systemic Risk Board (OJ L 331, 15.12.2010, p. 162).

4 Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC (OJ L 331, 15.12.2010, p. 12).
Regulation (EU) No 1094/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Insurance and Occupational Pensions Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/79/EC (OJ L 331, 15.12.2010, p. 48).
Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC (OJ L 331, 15.12.2010, p. 84).

5 Directive 2010/78/EU of the European Parliament and of the Council of 24 November 2010 amending Directives 98/26/EC, 2002/87/EC, 2003/6/EC, 2003/41/EC, 2003/71/EC, 2004/39/EC, 2004/109/EC, 2005/60/EC, 2006/48/EC, 2006/49/EC and 2009/65/EC in respect of the powers of the European Supervisory Authority (European Banking Authority), the European Supervisory Authority (European Insurance and Occupational Pensions Authority) and the European Supervisory Authority (European Securities and Markets Authority) (Text with EEA relevance) (OJ L 331, 15.12.2010, p. 120).

the ESAs will be ensured by the establishment of a joint committee.

EU LEGAL FRAMEWORK FOR PAYMENT SERVICES AND SECURITIES

In 2004 the European Commission set out a roadmap for future action to enhance the safety and efficiency of post-trading arrangements in Europe. For this reason, it mandated a group of legal experts, the Legal Certainty Group, to advise the European Commission services on how legislation concerning securities holdings and dispositions could be improved. The Legal Certainty Group presented its Advice to the European Commission in August 2008, and this was also the subject of a public conference held on 23 October 2008 in Brussels. A first public consultation on this issue was held between 16 April and 11 June 2009. The European Commission services prepared a first set of draft provisions which were discussed with Member States' experts between February and June 2010. In view of the progress of discussions and further reflection on legal details, the European Commission submitted the outcome of this process to a second public consultation between 5 November 2010 and 1 January 2011. The second consultation concerned principles that would underpin future legislation in this field with a brief explanatory background.

The said principles recognise that EU law should provide the legal framework governing the holding and disposition of securities through securities accounts and the processing of rights flowing from securities held through securities accounts. The principles propose to harmonise the methods of acquisition and disposition of securities in the European Union, while the nature of the entitlements will be governed by national law. Acquisitions and dispositions effected by means of any of the harmonised methods would be valid in the event of the opening of any insolvency proceedings. The document contains principles on reversal and protection of good faith acquirers, as well as priority rules for various methods of acquisition and disposition. It further prohibits upper-tier attachments and attachments by creditors of an account provider. It provides for conflict of law rules and responsibilities for account providers to facilitate the account holder's position. Finally, it contains principles for the authorisation and regulation of account providers.

At the end of 2008, the European Commission services began drafting a proposal for a legal act with the aim of improving legal certainty of securities holdings and transactions. It was provisionally called the "Securities Law Directive" or "SLD". The aim was to dismantle the "Giovannini barriers" to efficient cross-border clearing and settlement in the EU. In May-June 2009, the European Commission conducted a public consultation of all stakeholders in which the ECB provided a supportive contribution. The European Commission organised a round of meetings of a Member States Expert Group.

Following comments by the members, the Commission separated aspects related to central securities depositories (CSDs) and set up a separate expert group to prepare a draft regulation concerning CSDs (the "CSDR"). The envisaged framework for future legislation on CSDs is intended to cover both authorisation and prudential requirements. The work is at a preliminary stage, with the Commission planning to define "technical standards" to address risks stemming from the activities conducted by CSDs. Other key issues to be addressed concern authorisation, its scope (covering some or all of the functions performed along the value chain), and the scope of a European passport regime.

EU LEGAL FRAMEWORK FOR OTC DERIVATIVES, CENTRAL COUNTERPARTIES AND TRADE REPOSITORIES

In September 2009 the G20 agreed at its meeting in Pittsburgh that all standardised OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties (CCPs) by end-2012 at the latest. OTC derivative contracts should be reported to trade repositories. Following this agreement,

two important developments took place in 2010: (i) the European Commission published a draft regulation and (ii) the Financial Stability Board (FSB) published a report on OTC derivatives. The ECB contributed to both workstreams which are primarily aimed at enhancing the stability of the financial system, but will also increase standardisation of financial market infrastructures, thus promoting financial integration.

In June 2010 the European Commission organised an open consultation to obtain feedback on the contours of possible legislative measures on OTC derivatives. In its response to the European Commission dated 9 July 2010, the Eurosystem welcomed a regulation in principle, but underlined that any legislative measures had to be in line with the CPSS-IOSCO standards for CCPs and trade repositories (TRs), should fully recognise the role and responsibilities assigned by the Treaty to the central banks in the field of payments and clearing systems, and should abstain from provisions that might affect the central banks' independence in designing the facilities that they might want to provide to financial market infrastructures.

On 15 September 2010 the European Commission adopted a proposal for a European market infrastructure regulation (EMIR) on OTC derivatives, CCPs and TRs. The draft regulation introduces a reporting obligation for OTC derivatives to TRs, stringent rules on prudential, organisational and conduct of business standards to reduce counterparty credit risk and operational risk for CCPs, mandatory CCP-clearing for contracts that have been standardised, and risk mitigation standards for contracts not cleared by a CCP. It also requires the use of electronic means for the timely confirmation of the terms of OTC derivatives contracts. Many of the provisions build upon the ESCB-CESR recommendations for CCPs that were published in 2009. The ECB supports the proposed regulation's aim to lay down uniform requirements for OTC derivative contracts, and for the performance of activities of CCPs and TRs. However, in view of the statutory role and responsibilities of central banks in respect of financial stability and the safety and efficiency of financial infrastructures, the adequate involvement of the ECB and the NCBs of the ESCB in various aspects of the proposed regulation needs to be ensured without regulating, in substance, on central bank competencies. The overarching regulatory objective should be to develop standards elaborated in close cooperation between ESMA and the ESCB, thereby avoiding the need for central banks to develop additional and potentially different oversight measures (including legal acts) to ensure the safety and soundness of CCPs and TRs. Furthermore, EMIR requires that CCPs have "access to adequate liquidity" as a pre-condition for obtaining authorisation to perform services and activities as a CCP. In its Opinion, the ECB pointed out clearly that central bank facilities are the most effective tool for market infrastructures in view of their liquidity and risk management needs, but it remains for the Eurosystem and other central banks to determine for themselves which facilities they wish to offer to CCPs and other market infrastructures, and under what terms.

Finally, on 25 October 2010 the FSB published a report on implementing OTC derivatives market reforms. The report sets out recommendations to implement the G20 commitments concerning standardisation, central clearing, organised platform trading, and reporting to trade repositories. The ECB participated in the working group that prepared the report and welcomes its findings and recommendations in principle, but believes that the extent to which the report can contribute to the timely implementation of the G20 objectives will greatly depend on the ability of these groups to carry out the follow-up work in line with the G20 mandate.

2 CATALYST FOR PRIVATE SECTOR ACTIVITIES

While public authorities have the responsibility of providing an adequate framework conducive

to financial integration, progress in European financial integration ultimately depends on private sector initiatives making full use of cross-border business opportunities. Competition among market players is a major driving force in this regard. In addition, progress made in the field of financial integration also depends on effective collective action, notably where heterogeneous market practices and standards need to be overcome. However, possible coordination problems may hamper such cooperative approaches among market participants. In such cases, public sector support for private sector coordination efforts may help to overcome possible difficulties.

Given its institutional characteristics, the Eurosystem is particularly well placed to play an active role as a catalyst for private sector activities in the field of European financial integration. The ECB is both a public authority with a pan-European remit and, in its capacity as the central bank of the euro area, an active market participant, with knowledge of and business contacts in the financial markets. Over the past few years, the ECB has acted as a catalyst in many fields. For example, the ECB calculates the euro overnight index average (EONIA) for the unsecured money market on the basis of confidential contributions from banks. The ECB has also been engaged as a catalyst in the international dialogue between industry and authorities around standardisation of reference data on financial instruments and legal entities and the idea of a reference data utility operated on the basis of an international agreement.

In 2010 the catalytic activities of the ECB and the Eurosystem focused mainly on the following initiatives.

STEP INITIATIVE

The market for short-term paper in Europe is of a largely domestic nature. Since 2001 the Short-Term European Paper (STEP) initiative, pursued by market participants under the auspices of the European Banking Federation and the Financial Markets Association (ACI) and steered by the STEP Market Committee, has promoted the integration of the short-term debt securities market through a core set of market standards and practices, which issuers may choose to apply to issuance programmes on existing markets such as the Euro Commercial Paper (ECP) market or French commercial paper (Titres de Créances Négociables, TCN) market.

The Eurosystem has supported the STEP initiative in two ways. First, until June 2010 and on the basis of a temporary arrangement, the Eurosystem assisted the STEP Secretariat in the labelling of STEP programmes. The ultimate responsibility for granting and withdrawing the STEP label always fully rested with the STEP Secretariat. Since July 2010 the STEP Secretariat has managed the labelling process on its own. Second, the ECB provides statistics on the STEP market. These include monthly outstanding amounts and daily yields and spreads on new issues. Since the end of November 2009 the ECB has published daily statistics on aggregated outstanding amounts and new issues broken down by sector, maturity, rating and currency. Since September 2010 the ECB has also published these outstanding amounts – and currency breakdowns – by individual issuance programme. This is important for investors in assessing their concentration risk, i.e. how large their exposure to a specific programme is compared to the programme's overall size.

STEP securities has emerged relatively unscathed from the financial market turmoil, as the total outstanding amount of STEP debt securities was €401.8 billion in January 2011, slightly below the total outstanding amount one year earlier but significantly above the level when the turmoil started in August 2007. The steady market development reflects the fact that STEP criteria can be applied to most if not all existing market programmes and that STEP is accepted by the Eurosystem as a non-regulated market for collateral purposes. This factor gained further in importance following the decision of the ECB's Governing Council in October 2008 to temporarily expand the list of assets eligible

as collateral in Eurosystem credit operations to include STEP labelled papers issued by credit institutions, i.e. certificates of deposits. This particular measure was discontinued at the end of 2010.

The STEP label was introduced in 2006, and there were 168 active STEP labelled programmes in place by end of January 2011.

STRUCTURED FINANCE MARKETS

In order to reactivate the structured finance markets in Europe, the Eurosystem may act as a catalyst by supporting market-led initiatives that promote the reactivation of the securitisation markets and create a viable structure which would also attract medium to long-term institutional investors. In this respect, and to increase transparency in the area of asset-backed securities (ABS), the Eurosystem launched a public consultation on introducing an eligibility requirement for ABS originators to provide loan-level data on the assets underlying such instruments. The response from the market participants was supportive and during 2010 the ECB has continued the preparatory work towards the implementation of such requirements. The Governing Council of the ECB decided in December 2010 to establish loan-by-loan information requirements for ABSs in the Eurosystem collateral framework. The Governing Council intends to introduce the loan-by-loan information requirements within the next 15 months or so, first for retail mortgage-backed securities (RMBSs) and thereafter gradually for other ABSs.

A properly functioning securitisation market, backed by standardisation and enhanced transparency, contributes to the completeness of the European financial system and fosters integration through the improved comparability of instruments across borders.

In addition, the outright purchase programme for covered bonds of €60 billion was completed in June 2010 and, together with securities lending facilities, provided significant support for activities in this market. The covered bond purchase programme was part of the enhanced credit support approach and contributed to the Eurosystem's role of supporting the functioning of the financial markets through non-standard monetary policy measures during the turmoil.

SEPA INITIATIVE

The Single Euro Payments Area (SEPA) is an initiative aimed at achieving a fully integrated market for retail payment services in euro with no distinction between cross-border and national payments. Moreover, SEPA will also contribute to the more general integration of retail banking markets as SEPA will allow individuals, corporations and public administrations to make cashless payments denominated in euro throughout the euro area and the other SEPA countries from a single account anywhere in the SEPA, using a single set of payment instruments, as easily, efficiently and safely as they can make them today at the national level.

In pursuit of its mandate to promote the smooth operation of payment systems, the Eurosystem has continued to play a catalyst role in this project and to provide the payments industry with assistance and guidance on the next steps leading to the implementation of SEPA. To this end, the Eurosystem published the 7th SEPA Progress Report in October 2010.[6] This report provides an assessment of the progress achieved in the implementation of SEPA since the publication of the previous report in November 2008, highlights accomplishments and points out deficiencies. The main conclusions of the report relate to the migration towards SEPA credit transfer (SCT) and SEPA direct debit (SDD), cards, innovation and the security of retail payments for which, among other things, the Eurosystem envisages establishing a forum for monitoring market developments and fostering the harmonisation of security expectations in Europe. Furthermore, in the annex to the report, the Eurosystem has

6 The 7th SEPA Progress Report is available on the SEPA pages on the ECB's website at www.ecb.europa.eu, also approachable via www.sepa.eu.

identified a (non-exhaustive) list of milestones that need to be fulfilled between the fourth quarter of 2010 and the end of 2013 in order to facilitate the finalisation of SEPA implementation and migration.

Furthermore, the Eurosystem has been monitoring the migration towards the usage of the SEPA payment instruments on the basis of "SEPA indicators". The migration from domestic credit transfers to SCTs in the euro area advanced in 2010, reaching 15.7% in February 2011 (see Chart C27 of the Statistical Annex). In addition to the euro area SCT indicator, the Eurosystem also follows the take-up of the SCT at national level. National SCT indicators revealed significant differences in SCT take-up in individual countries.[7] Furthermore, since the launch of the SEPA direct debit in November 2009, the Eurosystem has been monitoring its usage and published the first results in 2010. So far, the figures in the first months after the launch of the SDD remain fairly modest at well below 1%.[8]

The Eurosystem has repeatedly drawn attention to the need for an ambitious but realistic end date to be set for the migration to SCT and SDD, in order to reap the benefits of SEPA. Although the potential benefits of the SEPA project are substantial, the primarily market-driven approach cannot be characterised as fully successful. The prevailing market uncertainty, the generally difficult economic climate, the disadvantages for first movers in a network business, and the duplicate costs of operating SEPA and legacy payment systems in parallel are factors which have led many market players, especially on the supply side, to call for the establishment of an end date for SEPA migration through legislation at EU level. The Eurosystem therefore welcomes and supports the European Commission's proposal to impose an end-date for migration to SCT and SDD by means of an EU regulation. A legally binding instrument is considered as necessary for a successful migration to SEPA as the project would otherwise be under serious risk of failure.

The introduction of the SCT and SDD has laid the foundations on which further innovations can be built. Work is currently ongoing on the development of a pan-European online payment solution,[9] as well as on mobile payments and electronic invoicing. The Eurosystem organised further meetings in 2010 with market participants to discuss the status of initiatives related to electronic SEPA payment solutions and will continue to monitor work in the area of innovative payment solutions. To this end, the ECB, in cooperation with the ESCB, conducted an eSEPA[10] online survey in 2010. The motivation was to gain further understanding of the different innovative payment solutions offered in various EU countries. The results of this survey will be published in a research report, and an overview of the providers that participated in the survey and their activities will be provided in an online inventory on the eSEPA website.[11]

Despite the positive developments achieved so far, further progress needs to be made, in particular in the area of SEPA for cards.

The industry had set itself a deadline of the end of 2010 to finalise the migration to chip cards with a personal identification number and to automated teller machines and point-of-sale terminals equipped according to the EMV standard.[12] The Eurosystem has been following the efforts in this area, which is an important building block on the way towards SEPA for chip cards. According to the SEPA cards

7 A critical mass, i.e. a figure of more than 50%, has only been achieved in Luxembourg and Cyprus. In three other countries, Slovenia, Belgium and Spain, double-digit figures have been reached.

8 Please consult the SEPA section of the ECB's website for further details (www.sepa.eu).

9 An online payment (or e-payment) is based on an internet banking payment, but has the additional feature that the web-merchant receives a payment confirmation in real time, so that the goods can be released immediately.

10 "eSEPA" is an abbreviation for "electronic SEPA" and comprises the development in the area of new and innovative payment solutions.

11 See the eSEPA website at www.esepa.eu for further details.

12 The EMV standard is a set of specifications developed by the consortium EMVCo. EMVCo is promoting the global standardisation of electronic financial transactions – in particular the global interoperability of chip cards. "EMV" stands for "Europay MasterCard and Visa".

indicators,[13] a number of countries have already achieved 100% migration to EMV for these physical devices. Moreover, the Eurosystem identified this as being an important but not defining pre-requisite for a migration at the level of transactions, i.e. card payments using EMV compliant cards, EMV compliant terminals, and EMV technology in the processing of the transaction. In June 2010 only 57% of all POS transactions in the euro area were EMV transactions.[14]

In 2010 the Eurosystem organised a second meeting with stakeholders on a SEPA certification framework for cards and terminals. Such a framework would allow card and terminal manufacturers to follow a single evaluation and certification process in SEPA, instead of a different one for each card scheme. This would mean true pan-European harmonisation in this area.

Next, in the 7th SEPA Progress Report, the Eurosystem provided further clarification on the principle of the separation of card schemes from processing entities. Ideally, the principle of the separation of schemes from processing should apply at the corporate level, including in particular, operational separation, information separation, financial/accounting separation, commercial separation and legal separation. However, the requirement to implement legal separation can only come from the respective regulator.

Moreover, the Eurosystem expects at least one additional European card scheme to emerge in order to realise a competitive card market in SEPA. There are several market initiatives under way, and the Eurosystem will continue to closely monitor developments in this area.

Furthermore, in order to address the recognised need for improvement in the area of SEPA governance and involvement of end-users in the SEPA project, the Eurosystem and the European Commission agreed on the creation of the SEPA Council in March 2010. This new overarching body is co-chaired by the ECB and the European Commission and brings together high-level representatives from the supply and demand side of the payments market. The SEPA Council is scheduled to meet twice a year.[15]

INTEGRATION OF SECURITIES INFRASTRUCTURES

Financial market integration needs to be complemented and supported by the integration of the underlying infrastructures. Although the European post-trading market infrastructure for securities transactions is evolving, it is still fragmented and has not yet reached a level of efficiency, integration and soundness compatible with the requirements of the Single Market and the single currency.

The Eurosystem therefore has a strong interest in fostering further integration in this area. The Eurosystem's most fundamental contribution to integration is through the building of TARGET2-Securities (T2S), a single platform for securities settlement in Europe which will create a borderless market for settlement services (for further details, see section 4 of this chapter).

In parallel with this infrastructure work, the Eurosystem has also been acting as a catalyst for private sector initiatives in order to foster further integration and harmonisation of the EU post-trading system. This catalyst work has, of course, many synergies with the building of the T2S settlement platform. Without harmonisation of national market practices, the competition and efficiency benefits of system integration and interoperability cannot be maximised.

The ECB has been supporting the Code of Conduct for Clearing and Settlement, including by participating in an ad hoc group monitoring the implementation of the Code of Conduct

13 SEPA cards indicators are available on the ECB's website.
14 See the SEPA indicators section of the ECB's website for further details.
15 For further details, please consult the SEPA Council website: www.sepacouncil.eu.

together with the European Commission and the ESMA. The Code of Conduct is essentially aimed at allowing users to choose their preferred service provider freely at each layer of the transaction chain. To this end, the Code provides for commitments by the signatories in three areas: price transparency, access and interoperability, and service unbundling and accounting separation. In early 2010 the work of the ad hoc group monitoring the implementation of the Code of Conduct was put on hold, pending the outcome of the forthcoming legislative proposals on market infrastructures which could incorporate some of the core provisions of the Code.

The ECB is now a member of the recently established Expert Group on Market Infrastructures (EGMI) which started its work in the autumn of 2010. The EGMI will advise the Commission on specific issues related to post-trading in the EU and on forthcoming European legislation in this area. The EGMI will also be responsible for continuing the work undertaken by previous Commission expert groups in this field.

The Eurosystem has also been playing a catalyst role through the work of the T2S Advisory Group. The T2S Advisory Group is composed of senior representatives from the banking industry, from central securities depositories and from central banking community and an important part of its mandate is to promote harmonisation.

By the end of 2009 the T2S Advisory Group's standards for the processing of corporate actions on unsettled transactions had been approved and in 2010 work began to ensure their implementation by all of the 28 European markets which will be participating in T2S. The gap analysis performed by the T2S Advisory Group in 2010 shows that most markets need to carry out substantial work in the years ahead to implement the corporate actions standards prior to the start of T2S testing in January 2014.

During 2010 the T2S Advisory Group has also been working on improving shareholder identification on a cross-border basis. As shareholder bases become increasingly diversified (rather than purely nationally based), this has become a prominent issue that requires a solution. At the start of 2011, a taskforce presented to the T2S Advisory Group a number of proposals to improve the situation, including the development of standardised messages (using ISO standards), recommendations for legislative changes, and standards for the timely collection and sharing of data.

Progress has also been achieved in the discussions leading to the harmonisation of the settlement finality rules, as this is also critically important for the legal soundness of transactions to be settled in T2S. The T2S Advisory Group has also launched work to identify and overcome any remaining obstacles to smooth cross-border settlement in T2S. The outcome of this work is essential to ensure efficient processing in T2S and ultimately in the whole of the EU.

Because of the crucial importance of harmonisation and removing the Giovannini barriers to efficient clearing and settlement, the Eurosystem, via the T2S Advisory Group, has decided to further strengthen its catalyst role in the years ahead. A high-level Harmonisation Steering Group has been set up to define what should be the top priorities and functional targets for harmonisation activities going forward, and how best to deliver concrete results before the launch of T2S.

EFMLG ACTIVITIES ON THE STANDARD MARKET DOCUMENTATION AND CONTRIBUTIONS TO EU REGULATORY REFORM

In September 2009, the European Financial Markets Lawyers Group (EFMLG) organised a high-level symposium on harmonisation of standard market documentation in which representatives of various market and banking associations and major financial institutions,

companies, legal associations and international law firms participated. The symposium's report, published in April 2010,[16] presents the desirable directions for harmonisation of standard market documentation, in particular in such areas as termination and close-out of financial transactions (including derivatives, securities lending and repurchase transactions). The report focused on discrepancies identified between commonly used master agreements in such areas as the definition of insolvency-related events of default, procedures for terminating the agreement by notice, contractual triggers for automatic early termination, scope of losses taken into account in the calculation of close-out amounts, and resolution procedures for collateral and margin disputes. The report's recommendations take account of the need to provide balanced protection for the transacting parties, while limiting the scope for legal uncertainty and mismatches resulting from the application of several master agreements to the same event.

Complementary to the above work, the EFMLG participated in two public consultations initiated by the European Commission on the specific regulatory proposals in the areas of securities trade and post-trading activities. In its letter regarding the proposed Securities Law Directive (SLD),[17] the EFMLG remarked on the limited scope for harmonisation offered by the proposal put forward by the European Commission, while making a number of technical comments, e.g., as regards the consistency of the SLD's choice of law clause with similar clauses contained in other existing EU legislation. Further, in its comments on the proposal concerning the introduction of mandatory CCPs for derivatives clearing,[18] the EFMLG advocated a prudent approach, recognising both the benefits and the risks related to the use of CCPs. In particular, it pointed to the need for eligibility standards, such as capital and margin requirements, and the need for counterparties using CCP clearing to be sufficiently strong so as not to weaken the safeguards against systemic and operational risk.

3 KNOWLEDGE OF THE STATE OF FINANCIAL INTEGRATION

A sound analysis of the economic benefits of financial integration and its development over time forms a prerequisite for effectively targeted action that can support further progress. The ECB is in a unique position to provide in-depth economic analysis and comprehensive statistics regarding the state of financial integration in the euro area and its development. In particular, the ECB is able to sponsor coordinated analytical research – together with other members of the Eurosystem and academics – and can make use of its experience and knowledge as an active market participant. Enhancing knowledge and raising awareness regarding the need for European financial integration, and measuring the progress achieved in this regard, therefore form a major part of the ECB's contribution to fostering financial integration.

During 2010 the activities of the Eurosystem with respect to enhancing knowledge, raising awareness and monitoring the state of financial integration were mainly focused on the following initiatives.

16 See EFMLG, "Symposium on Standard Market Documentation: Lessons learned from the current financial crisis – Summary Report", 12 April 2010, available on the EFMLG's website at http://www.efmlg.org.

17 See EFMLG, "Projected EU legislation on Legal Certainty of Securities Holdings and Dispositions (Securities Law Directive)", 23 June 2010.

18 See EFMLG, "EFMLG letter regarding central counterparty clearing (CCP) of derivatives", 9 July 2010.

INDICATORS OF FINANCIAL INTEGRATION IN THE EURO AREA

Quantitative measures of financial integration provide essential tools for monitoring the status of financial integration in Europe and the progress achieved. Since September 2005 the ECB has published quantitative indicators of integration in the euro area financial markets.[19] These price and quantity-based indicators cover the money market, the government and corporate bond markets, the equity market and the banking markets (the latter include the cross-border presence of euro area banks). Since financial infrastructures play a significant role in the ongoing process of financial integration, market infrastructure indicators have been allocated to the main financial markets that they serve.

The report also encompasses indicators of financial development. In fact, while financial integration is an important factor in increasing the efficiency of a financial system, the latter also depends on each financial system's own degree of development. Here, important factors are the quality of the institutional environment, including laws, regulations, corporate governance structures, or market infrastructures, and of the political and cultural factors determining the financial market framework conditions.

All indicators are updated and published semi-annually on the ECB's website.[20] The last update was carried out in October 2010.

ECB AND EUROPEAN COMMISSION JOINT CONFERENCE ON FINANCIAL INTEGRATION AND STABILITY

In April 2010 the ECB organised a joint high-level conference with the European Commission on financial integration and stability with the participation of the ECB President and of other top-level financial market participants, policy makers and academics. In addition to discussing the implications of the financial crisis for the integration and stability of European and international financial markets, the ECB presented its 2010 Report on Financial Integration and the Commission presented its European Financial Integration Report.

This conference was the first conference held jointly by the ECB and the European Commission on financial integration and financial stability issues. It is foreseen that this conference will be a yearly event, with the venue of the conferences alternating between the ECB and the European Commission. The second conference takes place on 2 May 2011 at the European Commission.

ECB-CFS RESEARCH NETWORK ON CAPITAL MARKETS AND FINANCIAL INTEGRATION IN EUROPE

In April 2002 the ECB and the Center for Financial Studies (CFS) in Frankfurt launched the ECB-CFS Research Network to promote research on "capital markets and financial integration in Europe".[21] The Research Network is aimed at coordinating and stimulating top-level and policy-relevant research that significantly contributes to the understanding of the European financial system and its international linkages. European financial integration is one of the three main focal areas in this regard.[22]

The Research Network has successfully established itself as a highly dynamic network of researchers working in various areas related to financial integration. The first two phases of research activity – lasting until 2008 – focused on eight priority areas: (1) bank competition and the geographical scope of banking; (2) international portfolio choices and asset market linkages between Europe, the United States and Japan; (3) European bond markets;

19 See Chapter I, as well as the ECB reports entitled "Indicators of financial integration in the euro area", September 2005 and 2006, available on the ECB's website.
20 See the ECB's website at www.ecb.europa.eu.
21 See the ECB-CFS Research Network website at www.eu-financial-system.org.
22 In addition, the ECB-CFS Research Network studies financial system structures in Europe and financial linkages between the euro area/EU, the United States and Japan.

(4) European securities settlement systems; (5) the emergence of new markets in Europe and start-up financing; (6) the relationship between financial integration and financial stability; (7) EU accession, financial development and financial integration; and (8) financial system modernisation and economic growth in Europe.

After in-depth discussions in July 2006 and in February 2008, the Steering Committee proposed the extension of the work of the ECB-CFS Research Network by another three years, and modified the Research Network's research agenda in view of the ongoing financial market turmoil. It was emphasised in particular that network research should focus on the implications of integration for financial stability and monetary policy under a set of new priorities. The following three priority areas emerged from these discussions: (1) financial systems as risk managers, risk distributors and risk creators; (2) integration and development of retail financial services and the promotion of innovative firms; and (3) financial modernisation, governance and the integration of the European financial system in global capital markets. The first area assesses, among other things, the effects of new financial instruments on economic efficiency and policy, the link between monetary liquidity and market liquidity, and the optimal regulatory architecture to address financial crisis propagation. The second area investigates, for instance, the effect on productivity and innovation of private equity and venture capital financing in Europe. An example of a topic covered by the third area is the importance of global co-ordination of financial sector regulatory reforms among the major economies.

In 2010 the Research Network focused on priorities (1) and (3), with a special focus on macro-prudential regulation and the new European regulatory and supervisory framework. On 27-28 September 2010, the 13th Conference of the ECB-CFS Research Network on "Macro-prudential Regulation as an Approach to Contain Systemic Risk: Economic Foundations, Diagnostic Tools, and Policy Instruments" took place in Frankfurt and was hosted by the ECB. It mainly consisted of academic sessions on systemic risk measurement tools, on the real effects of the crisis, on macro-prudential measures to contain systemic risk, on capital regulations and monetary policy, and on incorporating financial fragility into macroeconomic models. It also included contributions from policy-makers on the interplay between financial intermediation and regulation, as well as keynote addresses by renowned academics on assessing systemic risk, on the optimal macro-prudential approach to financial regulation, and on the role of leverage in the business cycle.

Finally, as it has done each year, the ECB-CFS Research Network awarded five "Lamfalussy Fellowships" to promising young researchers in 2010. In the light of the financial crisis and the regulatory response to it, including the new macro-prudential supervisory functions in the European Union under the leadership of national central banks and the ECB, particular attention was paid to choosing research projects on important issues in this regard. Research papers delivered in 2010 by Lamfalussy Fellows who were awarded a fellowship in 2009 also addressed different aspects of risk-taking, financial fragility, and macro-prudential regulation. For example, Ester Faia[23] developed one of the first macroeconomic models to incorporate formally the concept of financial fragility, and shows that in a dynamic stochastic general equilibrium (DSGE) model with originate-and-distribute banks, the presence of secondary markets for credit risk transfer allows bank capital to be freed up and tends to amplify the dynamics of all macro variables, particularly the financial variables. Anton Korinek[24] developed a theoretical model in which systemic risk arises when shocks to one part of the financial system (such as mortgage losses) are amplified through financial constraints and threaten the stability of the system as a whole. The paper shows that such amplification effects

23 Faia, E. (2010), "Credit risk transfers and the macroeconomy", *Working Paper Series*, No 1256, ECB.

24 Korinek, A. "Systemic risk-taking and macro-prudential regulation", *Working Paper Series*, ECB, forthcoming.

constitute welfare externalities, and proposes a Pigouvian tax-type approach to regulating financial markets.

PROVISION OF FINANCIAL MARKETS STATISTICS

Increasing transparency fosters integration, as it facilitates the comparison of products across the euro area. Since 10 July 2007 the ECB has published nominal yield curves of AAA-rated euro-denominated euro area central government bonds, with a residual maturity from three months to 30 years. The ECB also publishes zero-coupon (spot, forward and par) yield curves for the euro area. In addition, the ECB releases daily yield curves covering all euro area central government bonds and publishes the spreads between both curves. Since October 2010 the ECB has also published historical data (based on the same sources and methodology used for the daily estimations) for euro area yield curves that go back to 6 September 2004.[25]

A yield curve shows the relationship between the market remuneration rate and the remaining time to maturity of bonds with a similar risk profile at a certain moment in time. From an ECB monetary policy perspective, the main benefit of the euro area yield curve is that it provides a proper empirical representation of the term structure of euro area interest rates, which can be interpreted in terms of market expectations on monetary policy, economic activity and inflation. Publishing a consistent and comparable set of yield curves based on euro-denominated central government bonds also provides reference information for the wider public and financial market participants, who previously had to rely on references to bonds of individual issuers.

Since the introduction of the euro, and in particular more recently, there has been increasing demand both from the public and from institutions for timely and accurate statistical data on euro money market activity. To satisfy this need, an annual euro money market survey has been conducted since 1999 by the ECB and the NCBs that are members of the ESCB. In 2010, 172 banks in the EU and Switzerland participated on a voluntary basis. The survey collects data on euro money market activity in the EU during the second quarter of each year. The data include daily average turnover for a variety of market segments (the unsecured market, repo market, derivatives market and short-term securities market) and their respective maturity ranges (from overnight to more than ten years). The data are released to the general public as the "Euro Money Market Survey".[26] This annual publication complements the results of the biennial "Euro Money Market Study";[27] which presents an in-depth analysis of money market activity.

STATISTICS ON INSTITUTIONAL INVESTORS

Given the growing role of institutional investors in the euro area financial sector, improved statistics on these actors are not only increasingly relevant from a monetary policy perspective, but will also help in the monitoring of the financial integration process (see Chapter I). Hence, beyond the statistics collected on MFIs, the ECB also develops and compiles statistics on other financial corporations, focusing on securitisation vehicles, on investment funds and on insurance corporations and pension funds.

The ECB, together with the NCBs, is currently finalising the implementation of (i) an enhanced set of statistics addressed to MFIs concerning balance sheet items statistics and (ii) statistics on MFI securitisation and balance sheets of financial vehicle corporations[28] engaged in

25 The yield curves and a description of the methodology used to estimate them can be found on the ECB's website at www.ecb.europa.eu.

26 The Euro Money Market Survey is available on the ECB's website.

27 The Euro Money Market Study is available on the ECB's website.

28 Financial vehicle corporations are securitisation vehicles and are defined in Regulation (EC) No 24/2009 of the European Central Bank of 19 December 2008 concerning statistics on the assets and liabilities of financial vehicle corporations engaged in securitisation transactions (ECB/2008/30) (OJ L 15, 20.1.2009, p. 1).

securitisation transactions. Two ECB Regulations addressing these requirements were adopted by the Governing Council of the ECB on 19 December 2008.[29] A third ECB Regulation addresses additional requirements with regard to MFI interest rates statistics and was approved by the Governing Council on 13 March 2009.[30] As set out in these Regulations, reporting to the ECB began in 2010 with monthly and quarterly data for December 2009 (for securitisation data) or June 2010 (for all remaining data).

In 2009 the ECB implemented new investment fund balance sheet statistics. In practice, these consist of two separate datasets, one covering investment funds as part of the other financial intermediaries (OFI) sector,[31] which is made available on a monthly basis, and the other covering money market funds, as part of the MFI sector, which is made available on a quarterly basis. The regular euro area investment fund statistics provide the users with a harmonised and detailed picture of the funds industry in the euro area. Published since December 2009, these statistics provide valuable information, particularly in relation to the portfolio shifts and investment policies of the investment funds. With the introduction of the new money market funds balance sheet statistics, the ECB has also enhanced the credit institutions balance sheet statistics.

In addition, the ECB compiles quarterly insurance corporations and pension funds statistics for the euro area, based on existing information. Significantly improved data reported by euro area NCBs, in liaison with national supervisory authorities, have enabled the ECB to start producing quarterly estimates of the euro area aggregates for outstanding amounts. Estimates of euro area transactions data are also under development. A Special Feature on insurance corporations and pension funds statistics has been included in this issue, based in part on these new data. The ECB is currently making preparations for their regular dissemination and publication (expected in mid 2011). To fit user needs, the statistics will also show the insurance corporations and the pension funds sub-sectors separately. In addition, the ECB is closely cooperating with the EIOPA on the integration of statistical requirements in the new Solvency II standard reporting, which is scheduled to be launched in 2013.

In response to important gaps in statistics on credit risk transfer (CRT) instruments exposed by the current financial crisis, important improvements are being made in the statistics on securities holdings and also on credit derivatives (principally credit default swaps), the latter compiled by the Bank for International Settlements (BIS), including the granularity of counterparty breakdowns by sector and region. The credit derivative statistics are based on the work of a CGFS/BIS Working Group in which the ECB participated.[32]

4 CENTRAL BANK SERVICES THAT FOSTER INTEGRATION

The provision of central bank services is another way in which the Eurosystem seeks to promote financial integration. Although the main purpose of such services is the pursuit of the Eurosystem's basic central banking tasks, the Eurosystem pays close attention to ensuring that such services, where possible, are specified in such a way that they are also conducive to supporting the financial integration process.

29 Regulation ECB/2008/30 (see above); and Regulation (EC) No 25/2009 of the European Central Bank of 19 December 2008 concerning the balance sheet of the monetary financial institutions sector (Recast) (ECB/2008/32), (OJ L 15, 20.1. 2009, p. 14).

30 Regulation (EC) No 290/2009 of the European Central Bank of 31 March 2009 amending Regulation (EC) No 63/2002 (ECB/2001/18) concerning statistics on interest rates applied by monetary financial institutions to deposits and loans vis-à-vis households and non-financial corporations (ECB/2009/7) (OJ L 94, 8.4.2009, p.75).

31 Collected under Regulation (EC) No 958/2007 of the European Central Bank of 27 July 2007 concerning statistics on the assets and liabilities of investment funds (ECB/2007/8) (OJ L 211, 11.8.2007, p. 8).

32 See "Credit risk transfer statistics", *CGFS papers*, No 35, Committee on the Global Financial System, September 2009.

During 2010 the ECB and the Eurosystem focused their activities in the area of central bank services on the following initiatives.

TARGET2

Similarly to the first-generation TARGET system, TARGET2 continues to play an important role in the integration of euro large-value payments, including money market operations. TARGET2 went live between November 2007 and May 2008,[33] replacing the first-generation TARGET after eight years of activity. The new system is based on a single technical platform, also referred to as the Single Shared Platform (SSP). The SSP is used for the processing of euro payments and the management of accounts opened for financial institutions with participating central banks. The SSP also supports other systems operating in euro (i.e. ancillary systems), which are aimed at settling the final cash positions of their participants in central bank money. The launch of TARGET2 enables the entire European user community to benefit from the same comprehensive, advanced real-time gross settlement services. TARGET2 offers broad access to credit institutions and ancillary systems.

At present, 23 central banks of the EU and their respective national user communities participate in the single platform of TARGET2: the 17 euro area central banks, including the ECB, and 6 central banks from non-euro area countries. After Българска народна банка (Bulgarian National Bank) and its national user community joined TARGET2 in February 2010, Banca Națională a României also expressed an interest in becoming a member of TARGET2. The connection of Romania and its national user community is foreseen in July 2011.

TARGET2 represents a crucial contribution by the Eurosystem to European financial integration. Being the first market infrastructure completely integrated and harmonised at the European level, TARGET2 has eliminated the fragmented situation that previously existed in the management of central bank liquidity and the real-time settlement in central bank money of euro payments. The move to a single platform represents a significant step towards a more efficient, competitive, safe and fully integrated European payments landscape, offering all market participants equal conditions and services regardless of their location. The harmonised service level of TARGET2, offered with a single price structure, ensures a level playing-field for all participants across Europe.

TARGET2 also provides a harmonised set of cash settlement services in central bank money for all kinds of ancillary systems, such as retail payment systems, money market systems, clearing houses and securities settlement systems. The main advantage for ancillary systems is that they are able to settle their final cash positions in TARGET2 via a standardised technical interface and standardised settlement procedures, thus allowing a substantial harmonisation of business practices.

To facilitate the technical migration of banking communities to TARGET2, it was agreed that some central banks would maintain local systems – referred to as proprietary home account (PHAs) applications – in which payments settlement could still take place for up to a maximum period of four years. This transition period will soon come to an end, thus consolidating further integration in the European payment systems landscape.

In order to support this process, which is already well on its way, the Eurosystem introduced internet-based access to TARGET2 in November 2010. This consists of an alternative direct access to the main TARGET2 services without requiring a connection to the SWIFT network. The Eurosystem developed this internet-based access to meet the needs of small and medium-sized banks currently hosted on the PHAs that wish to hold an account with

33 The countries migrated to TARGET2 in three separate groups.

their national central banks (e.g. for refinancing operations, fulfilment of reserve requirements or for payment traffic). By offering technical access to TARGET2 to a wider range of market participants, the internet-based access contributes to the integration of the central bank liquidity management of European banks.

The TARGET2 system functioned smoothly in 2010. The system's market share remained stable with 91% of the total value and 60% of the total number of euro denominated large-value payment systems being executed via TARGET2. The average number of payments processed by the system each day in 2010 was 343,380, while the average value was €2,299 billion. These figures position TARGET2 as one of the largest wholesale payment systems in the world, alongside Fedwire in the United States and Continuous Linked Settlement (CLS), the international system for settling foreign exchange transactions. In 2010 the overall level of TARGET2 availability reached 99.68%. Availability was affected only by incidents occurring in relation to national PHAs, while the Single Shared Platform itself achieved 100% availability.

Observations made with regard to the use of the harmonised and advanced TARGET2 services (payment prioritisation, liquidity reservation, sender limits, liquidity pooling, etc.) confirm that they are actively used by a wide range of participants and that they contribute to the smoother settlement of transactions. TARGET2 and its new features have both enabled and driven organisational changes in credit institutions that operate in several European countries by allowing them to rationalise their back office functions and consolidate their euro liquidity management.

Recently, the Eurosystem entered into a dialogue with market participants in order to assess the appropriateness of complying with the international standards ISO 20022. Such compliance would improve interoperability with other market infrastructures, such as T2S, which are based on ISO 20022, and will be in line with market developments such as the SEPA project, which is also based on ISO 20022 standards. The Eurosystem acknowledged the concerns expressed by the banks on the occasion of the recent market consultation, in particular on the envisaged timing of the introduction of ISO 20022 for payments. It also notes that banks may draw greater benefit from this migration if it is done in combination with their move to T2S. Against this background, the Eurosystem envisages as a long term strategy to introduce ISO 20022 for payments in TARGET2 after the adaptation to T2S.

TARGET2-SECURITIES

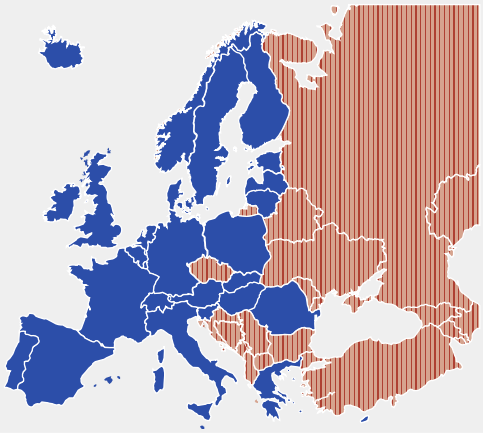
TARGET2-Securities (T2S) is a major infrastructure project, initiated by the Eurosystem that aims to overcome the current fragmentation in the securities settlement layer of the European post-trading landscape. The existence of fragmentation and procedures that have not been harmonised across national settlement systems contributes to high costs and inefficiencies, especially for cross-border securities transactions, and constitutes a considerable competitive disadvantage for European capital markets.

The T2S platform will deliver harmonised and commoditised delivery-versus-payment (DvP) settlement in central bank money, in euro and in other participating currencies, for virtually all securities in Europe. By removing the distinction between cross-border and domestic settlement, T2S will be a major breakthrough in delivering an integrated capital market for Europe, providing the solid basis for improving efficiency and competition in the entire post-trading sector.

30 CSDs are currently involved in the project and together they account for almost all settlement activity in the EU (see Chart 56). They also include three CSDs from outside the EU (from Iceland, Norway and Switzerland).

Much progress was achieved during 2010. In early 2010 the T2S user requirements were

Chart 56 Map of Europe showing countries where the main CSD has signed the Memorandum of Understanding on T2S



Source: ECB.

finalised and the four Eurosystem central banks (Deutsche Bundesbank, Banco de España, Banque de France and Banca d'Italia) that were tasked with building and operating T2S started the software development work. T2S is now on course to enter user testing in January 2014 and to begin live operations in September 2014.

During 2010 there was intense work on some of the key policy aspects of the project, in particular, how T2S will be governed, how much T2S will charge for the settlement of a securities transaction, how T2S will be legally set up, and how participants will be able to connect to T2S. There has also been significant progress on the harmonisation of clearing and settlement, which has been primarily driven by the T2S Advisory Group (see section 2 of this chapter for further details on the catalyst role played by the ECB in integrating the securities infrastructures).

The governance of T2S is of core importance to all T2S stakeholders. The four main stakeholder groups are the Eurosystem, non-euro area central banks, CSDs and market participants more widely (users, in particular banks, custodians, CCPs etc.). Under the proposed future governance arrangement, each of the groups will have an appropriate and varying degree of influence over T2S. The aim is to balance the rights of the Eurosystem as system owner and operator with the rights of the CSDs that adopt T2S and those of the central banks (including Eurosystem central banks) that provide their currencies to T2S, while also respecting the needs of securities market users and bearing in mind that the governance arrangement must facilitate timely decision-making and ensure a safe and efficient infrastructure.

In 2010 the Eurosystem also decided on the prices for the future T2S settlement services. After taking into account development costs and future running costs and the expected settlement volumes on the platform, the Eurosystem set the price for the settlement of a DvP instruction at 15 cents, providing that a certain settlement volume is brought onto the platform from non-euro area currencies participating in T2S, that general settlement volumes in Europe do not deviate very significantly from market projections, and that the Eurosystem will not be subject to VAT on T2S services.

Pricing a DvP settlement instruction at 15 cents, and having the same low price for both national and cross-border settlement, means that, even after including add-on charges from CSDs and connectivity charges, the end-to-end price of settlement should be lower than the current price for national settlement anywhere in Europe. T2S will reduce the price of settling cross-border transactions on average by around 90%. Combined with the positive effects on competition across the whole post-trading value chain, T2S will be a major boost to cost efficiency in securities settlement in Europe.

The Eurosystem has also made significant progress on the framework for the selection of the network providers for T2S. The network providers are the entities that will provide the infrastructure so that CSDs, central banks and directly connected participants will be able to send instructions to – and receive messages from – the T2S platform. In order to ensure competition and thus low prices for users, the network providers will be selected on the basis of sound selection criteria. It is expected that

the licenses for the provision of T2S network services will be awarded around the end of 2011.

EUROSYSTEM COLLATERAL MANAGEMENT SERVICES

Since its implementation in 1999, the correspondent central banking model (CCBM) has fostered financial market integration, by enabling all euro area counterparties to use the common set of eligible assets as collateral in Eurosystem credit operations, regardless of the country in which the security has been issued.

CCBM is the main channel for the cross-border use of collateral in Eurosystem credit operations. In December 2010 it accounted for 23.3 % of the total collateral provided to the Eurosystem. This model was set up as an interim solution and, since it builds upon the principle of minimum harmonisation, market participants have called for a further standardisation of existing procedures, both domestically and at the cross-border level.

Against this background, the ECB's Governing Council decided on 17 July 2008 to launch the Collateral Central Bank Management (CCBM2) project. The development and operation of CCBM2 was assigned to the Nationale Bank van België/Banque Nationale de Belgique and De Nederlandsche Bank.

The objective of CCBM2 is to consolidate the existing technical infrastructure into one single platform for domestic and cross-border use of marketable and non-marketable assets. Building on this infrastructure, CCBM2 will be fully compatible with TARGET2 and T2S, and will offer special features, like supporting auto-collateralisation processes in certain CSDs and in T2S and facilitating the cross-border use of triparty collateral services offered by (international) central securities depositories ((I)CSDs). Consequently, efficiency will be increased by optimising the cost of mobilising collateral through enhanced liquidity management and by implementing real-time straight-through processing in the system.

Although aiming for a technically consolidated management of collateral, CCBM2 will be implemented in accordance with the principle of decentralised access to credit, in which each NCB is responsible for business relationships with their counterparties and local markets. In terms of the range of services, CCBM2 will support all existing collateralisation techniques and methods such as pledge, repo and assignment, as well as pooling and earmarking.

Even though participation in the system by euro area NCBs is voluntary, every NCB has signed up to the project. The Eurosystem is currently in the process of finalising detailed system requirements, based on the already approved user requirements. CCBM2 is currently scheduled to enter live operation in two migration waves in 2013.

The launch of CCBM made all collateral available to all counterparties in the euro area which allowed enhanced portfolio diversification and the integration of collateral markets. Further integration of financial markets is envisaged with CCBM2 owing to the common technical infrastructure and harmonised service level for the collateralisation of Eurosystem credit operations.

STATISTICAL ANNEX

MONEY MARKET INDICATORS

BOND MARKET INDICATORS

GOVERNMENT BOND MARKET

CORPORATE BOND MARKET

EQUITY MARKET INDICATORS

Price-based indicators

Quantity-based indicators

BANKING MARKET INDICATORS

Cross-border presence indicators

Price-based indicators

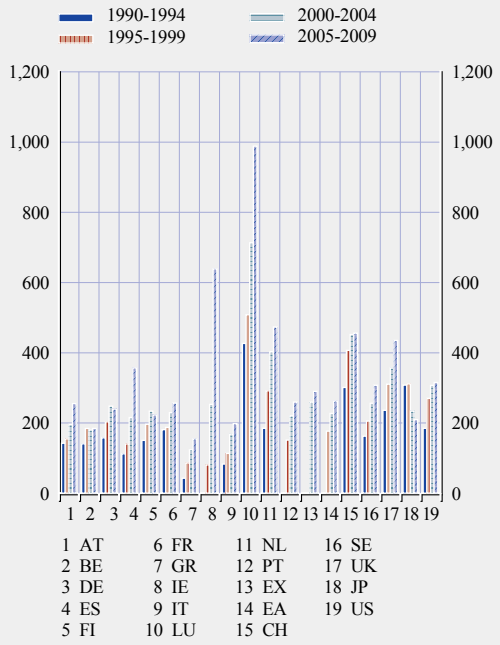
Quantity-based indicators

Infrastructure indicators for retail payment systems

MONEY MARKET INDICATORS

Chart C1S Size of capital markets

(percentage of GDP)



Sources: WFE, IMF, ECB, Thomson Reuters Datastream, Eurostat and ECB calculations.

Description

This indicator is calculated as the sum of (i) stock market capitalisation, (ii) bank credit to the private sector and (iii) debt securities issued by the private sector, divided by GDP.

Euro area (EA) and Euronext countries (EX) figures are averages of country data weighted by GDP.

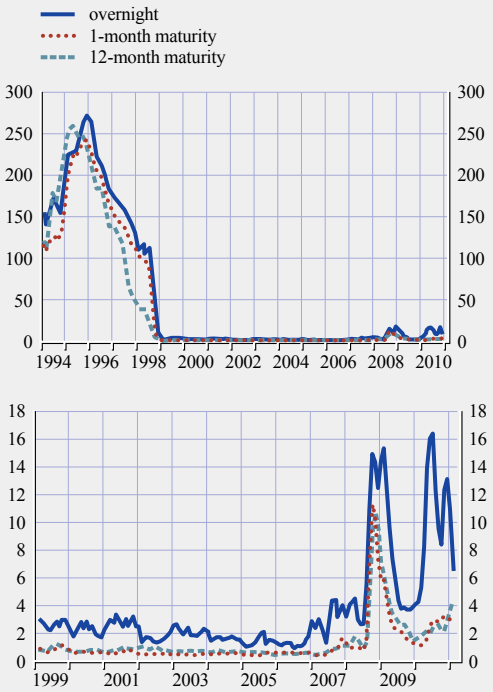
Stock market capitalisation: figures for Japan refer to the Tokyo Stock Exchange. Figures for the United States include AMEX, NYSE and NASDAQ. Euro area stock market capitalisation is the sum of the values for Euronext and for euro area countries not included in Euronext. Stock market capitalisation includes only shares issued by domestic companies; it does not include shares issued by foreign companies.

Debt securities issued by the private sector: for euro area countries, data are from the SEC database. Data for Greece, Ireland and Luxembourg start in 1993. For Ireland, BIS data are used for the years 1993 to 2002 for monetary financial institutions and for the years 1993 to 2007 for other issuers. For Luxembourg, BIS data for the years 1993 to 2007 are used for non-MFI issuers. For non-euro area countries, BIS data are used (sum of international and domestic amounts outstanding of bonds issued by corporate issuers and financial institutions).

Bank credit to the private sector: euro area figures are the sum of euro area country figures and include cross-border loans between euro area countries.

Chart C1 Cross-country standard deviation of average unsecured interbank lending rates across euro area countries

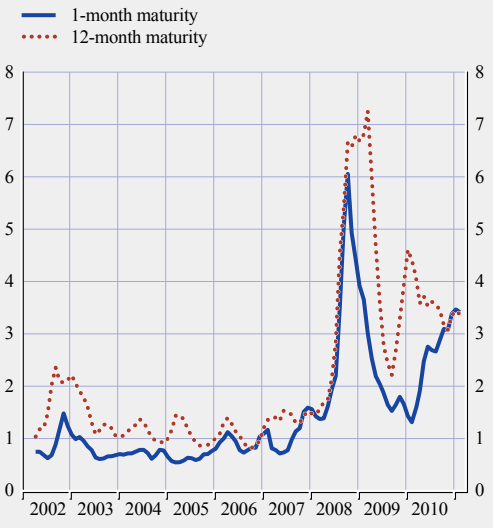
(61-day moving average; basis points)



Sources: EBF and ECB calculations.

Chart C2 Cross-country standard deviation of average interbank repo rates across euro area countries

(61-day moving average; basis points)



Sources: EBF and ECB calculations.

PRICE-BASED INDICATORS

Description

The EBF makes available (daily) business frequency data for a panel of individual institutions for both unsecured and secured short-term interbank debt and deposits. These data cover the EONIA and the EURIBOR (unsecured lending) as well as the EUREPO for different maturities.[1] Data on the EONIA SWAP INDEX is also available.

For each dataset, the indicator is the unweighted standard deviation (D_t) of average daily interest rates prevailing in each euro area country. Reported rates are considered to be the national rates of country c if the reporting bank is located there. However, the counterparty of the transaction is not known, and the reported interest rate could thus potentially refer (in part) to transactions with a bank outside country c.

The number of euro area countries (n_t in the formula below) reflects the number of countries that had adopted the euro in the reference period:

$$D_t = \sqrt{\frac{1}{n_t}\sum_c (r_{c,t} - r_t)^2}, \qquad (1)$$

where $r_{c,t}$ is the unweighted average of the interest rate $r_{i,t}^c$ reported by each of the m_c panel banks at time t in a given country c:

$$r_{c,t} = \frac{1}{m_c}\sum_i r_{i,t}^c . \qquad (2)$$

The euro area average r_t is calculated as the unweighted average of the national average interest rates $r_{c,t}$.

The data are smoothed by calculating a 61 (business) day centred moving average of the standard deviation, transformed into monthly figures and taking the end-of-month observation of the smoothed series.

For indicative series prices (EURIBOR, EUREPO), the data are corrected for obvious outliers.

1 For further information, see the EURIBOR and EUREPO websites (http://www.euribor.org/ default.htm and http://www.eurepo.org/). See also "The contribution of the ECB and the Eurosystem to European financial integration" in the May 2006 issue of the ECB's Monthly Bulletin.

The computed indicator has a monthly frequency.

Additional information

The EONIA is the effective overnight reference rate for the euro. The banks contributing to the EONIA are the same as the EURIBOR panel banks (composed of banks resident in the euro area and in other EU Member States, as well as some international banks).

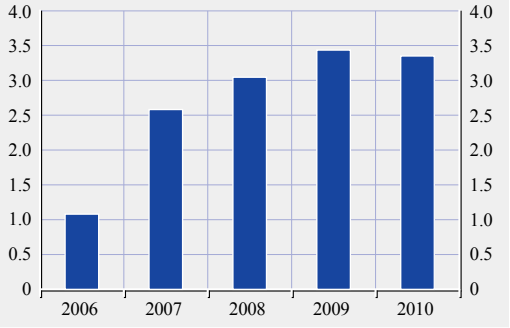
The EURIBOR (Euro Interbank Offered Rate) is the rate at which euro interbank term deposits are being offered by one prime bank to another within the EMU zone.

EUREPO is the rate at which, at 11.00 a.m. Brussels time, one bank offers, in the euro-zone and worldwide, funds in euro to another bank if in exchange the former receives from the latter the best collateral within the most actively traded European repo market.

QUANTITY-BASED INDICATORS

Chart C2S Outstanding amounts of Short-Term European Paper (STEP) debt securities

(percentage of GDP)



Sources: ECB and Eurostat.

Description

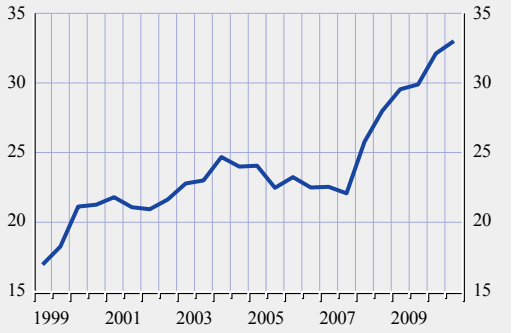
This indicator shows the outstanding amount of Short-Term European Paper (STEP) debt securities, as a percentage of the European Union GDP.

Since 2001 the STEP initiative, pursued by market participants under the auspices of the European Banking Federation and the ACI – The Financial Markets Association, and steered by the STEP Market Committee, has promoted the integration of the short-term debt securitites market through a core set of market standards and practices, which issuers may choose to apply to issuance programmes on exixting markets such as the Euro Commercial Paper (ECP) market of French commercial paper (Titres de Créances Négociables, TCN) market.

INFRASTRUCTURE INDICATORS FOR LARGE-VALUE PAYMENT SYSTEMS (LVPSs)

Chart C3 TARGET: the share of payments between EU Member States in total payments

(by number of transactions; percentages)



Source: ECB.

Chart C4 TARGET: the share of payments between EU Member States in total payments

(by value; percentages)

Source: ECB.

Description

The first indicator shows the share of the volume of payments between EU Member States (inter-Member State payments) in the total number of payments processed in the TARGET system.

The second indicator shows the share of the value of payments between EU Member States (inter-Member State payments) in the total value of payments processed in the TARGET system.

Both indicators have a half-yearly frequency.

Additional information

The TARGET system is the RTGS system for the euro. A second-generation system operating on a single shared platform, TARGET2, was launched in November 2007 and fully replaced the former decentralised TARGET system in May 2008.

An inter-Member State payment in TARGET is defined as a payment between counterparties who maintain accounts with different central banks participating in TARGET. An intra-Member State payment is defined as a payment between counterparties who maintain accounts with the same central bank.

BOND MARKET INDICATORS

GOVERNMENT BOND MARKET

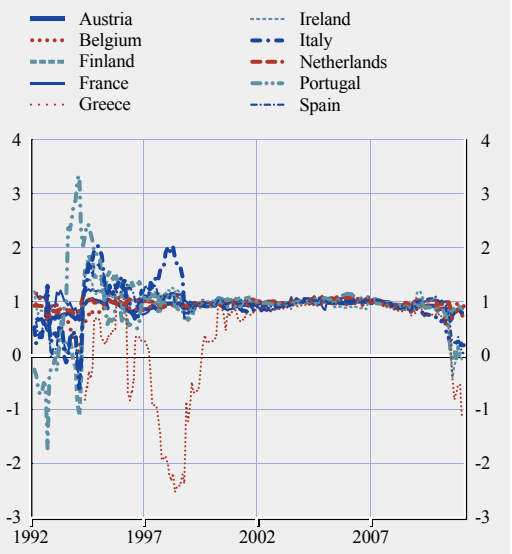
PRICE-BASED INDICATORS

Description

If bond markets are fully integrated and no country-specific changes in perceived credit risk occur, bond yields should only react to news common to all markets. That is, bond yields of individual countries should react exclusively to common news, which is reflected in a change in the benchmark government bond yield. To separate common from local influences, the following regression is run:

$$\Delta R_{c,t} = \alpha_{c,t} + \beta_{c,t} \Delta R_{ger,\,t} + \varepsilon_{c,t} \qquad (3)$$

Chart C5 Evolution of beta coefficients for ten-year government bond yields



Sources: Thomson Reuters Datastream and ECB calculations.

where α denotes a country-varying and time-varying intercept; β is a country-dependent and time-dependent beta with respect to the benchmark (German) bond yield; ΔR is the change in the bond yield and ε is a country-specific shock. In this framework, and in the context of complete market integration, α and β would have the values of zero and one respectively.

The conditional betas are derived by estimating the above regression using the first 18 months of monthly averages. Subsequently, the data window is moved one month ahead and the equation is re-estimated until the last observation is reached. A time series for $\beta_{c,t}$ is then obtained.

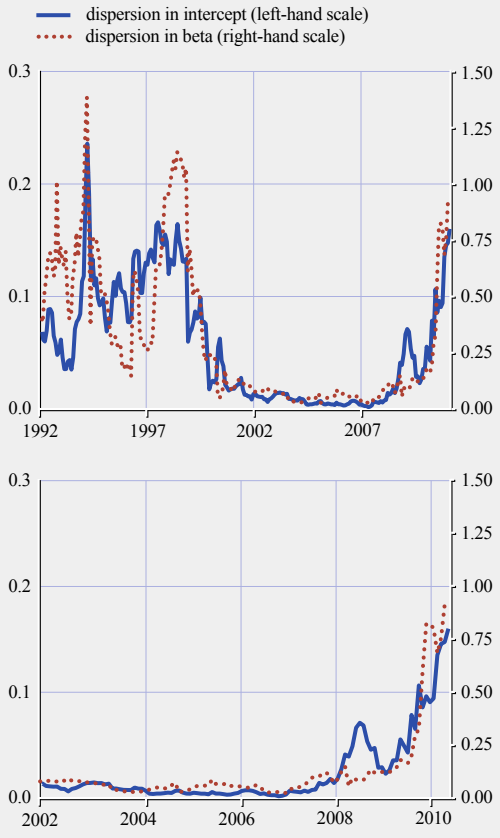
The model-based indicator has a monthly frequency.

Additional information

The outcome of the econometric specification depends on the selection of the most appropriate benchmark bond, in this case the ten-year German government bond. In addition, one should not expect common factors to be able

to fully explain changes in local bond yields, as "local news" concerning credit and liquidity risks will continue to have an impact on local yields.

Chart C6 Average distance of intercept/beta from the values implied by complete integration for ten-year government bond yields



Sources: Thomson Reuters Datastream and ECB calculations.

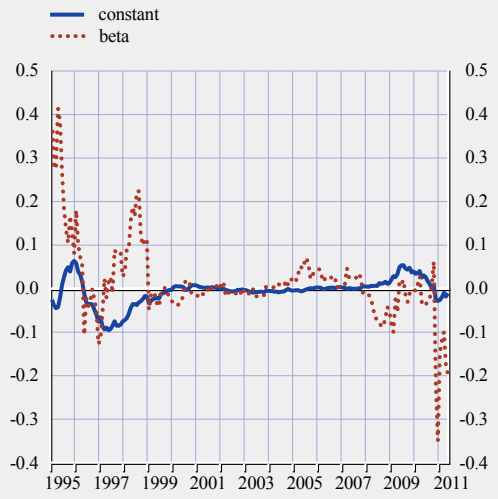
Description

This indicator is derived using regression (3), as for the previous indicator. From the individual country regressions, the unweighted average $\alpha_{c,t}$ and $\beta_{c,t}$ values are calculated and measured as a difference relative to the values implied by complete market integration (0 and 1 respectively). The analysis is based on monthly averages of government bond yields.

The model-based indicator has a monthly frequency.

Chart C7 Evolution of intercept and beta coefficients for ten-year government bond yields, adjusted for sovereign risk

(difference from perfect-integration values)



Sources: Thomson Reuters Datastream and ECB calculations.

Description

Sovereign risk is controlled for by proxying it with rating dummies and by modifying regression (3) as follows:

$$\Delta R_{c,t} = (\alpha_{c,t} + \sum_{r \in \{AA+,\ldots,A\}} \alpha_{r,t} D^r_{c,t}) + (\beta_{c,t} + \sum_{r \in \{AA+,\ldots,A\}} \beta_{r,t} D^r_{c,t}) \Delta R_{ger,t} + \varepsilon_{c,t} \quad (4)$$

where $D^r_{c,t}$ is a dummy for rating r and country c, at time t.

A potential problem with this regression is that coefficients are not identified when there is not sufficient cross-sectional variation in the ratings. To avoid this problem, the above regression is estimated without fixed effects, i.e.:

$$\Delta R_{c,t} = (\alpha_t + \sum_{r \in \{AA+,\ldots,A\}} \alpha_{r,t} D^r_{c,t}) + (\beta_t + \sum_{r \in \{AA+,\ldots,A\}} \beta_{r,t} D^r_{c,t}) \Delta R_{ger,t} + \varepsilon_{c,t} \quad (5)$$

Coefficients are made time-varying using a rolling regression (18-month rolling window).

The coefficients (α_t, β_t) now capture the average country reactions to changes in the German government bond yields, after controlling for credit risk factors. Values are calculated and

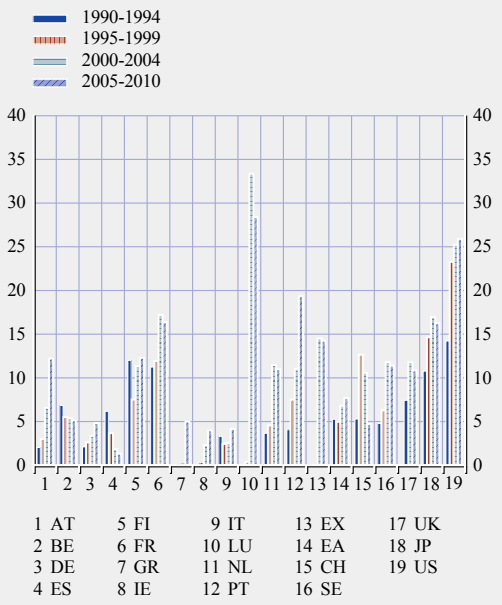
measured as a difference to the values implied by complete market integration: 0 and 1 respectively, assuming no other variable besides sovereign risk is affecting the change in yield (in the chart the beta coefficient is normalised to zero by subtracting 1).

The chart reports the estimation results for a sample starting in the second half of 1995.

CORPORATE BOND MARKET

Chart C3S Outstanding amounts of debt securities issued by private non-financial corporations

(percentage of GDP)



Sources: BIS, ECB, Eurostat and IMF.

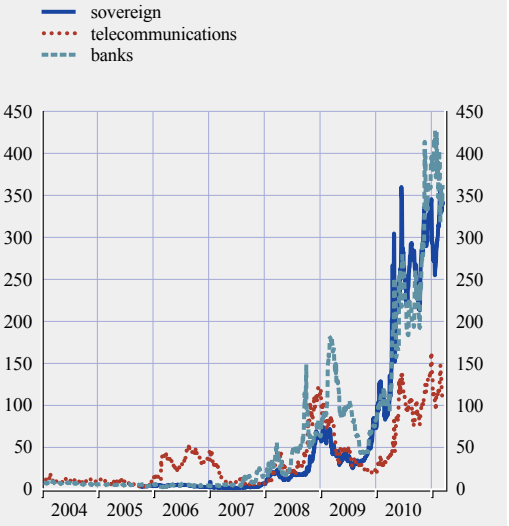
This indicator shows the outstanding amounts of debt securities issued by non-financial corporations as a percentage of GDP.

For euro area countries, data are from the SEC database. For Ireland and Luxembourg, BIS data are used. Data for Greece, Ireland and Luxembourg start in 1993. For non-euro area countries, BIS data are used (sum of international and domestic amounts outstanding of bonds issued by corporate issuers).

PRICE-BASED INDICATORS

Chart C8 Dispersion in the five-year CDS premia among leading telecommunications firms and commercial banks across euro area countries

(daily data; basis points)



Sources: Thomson Reuters Datastream and ECB calculations.

Description

This indicator is based on the evolution of credit default swap (CDS) premia. Specifically, the dispersion in CDS premia of a set of homogenous firms across euro area countries, such as leading telecommunications firms and the largest commercial banks, is used based on the assumption that country and sectoral shocks dominates the news that is firm-specific.

Additional information

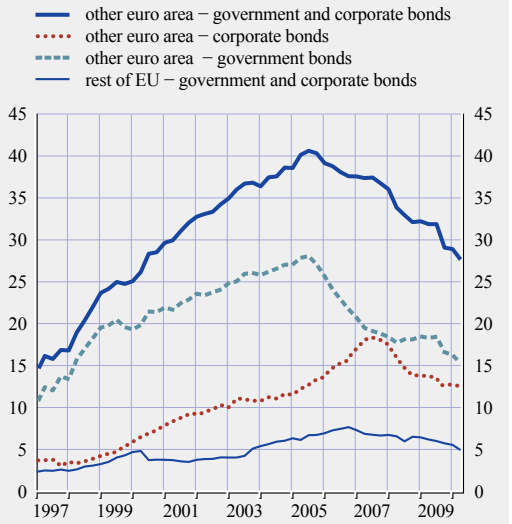
Sovereign includes Austria, France, Germany, Greece, Italy, the Netherlands, Portugal, Spain. *Commercial banks* include ABN AMRO (NL), Alpha Bank (GR), Allied Irish Banks (IE), Banca Monte dei Paschi di Siena (IT), Banca Popolare di Milano (IT), Banco Comercial Português (PT), Banco Sabadell (ES), Banco Espirito Santo (PT), Banco Santander Central Hispano (ES), Erste Bank der österreichischen Sparkassen (AT), Bank of Ireland (IE), Bayerische Hypo-und Vereinbank (DE), BNP Parisbas (FR), Commerzbank (DE), Crédit Agricole (FR), Deutsche Bank (DE), Dexia Group (BE), EFG Eurobank Ergasias (GR),

Fortis NL (NL), Intesa Sanpaolo SPA (IT), Mediobanca (IT), Natixis (FR), National Bank of Greece (GR), Nordea Bank (FI), Piraeus Group Finance PLC (GR), Société Générale (FR), UniCredito Italiano (IT). *Telecommunications* includes Deutsche Telekom (DE), France Telecom (FR), Hellenic Telecommunication Organization (GR), KPN (NL), Portugal Telecom (PT), Telecom Italia (IT), Telefõnica (ES), Telekom Austria Group (AT).

QUANTITY-BASED INDICATORS FOR GOVERNMENT AND CORPORATE BOND MARKETS

Chart C9 Share of MFI cross-border holdings of debt securities issued by euro area and EU non-MFIs: outstanding amounts by residency of the issuer

(as a share of total holdings, excluding the Eurosystem; percentages)



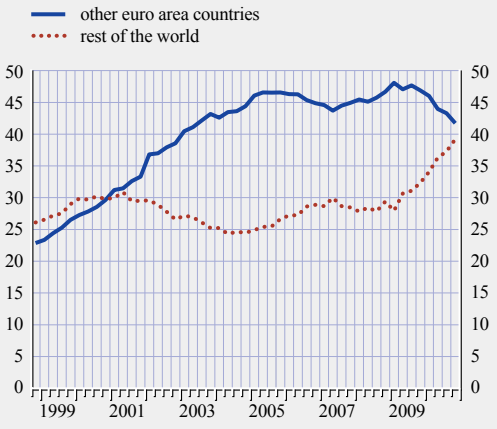
Source: ECB.

Description

For a description of this indicator, see the indicators on the cross-border securities holdings of the banking markets below (C24 and C25).

Chart C10 Investment funds' holdings of debt securities issued in other euro area countries and the rest of the world

(as a share of total holdings of debt securities; percentages)



Source: ECB.

Description

This indicator shows the share in investment funds' total holdings of all securities other than shares (including money market paper) issued by residents of the euro area countries other than the Member States in which the investment fund is located and by residents of the rest of the world (RoW). The composition of the two areas is the one prevailing during the reference period.

The computed indicator has a quarterly frequency.

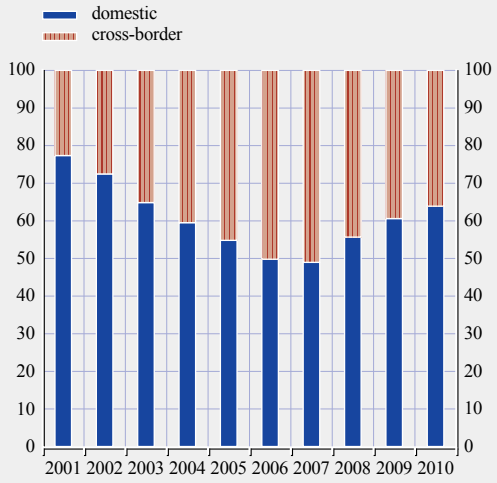
Additional information

This indicator is built on the basis of the balance sheet of euro area investment funds (other than money market funds, which are included in the MFI balance sheet statistics). A complete list of euro area investment funds is published on the ECB's website.

Further information on these investment fund statistics can be found in the "Manual on investment fund statistics". Since December 2008 harmonised statistical information has been collected and compiled on the basis of Regulation ECB/2007/8 concerning statistics on the assets and liabilities of investment funds.

Chart C11 Share of domestic and cross-border collateral used for Eurosystem credit operations

(as a percentage of the total collateral provided to the Eurosystem; percentages)



Source: ECB.

Description

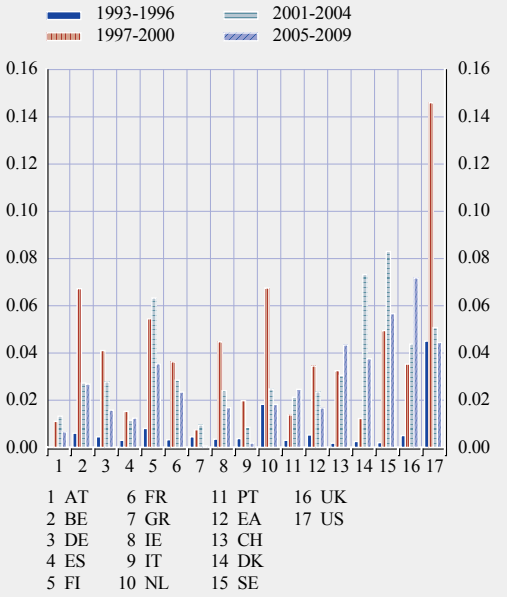
This indicator measures the proportions of eligible assets used domestically, i.e. within the same country, and across national borders, i.e. between euro area countries, to collateralise Eurosystem credit operations. The indicator aggregates the data reported monthly by Eurosystem NCBs to the ECB on the domestic use and cross-border use of collateral (composed of both the CCBM and "links" data). An increase in the cross-border use of collateral points towards greater integration of the collateral market. The ability to use any eligible assets as collateral with any Eurosystem component promotes portfolio diversification among counterparties.

The computed indicator has an annual frequency.

Additional information

In the current framework, counterparties may transfer cross-border collateral to the Eurosystem via two main channels: the CCBM, which is provided by the Eurosystem, and the "links", which represent a market-led solution. The CCBM remains the principal channel, although the proportion of collateral transferred through links has increased.

Chart C45 Early-stage venture capital finance, as share of GDP, by country of management

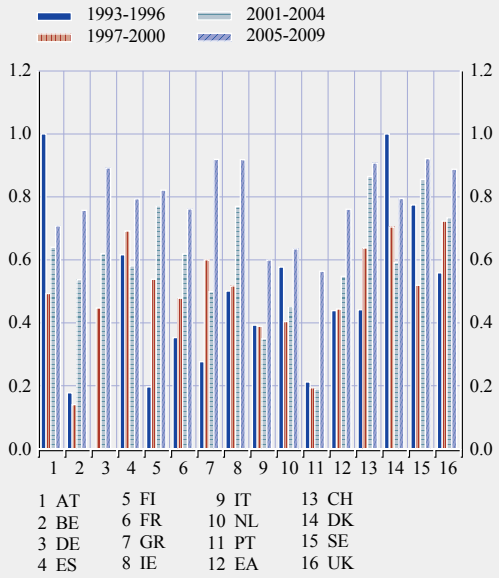


Sources: European Private Equity and Venture Capital Association, PricewaterhouseCoopers and Eurostat.

No data are available for Luxembourg, Malta, Slovenia or Japan. Data for Greece and the United States start in 1995. Euro area figures are averages of country data weighted by GDP.

Independent private equity investment is provided by private equity firms that are not themselves owned by another financial institution. Data report investments made by companies in each country. No data are available for Luxembourg, Malta, Slovenia, Japan or the United States. Data for Greece are not available for 1993 and 1994. Euro area figures are averages of country data weighted by GDP.

Chart C5S Private equity investment by independent funds as a share of total private equity investment, by country of management

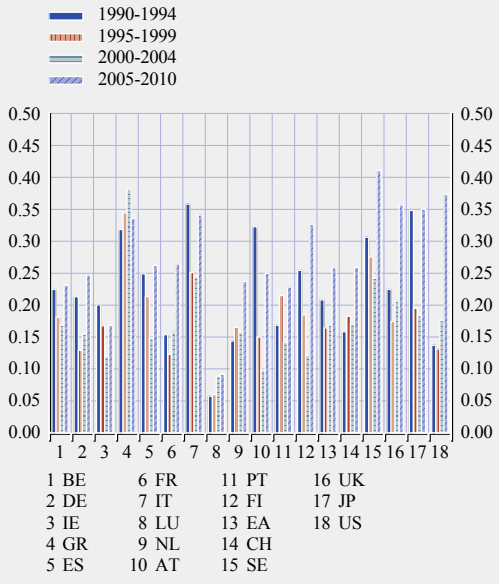


Sources: European Private Equity and Venture Capital Association.

PRICE-BASED INDICATORS

Chart C6S Pricing of firm-specific information in the stock market

(R^2 statistics)

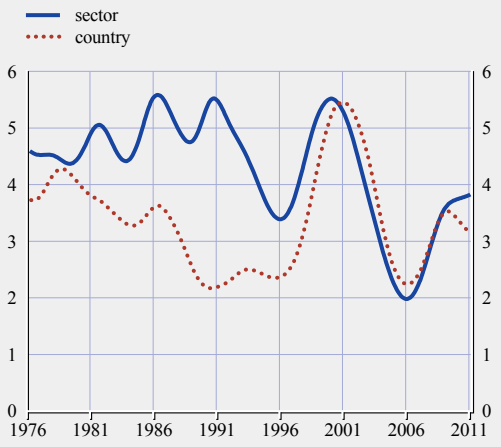


Sources: Thomson Reuters Datastream and ECB calculations.

Average R^2 statistics for each country are obtained by regressing firms' stock returns on market factors, i.e. the returns on domestic, euro area, US and emerging countries' stock market indices. Typically, low values of the indicator suggest that stock returns contain more firm-specific information. Euro area figures are averages of country R^2 statistics weighted by stock market capitalisation.

Chart C12 Filtered country and sector dispersions in euro area equity returns

(percentages)



Sources: Thomson Reuters Datastream and ECB calculations.

Description

This indicator is derived by calculating the cross-sectional dispersion in both sector and country index returns for the euro area countries.[2] Data are calculated on a weekly basis from January 1973 onwards. They include (reinvested) dividends and are denominated in euro. The indicator has a monthly frequency.

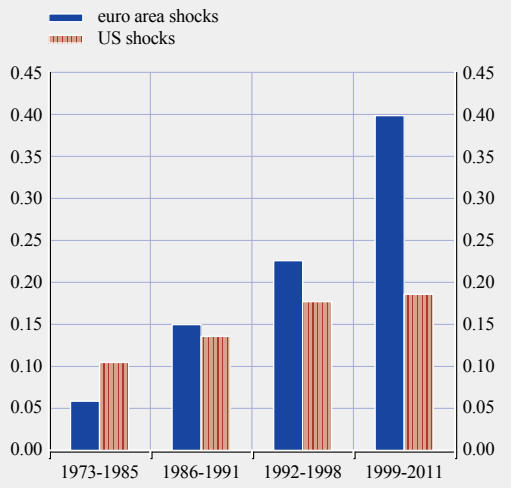
The cross-sectional dispersions are filtered using the Hodrick-Prescott smoothing technique, which provides a smooth estimate of the long-term trend component of the series. The smoothing parameter λ is equal to 14,400.

2 This indicator is based on an approach first presented in Adjaouté, K. and Danthine, J.P. "European financial integration and equity returns: a theory-based assessment", see in Gaspar, V. et al. (eds.) Second ECB Central Banking Conference: "The transformation of the European financial system", ECB, May 2003.

Additional information

The indicator reflects structural changes in the aggregate euro area equity market.

Chart C13 Proportion of variance in local equity returns explained by euro area and US shocks



Sources: Thomson Reuters Datastream and ECB calculations.

Description

To compare the relevance of euro area and US shocks for average changes in country returns, the indicators report the variance ratios, i.e. the proportion of total domestic equity volatility explained by euro area and US shocks respectively. The model-based indicator is derived by assuming that the total variance of individual country-specific returns is given by:

$$\sigma_{c,t}^2 = h_{c,t} + \left(\beta_t^{eu}\right)^2 \sigma_{eu,t}^2 + \left(\beta_t^{us}\right)^2 \sigma_{us,t}^2 \qquad (6)$$

where $h_{c,t}$ is the variance of the local shock component.[3] The euro area variance ratio is then given by:

$$VR_{c,t}^{eu} = \frac{(\beta_t^{eu})^2 \sigma_{eu,t}^2}{\sigma_{c,t}^2} \qquad (7)$$

and correspondingly for the United States. The conditional variances are obtained from a standard asymmetric GARCH (1,1) model.

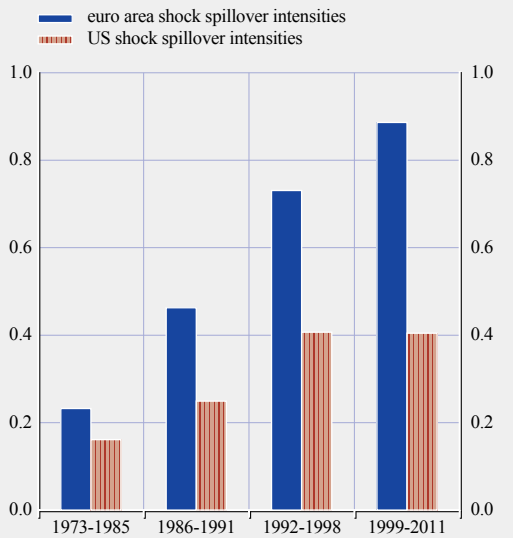
For each period, the indicators report the unweighted average of the relative importance of euro area-wide factors, other than US equity market fluctuations, for the variance of individual euro area countries' equity market indices (the "variance ratio"), and the unweighted average of the relative importance of US equity market fluctuations for the variance of euro area equity markets.

Data refer to the EMU global sector indices, and have been calculated on a weekly basis from January 1973 onwards.

Additional information

The variance ratio is derived by assuming that local shocks are uncorrelated across countries and that they are similarly not correlated with the euro area and US benchmark indices.

Chart C14 Euro area and US shock spillover intensity



Sources: Thomson Reuters Datastream and ECB calculations.

Description

This measure is equivalent to the news-based indicators for the bond market. However, empirical evidence suggests that equity returns are significantly driven by global factors. For this reason, both euro area-wide shocks and

3 See Baele, L. et al. "Measuring financial integration in the euro area", ECB *Occasional Paper series* No 14, ECB, 2004 pp. 19-21.

US shocks (as a proxy for global factors) are included in the assessment of common news.

To calculate the relative importance of euro area-wide and US stock market fluctuations for local stock market returns, the stock market returns of individual countries are modelled as having both an expected component as well as an unexpected one, $\varepsilon_{c,t}$.[4] The unexpected component is then decomposed into a purely local shock ($e_{c,t}$) and a reaction to euro area news ($\varepsilon_{eu,t}$) and world (US) news ($\varepsilon_{us,t}$):

$$\varepsilon_{c,t} = e_{c,t} + \beta_{c,t}^{eu}\varepsilon_{eu,t} + \beta_{c,t}^{us}\varepsilon_{us,t} \quad (8)$$

where β represents the country-dependent sensitivity to euro area or US market changes (of the unexpected component of equity returns).

In order to investigate the development of the betas over time, four dummy variables are introduced representing the periods 1973-1985, 1986-1991, 1992-1998 and 1999-2008.

For each period, the indicators report the unweighted average intensity by which euro area-wide equity market shocks, other than those from the United States, are transmitted to local euro area equity markets, as well as the unweighted average intensity by which US equity market shocks are transmitted to local euro area equity markets.

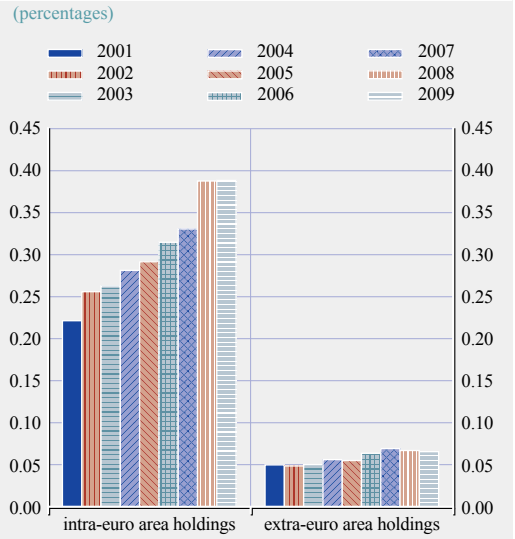
Data refer to the EMU global sector indices, and are calculated on a weekly basis from January 1973 onwards.

Additional information

To distinguish global shocks from purely euro area shocks, it is assumed that euro area equity market developments are partly driven by events in the US market. It is furthermore assumed that the proportion of local returns that is not explained by common factors is entirely attributable to local news.

QUANTITY-BASED INDICATORS

Chart C15 The degree of cross-border holding of equity issued by euro area residents



Sources: ECB.

Description

This indicator measures the degree of cross-border holding of equity securities in euro area countries.

Intra-euro area is defined as the share of equity issued by euro area residents and held by other euro area residents (excluding central banks):

$$\frac{\sum_i \sum_{j \neq i} Outstock_{ij,t}}{\sum_i MKT_{i,t} + \sum_i TOutstock_{i,t} - \sum_i TInstock_{i,t}} \quad (9)$$

$$i, j \in \{euroareacountries\}$$

where $Outstock_{ij}$ denotes the value of equity issued by residents of euro area country i and held by residents of euro area country j $(i \neq j)$; MKT_i stands for stock market capitalisation in

4 The expected return is obtained by relating euro area and US returns to a constant term and to the returns in the previous period. The conditional variance of the error terms is governed by a bivariate asymmetric GARCH (1,1) model.

country i; $TOutstock_i$ is the total foreign equity held by country i and $TInstock_i$ is the total foreign liabilities of country i.

Extra-euro area is defined as the share of euro area equity held by non-residents of the euro area (excluding central banks). The measure takes the following form:

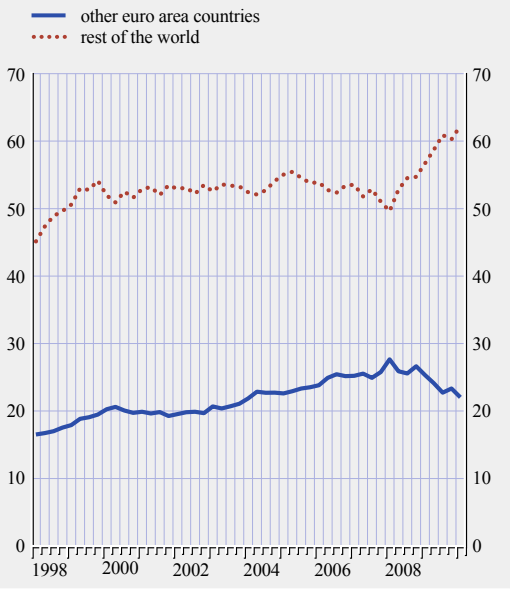
$$\frac{\sum_i \sum_r Outstock_{ir,t}}{\sum_r MKT_{r,t} + \sum_r TOutstock_{r,t} - \sum_r TInstock_{r,t}} \quad \begin{array}{l} i \in \{euro\ area\ countries\} \\ r \in \{rest\ of\ the\ world\} \end{array} \qquad (10)$$

where $Outstock_{ir}$ denotes the value of equity issued by residents of euro area country i and held by non-residents of the euro area r *(rest of the world)*; MKT_r stands for market capitalisation in country r; $TOutstock_r$ is the total foreign equity held by country r and $TInstock_r$ is the total foreign liabilities of country r.

The computed indicator has an annual frequency.

Chart C16 Investment funds' holdings of equity issued in other euro area countries and the rest of the world

(as a share of total holdings of equity)



Source: ECB.

Description

This indicator shows the share of investment funds' total holdings of all shares and other equity (excluding investment fund shares/units) issued by residents of the euro area outside the Member State in which the investment fund is located and by residents of the rest of the world. The composition of the two areas is the one prevailing during the reference period. The indicator has a quarterly frequency.

Additional information

This indicator is built on the basis of the balance sheet of euro area investment funds (other than money market funds, which are included in the MFI balance sheet statistics). A complete list of euro area investment funds is published on the ECB's website.

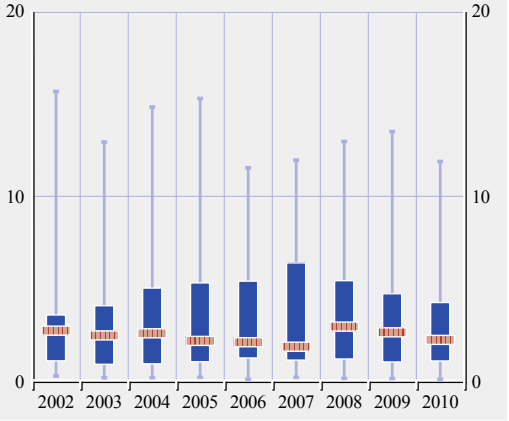
Further information on these investment fund statistics can be found in the "Manual on investment fund statistics". Since December 2008 harmonised statistical information has been collected and compiled on the basis of Regulation ECB/2007/8 concerning statistics on the assets and liabilities of investment funds.

BANKING MARKET INDICATORS

CROSS-BORDER PRESENCE INDICATORS

Chart C17 Dispersion of the total assets of euro area bank branches across euro area countries

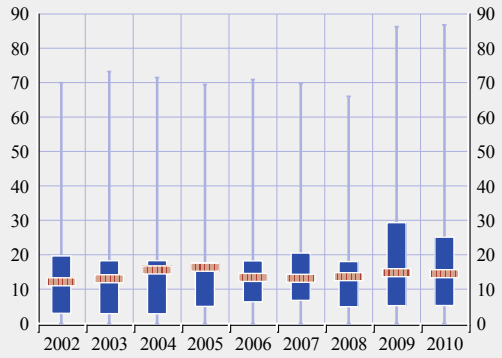
(as a percentage of the total assets of the euro area banking sector)



Source: ECB.

Chart C18 Dispersion of the total assets of euro area bank subsidiaries across euro area countries

(as a percentage of the total assets of the euro area banking sector)



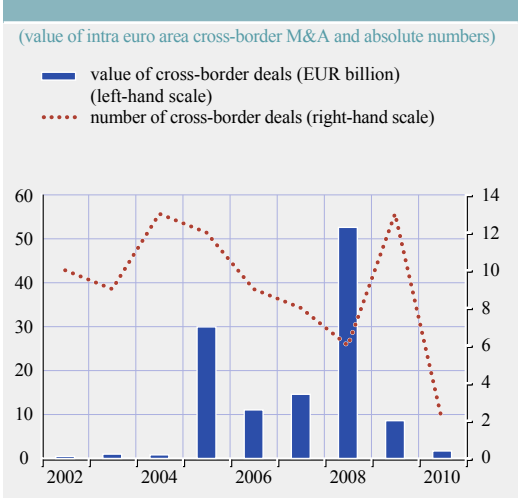
Source: ECB.

Description

These two indicators describe the development over time of the assets of foreign branches and subsidiaries of euro area banks within euro area countries other than the home country as a share of the total assets of the euro area banking sector. The level and dispersion of the country data are described by the following dispersion measures: the minimum, the first quartile (25th percentile), the median value (50th percentile), the third quartile (75th percentile), and the maximum. These computed indicators have an annual frequency.

Chart C19 Euro area cross-border bank M&A activity

(value of intra euro area cross-border M&A and absolute numbers)



Sources: Bureau van Dijk (Zephyr database) and ECB calculations.

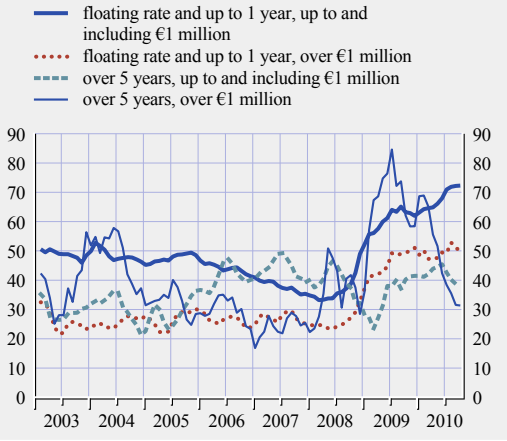
Description

This indicator shows the value of the euro area bank M&A activity as a further measure of the degree of cross-border integration of euro area banking markets. The number of deals is also displayed.

PRICE-BASED INDICATORS

Chart C20 Cross-country standard deviation of MFI interest rates on new loans to non-financial corporations

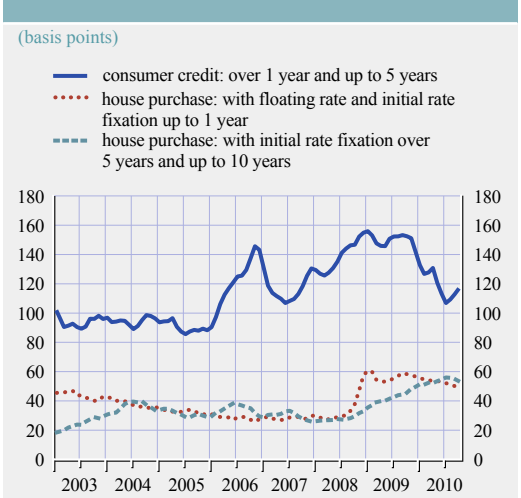
(basis points)



Source: ECB.

Chart C21 Cross-country standard deviation of MFI interest rates on loans to households

(basis points)



Source: ECB.

Description

The price measures for credit market integration are based on MFI interest rates (MIR) on new business reported to the ECB, at monthly frequency as from January 2003.

For the purpose of measuring financial integration, it might be preferable to compute the dispersion of rates as measured by the standard deviation using unweighted interest rates at the level of individual MFIs. However, these data are not available at the ECB, and therefore weighted rates and standard deviations are calculated instead.

The following general notation is used for each of the above categories of loan or deposit:

$r_{c,t}$ = the interest rate prevailing in country c in month t

$b_{c,t}$ = business volume in country c corresponding to $r_{c,t}$

$w_{c,t} = \frac{b_{c,t}}{B_t}$ is the weight of country c in the total euro area business volume B

$$B_t = \sum_c b_{c,t}$$

The MFI interest rates in the euro area are computed as the weighted average of country interest rates $r_{c,t}$, taking the country weights $w_{c,t}$

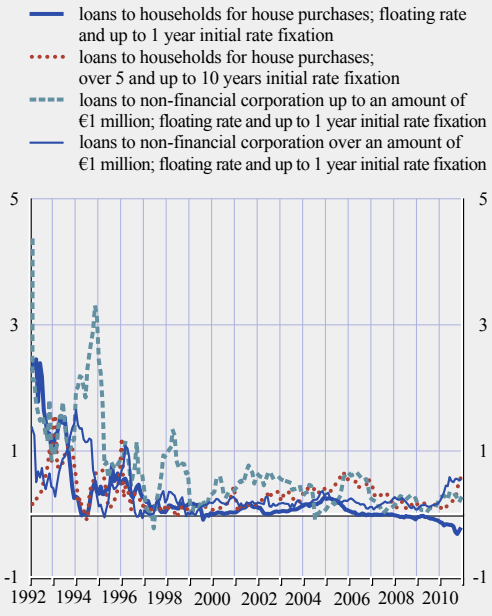
$$r_t = \sum_c w_{c,t} r_{c,t} \qquad (11)$$

The euro area weighted standard deviation takes the following form:

$$M_t = \sqrt{\sum_c (r_{c,t} - r_t)^2 w_{c,t}} \qquad (12)$$

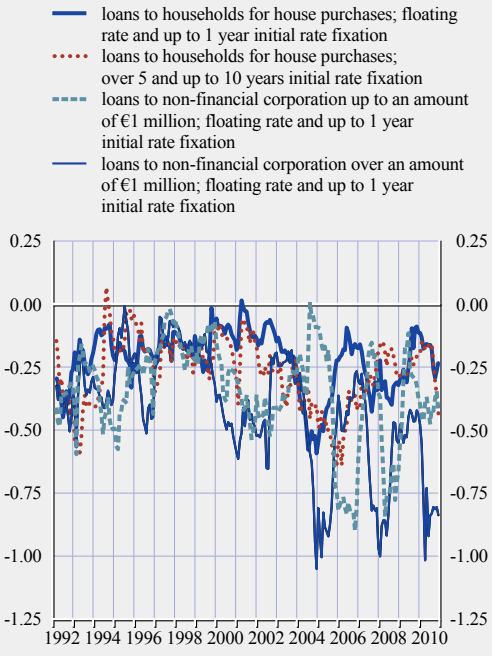
The monthly data are smoothed by calculating a three-month centred moving average of the standard deviation.

Chart C22 Intercept convergence for selected banking retail interest rates



Source: ECB.

Chart C23 Beta convergence for selected banking retail interest rates



Source: ECB.

Description

The two indicators are based on MIR on new business reported to the ECB, at monthly frequency as from January 2003. Before that date, estimated historical series have been used.

The beta convergence measure signals the speed with which different rates converge to a specific benchmark. This measure is obtained by running a panel regression of the change in the spread of the relevant retail interest rate in each country relative to the corresponding benchmark rate, i.e. the lowest country interest rate level for each loan instrument. The following panel regression is estimated:

$$\Delta Spr_{i,t} = \alpha_i + \beta Spr_{i,t-1} + \sum_{l=1}^{L} \gamma_l \Delta Spr_{i,t-l} + \varepsilon_{i,t} \quad (13)$$

using the change in the spread of the relevant retail interest rate in one country relative to the corresponding rate of the benchmark country as a dependent variable (*Spr*). *L* denotes the number of lags and is set equal to 1. The coefficients are estimated with a panel regression with fixed effects (α_i). A negative beta coefficient signals that convergence is taking place. Furthermore, the negative beta indicates that high spreads have a tendency to decrease more rapidly than low spreads. The size of the beta measures the average speed of the convergence in the overall market. If the beta approaches -1, the convergence is complete. At the same time, large values of the country specific effects (α_i) are indicative of persistent market segmentation related to differences in institutional and other factors at the country level.

The conditional betas are derived by estimating the above regression using the first 18 months of monthly averages. Subsequently, the data window is moved one month ahead and the equation is re-estimated until the last observation is reached. A time series for $\beta_{,t}$ is then obtained.

The model-based indicator has a monthly frequency.

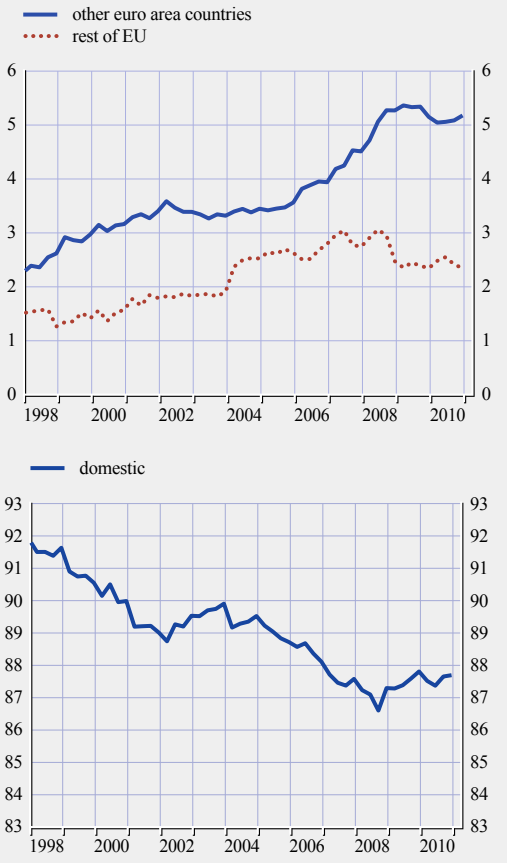
Additional information

The outcome of the econometric specification depends on the selection of the most appropriate benchmark interest rate, in this case the lowest country interest rate. For the selected interest rates, the benchmark was the French lending rate except in the case of housing loans with variable rate and initial fixation up to one year, where the chosen benchmarks were the Dutch rates.

QUANTITY-BASED INDICATORS

Chart C24 MFI loans to non-MFIs: outstanding amounts by residency of the counterparty

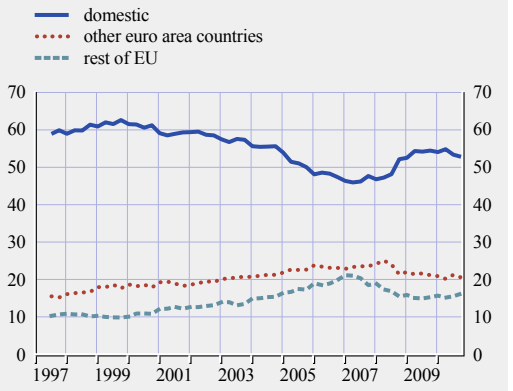
(as a share of total loans granted by MFIs, excluding the Eurosystem; percentages)



Source: ECB.

Chart C25 MFI loans to MFIs: outstanding amounts by residency of the counterparty

(as a share of total loans granted by MFIs, excluding the Eurosystem; percentages)



Source: ECB.

Description

These indicators show the geographical counterparty diversification of loans granted by euro area MFIs (excluding central banks) to the general government, to non-MFI counterparties resident in other euro area countries and to other MFIs resident in non-euro area EU Member States.[5] The indicators have a quarterly frequency.

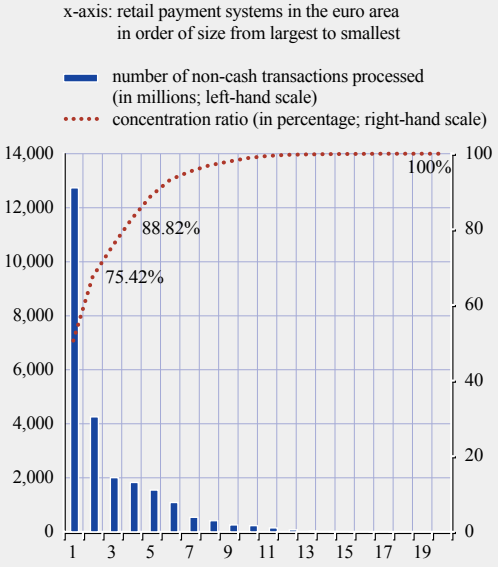
Additional information

These indicators are built on the basis of the national aggregated MFI balance sheet statistics reported to the ECB, at a monthly and quarterly frequency.[6]

These balance sheet items are transmitted on a non-consolidated basis. This means that the positions with foreign counterparties include those with foreign branches and subsidiaries.

INFRASTRUCTURE INDICATORS FOR RETAIL PAYMENT SYSTEMS

Chart C26 Concentration ratio of retail payment infrastructures in the euro area (2009)



Source: ECB.

Description

This indicator is a concentration ratio of retail payment infrastructures in the euro area in 2009 and shows the number of transactions processed by retail payment infrastructures and the cumulative share of the processed volumes. In 2009 there were 20 retail payment infrastructures located in the euro area. The three largest ones together processed in total 75% of the total market volume (by number of transactions). This figure increases to almost 89% for the five largest infrastructures. The five smallest infrastructures together processed only 0.04% of the total market transactions volume.

5 As applicable during the reference period.

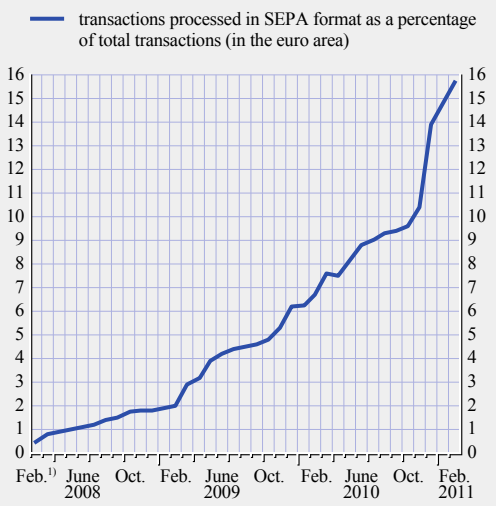
6 These data cover the MFI sector excluding the Eurosystem and also include data on money market funds (MMFs). It is not yet possible to derive indicators that strictly refer to banking markets. Consequently, as MMFs typically invest in inter-MFI deposits and short-term securities, the indicators displaying data for these assets are somewhat affected by the MMFs' balance sheet items.

Additional information

This indicator is based on the information reported in ECB payments statistics available in the Statistical Data Warehouse.

Chart C27 Credit Transfer transactions processed in SEPA format in the euro area

(percentage of total transactions)



Source: ECB.
1) 28 January-29 February.

Description

This indicator presents, on a monthly basis, the share of euro area SCT transactions as a percentage of the total volume of all credit transfer transactions (i.e. credit transfers in "old" format as well as SCT) processed by the infrastructures, namely clearing and settlement mechanisms (CSMs) located in the euro area. The indicator does not include "on-us" transactions (i.e. credit transfers between accounts at the same bank) or transactions cleared between banks bilaterally or via correspondent banking. Nevertheless, focusing on the transactions processed by CSMs provides a good approximation of the SCT usage within SEPA.

The higher the value of the indicator, the higher the usage of the SEPA product. A value of 100% would indicate that only SEPA products are used and have fully replaced the non-SEPA instruments (i.e. SEPA has been fully implemented with regard to this particular instrument) in the "bank-to-bank" domain, as measured by the CSM data.

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