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Highlights in this issue:

- Focus: Regulatory changes in the financial sector and the prevention of housing bubbles
- The Impact of the financial crisis on the integration of the euro-area banking sector
- Has the sovereign debt crisis hampered the recovery process in the euro-area financial sector?
- The impact of the financial crisis on corporate finance: how important is the shift from bank financing to bonds?

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As the tumultuous year of 2010 draws to a close, the euro-area economy presents itself in a complex state marked by a certain ambivalence of fortunes. While great achievements have been made and considerable challenges remain, one of the most welcome developments has been the strength of the economic recovery this year. The Commission's latest Autumn Forecast, published on 29 November 2010, showed a significant upward revision to euro-area GDP growth, which is expected to reach 1¾% for 2010 as a whole.

This encouraging headline figure cannot do full justice to the complex economic forces currently shaping the recovery and the balance of risks. Signs of a softening global environment and the onset of fiscal consolidation entail that activity is likely to moderate towards the end of 2010 and in 2011, but to pick up again in 2012 on the back of strengthening private demand. The recovery also appears to be broadening out. While export growth has been solid for some time, the euro-area economy is now entering the next phase, whereby the pick-up in exports starts to spur investment demand, especially for equipment. Some improvement is also apparent in national public finances as virtually all Member States' deficit is falling in 2011, although debt levels are still trending upwards.

Divergences still lie at the heart of euro area problems

The robust expansion of output this year should be taken as a clear sign of the recovery taking a lasting hold. At the same time, however, the divergence of economic performance and prospects across Member States of the euro area is a reflection of the still-sizeable adjustment needs of some economies. The strength of the sovereign debt crisis that shook the euro area this year underlined that fiscal consolidation needs to remain a top priority, although it will not be sufficient in itself to correct a number of important macroeconomic imbalances in some of our economies.

The banking sector in the euro area and beyond has continued to both emit and indirectly transmit risks to financial stability and real economic activity. Countries with large banking sectors and/or with strong cyclical asset price fluctuations have been cast into the spotlight once again this year, as private sector balance sheet problems coupled with sizeable refinancing requirements in the banking sector sat uncomfortably with the sometimes fickle risk tolerance of financial markets.

Divergent current account trends in previous years have been a reflection of a fundamental unevenness of relative domestic demand strength across the euro area. The task of rebalancing the economies burdened by high external deficits and/or debts is as challenging as it is necessary. Despite the ongoing adjustment, significant imbalances remain in place. Prices in some countries have yet to follow the reduction in domestic demand so that their price competitiveness materially improves.

Ireland's recent wide-ranging economic programme exemplifies a comprehensive approach to a number of these challenges. Its key objective is the restoration of financial market confidence in the economy's banking sector and public finances. By supporting the process of downsizing and deleveraging in the Irish financial sector and by helping to recapitalise the banking system, the programme can help break the pernicious feedback loops between the fiscal and financial sector. Coupled with credible measures to rebalance public sector spending and revenue and to structurally support the redeployment of productive resources, the programme should thereby enable the economy to return to sustainable growth.

Notable achievements in the face of turmoil

The sovereign debt crisis this year has illustrated the kind of difficulties that can arise from unbalanced growth patterns, including from fiscal, external and financial sector imbalances. Yet, for all the challenges that we face in the coming years across the euro area, the ensuing policy response has been effective in containing the associated risks of contagion and has set in train a fundamental overhaul of economic governance in the euro area and EU. Decisive strides forward have further been made in the areas of financial stability and supervision. I am proud of the way the EU as a whole has pulled together to deliver novel and far-reaching solutions to the various challenges. Amongst the major achievements this year I would count the financial support programmes for Greece and Ireland, the creation of the European Financial Stability Mechanism (EFSM) and the European

Financial Stability Facility (EFSF), as well as the decisive extension of the ECB's lending operations. All these steps were essential to ensure the financial stability of the euro area and the EU as a whole.

Together, we have also helped overhaul financial sector supervision with the creation of new regulatory bodies and have set up the European Systemic Risk Board (ESRB), which will go a long way in building a more stable and safer financial system in the EU. The Commission has also played a leading part in developing a comprehensive set of proposals to overhaul economic governance in the EU with a view to strengthen fiscal surveillance and to address other forms of macroeconomic imbalances. We have taken steps to boost our economic growth potential through the Europe2020 strategy and laid out the key principles of an EU framework for crisis management in the financial sector. Taken together, these achievements leave no doubt that Europe has the resolve to do what it takes to protect the stability and integrity of its economies. 2011 will undoubtedly again bring challenges both old and new for the euro area, but we will meet them with the same resolve as this year.

Focus on financial regulation and financial markets in the euro area

In keeping with the prominent role occupied by financial marked issues in recent months, this edition of the Quarterly Report on the Euro Area features analysis of a number of closely related topics in this area.

The Focus Section starts with the observation that excessive credit and asset price bubbles in the euro area were an important cause of overleveraging in the private sector, and that the financial crisis has exposed the limits of the current regulatory and supervisory structure in dealing with the build-up of balance sheet vulnerabilities in the banking sector. Within the euro area, addressing asset price bubbles requires monitoring and pre-emptive action and thus the supervisory toolbox should be considered as part of a wider macro-prudential surveillance framework.

Turning to the set of special topics in this issue, we examine the impact of the financial crisis on the euro-area banking sector, in particular on cross-border integration of financial institutions through bank mergers and acquisitions (M&A). The results show that the process of market integration is still ongoing, although at a slower pace as a consequence of the crisis and of the ensuing restructuring of the banking sector. Furthermore, the process of market integration is not uniform across countries, with smaller economies becoming internationally integrated more quickly than larger ones, for which M&A activity is predominantly domestic. Irrespective of country size however, the crisis has led to a clear slowdown of M&A activity and a refocusing on domestic activities for almost all euro-area countries.

This edition further investigates the effects of the sovereign debt crisis on the recovery process in the euro-area financial sector. The deterioration of investors' perception of sovereign risk has contributed to a negative feedback loop between public finances and financial market developments. It has raised funding costs for banks in the peripheral Member States and has complicated the process of banks' balance sheet repair. The emergence of some sovereign bonds as risky assets has segmented the investor basis and led to higher funding costs for some sovereigns, despite falling benchmark interest rates. This illustrates that the recovery in the financial system is even more dependent on the strength of economic recovery than before.

Finally, this issue shows that the euro-area corporate sector's traditional reliance on bank lending (rather than capital markets) may be changing. The surge in bond issuance by non-financial corporations in 2009 and the persistently high share of bonds in corporations' external funding in 2010 suggest that the euro-area corporate sector may have responded to the financial crisis and the tightening of bank credit conditions by diversifying its sources of external funding. If persistent, this diversification process would make part of the euro-area corporate sector – mostly large companies – less reliant on banks.

I wish you all a good and happy start to the New Year, which will I am sure be more successful than it will be taxing.

MARCO BUTI

DIRECTOR-GENERAL

Focus

I. Regulatory changes in the financial sector and the prevention of housing bubbles

Developments in the housing market and its related financial products have been at the heart of the current financial crisis, prompting a debate on ways to limit excessive credit growth and housing bubbles. Recent developments in lending for house purchases in the euro area evidence a variety of regional profiles — certain markets demonstrated much stronger growth than others in pre-crisis years, on the heels of brimming demand for housing. The single monetary policy appears ill-suited to address the adverse effects of excessive credit growth with a strong regional dimension. In contrast, regulatory and supervisory tools could prove more effective in limiting the occurrence and magnitude of housing price bubbles by keeping banks' leverage in check and by imposing higher standards on bank lending. They could also indirectly help curb the pro-cyclicality of bank lending and mitigate the risks of cross-border spillovers. In this respect, the newly created European Systemic Risk Board (ESRB) will play a pivotal role for the identification of risks to the stability of the financial system as a whole.

I.1. Introduction

Housing market developments, including its financing, lie at the heart of the recent global financial crisis. House price dynamics associated with the development of new, complex financial products have facilitated the build-up of risks, eventually threatening the very foundation of the banking system. More generally, house price bubbles can be thought of as the excessive movements of prices that cannot be explained on the basis of fundamentals. They tend to occur in cycles covering a variety of asset prices accompanied by ample global liquidity and have potentially serious fallouts for the real economy. Besides factors influencing the supply of mortgage loans, demand for housing loans is determined by a number of factors both structural and market-oriented. ([1])

Asset price bubbles are difficult to identify in their build-up period. Given their social and economic cost, however, there is an emerging consensus on the need to design policy frameworks that can reduce their occurrence and mitigate their effects. ([2]) There is scope for monetary policy to pay greater attention to financial risk and credit developments, i.e. "lean against the wind". ([3]) However, monetary instruments are relatively blunt and best geared to influencing economic activity and inflation rather than addressing particular vulnerabilities in the financial sector. ([4]) This means that additional policy instruments are required to tackle excessive credit and asset price bubbles. The issue is particularly crucial for the euro area, where monetary instruments are not targeted at the needs of individual Member States and in particular at possible regional asset price bubbles.

To that end, the EU is equipping itself with a range of instruments. Macroeconomic surveillance will be expanded beyond fiscal policy to include an Excessive Imbalance Procedure to addressing macroeconomic imbalances at an early stage. ([5]) Regarding the financial sector, the European Systemic Risk Board will be charged with macro-prudential oversight and issue warnings and policy recommendations to address systemic risks.

Against this background, the present focus section looks at the role that regulatory and supervisory tools may play in preventing excessive credit growth and housing bubbles. The overarching goal of prudential measures is to improve the resilience of the financial system by ensuring that banks' risk management practices are not a source of systemic risk. As shown in the recent past, house price bubbles can form a vicious circle

([1]) These determinants include long-term structural demographic developments, income, supply-side housing construction, consumer and investor preferences, the price of substitutes, fiscal regimes, developments in rental markets, as well as the availability of funding.

([2]) See for instance IMF (2010), Rethinking macroeconomic policy', *IMF Staff Position Note* (February).

([3]) See for instance ECB (2010), 'Asset price bubbles and monetary policy revisited', *Monthly Bulletin* (November).

([4]) IMF (2010), 'Central banking lessons from the crisis', *IMF Policy Paper* (May).

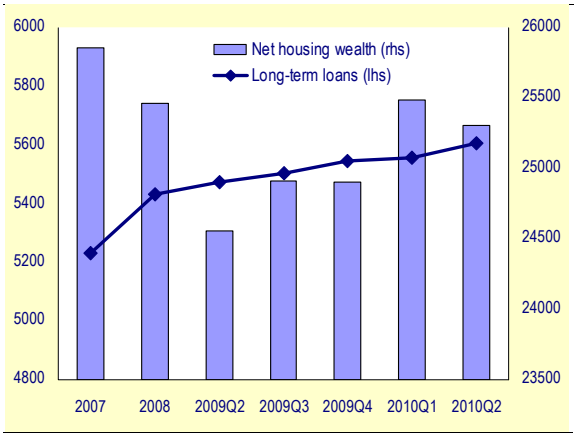
([5]) European Commission (2010), 'Proposal for a regulation of the European Parliament and of the Council on the prevention and correction of macroeconomic imbalance', COM(2010) 527 Final, 29.09.2010.

leading to inadequate risk management, distorting liquidity and funding management, and resulting in excessive credit growth, with potentially inflationary pressures. In this context, prudential measures could send clear signals to direct banks' behaviour and influence market incentives towards moderating balance sheet expansion, thereby ultimately containing imbalances and the potential cost of cyclical downturns. As prudential regulation is by definition pre-emptive, it could help avoid vulnerabilities at an early stage, and target regional or institution-specific risks. With banks playing a dominant role in the euro area, constraining banking credit via prudential tools could materially contribute to the moderation of regional asset price increases, thereby helping to limit the pro-cyclicality of the financial sector.

I.2. Credit cycles and housing bubbles in the euro area

Several episodes of asset price bubbles can be identified (ex post) in the euro area. On key consequence of bursting bubbles is a fall in households' net housing wealth, as occurred during the recent financial crisis (Graph I.1).

Graph I.1: **Housing loans and housing wealth, euro-area households (2007-2010Q2, end of period stocks, EUR bn)**

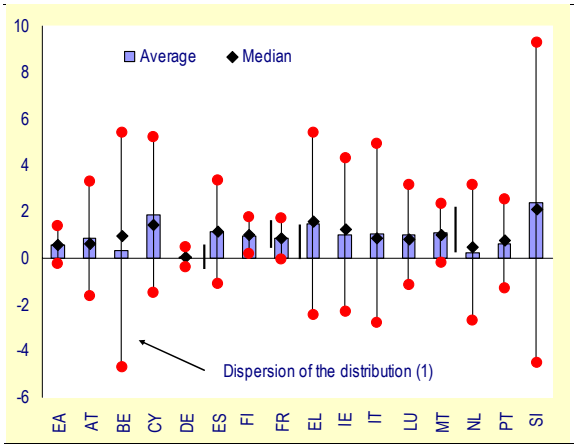


Source: ECB, Commission services.

Euro-area countries display divergent and segmented housing and mortgage markets, reflecting regional specificities in terms of market size, competition, developments in rental markets, legal, taxation and regulatory frameworks, as well as financing conditions. Data on loans to households for house purchases provide some evidence of episodes of excessive credit growth and asset price bubbles in pre-crisis years in some parts of the euro area. ([6]) In some Member States, markets experienced buoyant developments — in Ireland, Greece, and Spain; to a lesser extent in Italy and Luxembourg (see Graph I.3 and I.4). In other Member States, credit growth was more modest — Germany, Austria, Finland and Portugal. Some of the Member states that have recently adopted the euro have shown very sharp fluctuations in credit in recent years.

Differences in national credit market developments suggest that regional bubbles with specific profiles can emerge and develop independently of the single monetary policy (Graph I.2).

Graph I.2: **Growth in mortgage loans, euro-area countries (average, median and dispersion of m-o-m changes in %, Jan 2002 to Sep 2010)**



(1) Average +/- 2 times the standard deviation.
Source: ECB, Commission services.

I.3. Distortions created by asset price bubbles and excessive credit growth

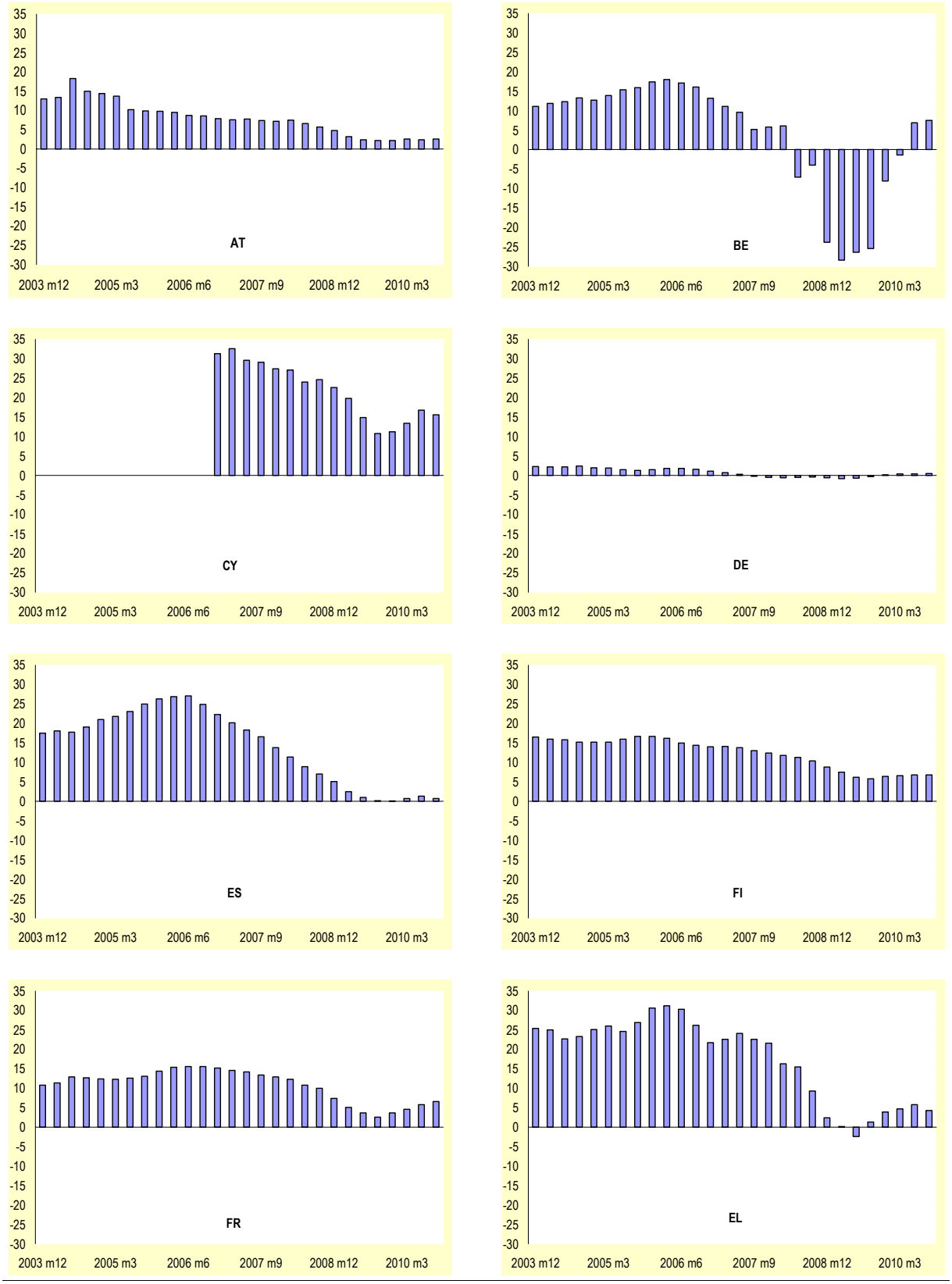
Distortions in the assessment of risks

Loans for housing form a significant part of banks' balance sheets in some euro-area Member States (Graph I.5). The resulting dependency of banks' balance sheets on the quality of housing loans and on the level of house prices highlights several areas of potential vulnerability:

- House price bubbles can significantly contribute to distorting banks' perception of risks, as shown in euro-area surveys on changing lending standards (Graph I.6). The collateral — in the present case the claim on the dwelling — serves

([6]) For an assessment of the size of house price misalignments in some euro-area Member States, see European Commission (2010), 'House price imbalances in the euro area', *Quarterly Report on the Euro Area*, Vol. 9, No 3.

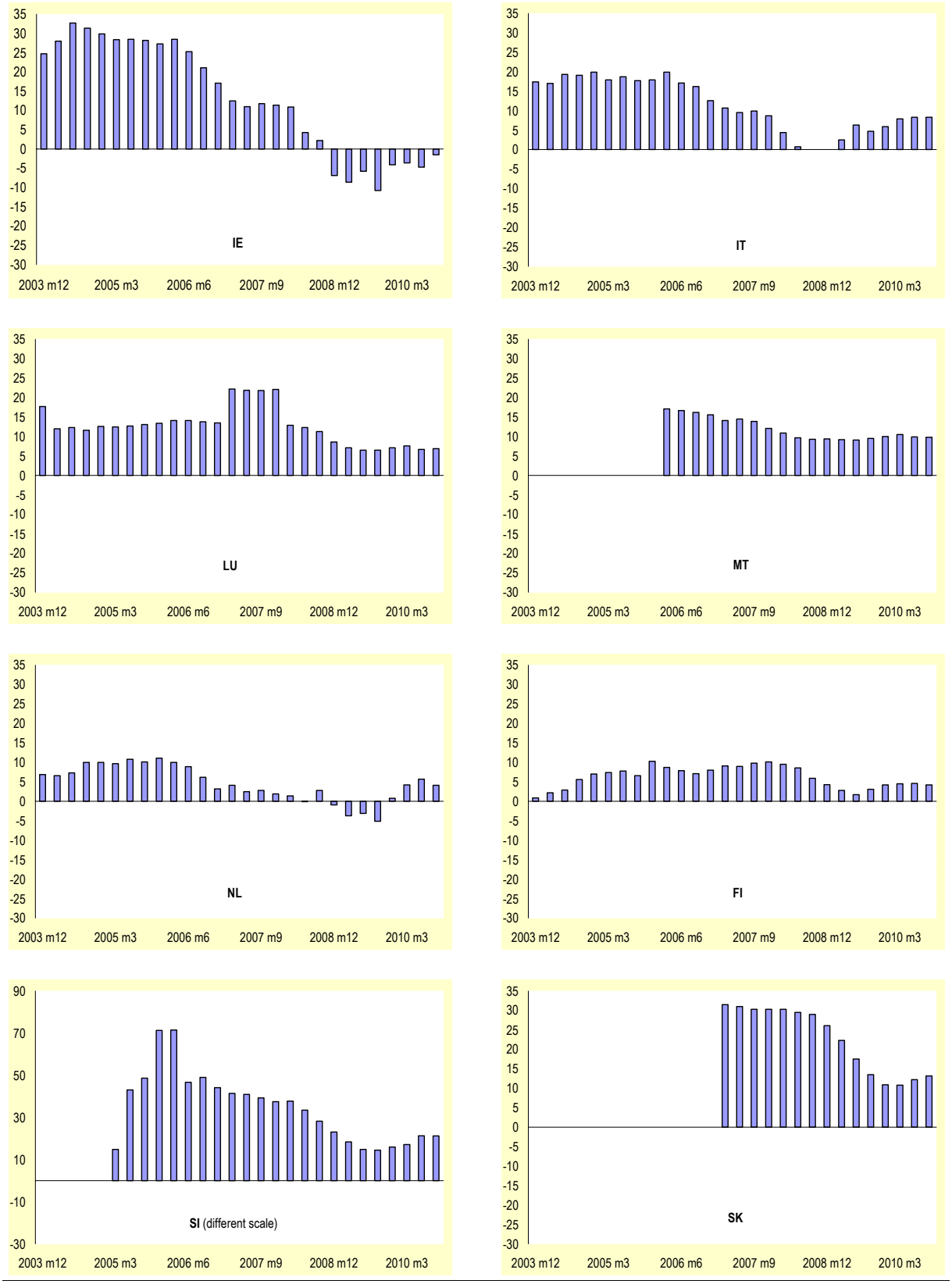
Graph I.3: **Lending for house purchases, euro-area countries (y-o-y changes in %, index of notional stocks, Dec. 2003 to Sep. 2010) (1)**



(1) Lending for house purchase in the balance sheets of MFIs (excluding the Eurosystem). Data for CY unavailable for part of the period. In Belgium the securitization of mortgage loans (not recorded in the balance sheets of credit institutions) explains much of the decrease in lending for house purposes in 2009.

Source: ECB, Commission services.

Graph I.4: **Lending for house purchases, euro-area countries (index of notional stocks, end of period, m-o-m changes in %, Dec. 2003 to Sep. 2010) (cont) (1)**

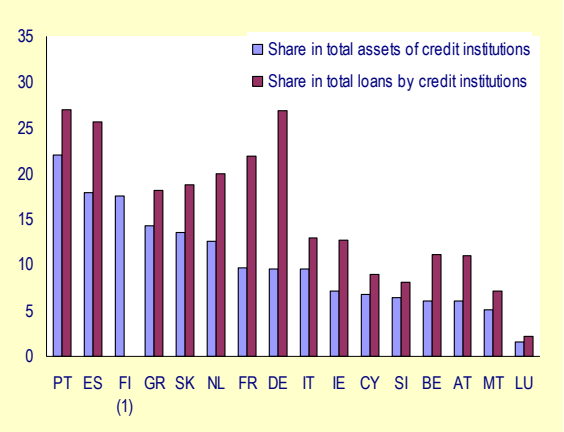


(1) Lending for house purchase in the balance sheets of MFIs (excluding the Eurosystem). Data for MT, SI, SK unavailable for part of the period.

Source: ECB, Commission services.

to mitigate counterparty credit risk and to increase the amount the creditor is willing to offer. In the asset price build-up phase, the value of the collateral tends to grow faster than that of the loan portfolio, conveying the misperception that counterparty credit risk is on the decline. This myopic valuation of the collateral increases incentives for higher leverage and creates distortive balance sheet effects. The downturn phase elicits a net loss in bank assets, thereby exposing uncovered counterparty credit risk and possibly inadequate capital levels. ([7])

Graph I.5: **Households' loans in banks' balance sheets, euro-area countries (2008, in %) (1)**



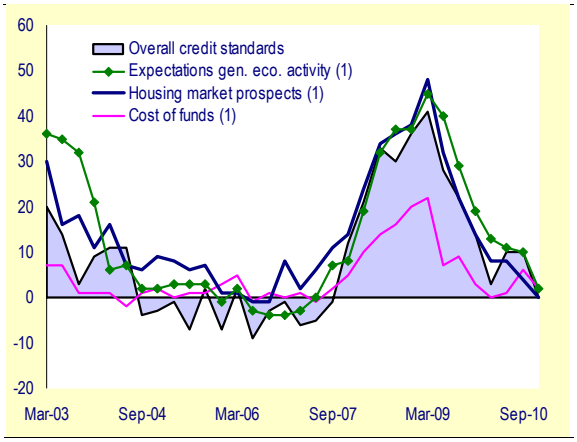
(1) Data are not available for FI.
Source: Ecowin, Commission services.

- Rising asset prices induce retail borrowers to sell or refinance rather than default, since they are less threatened with financial loss. This makes banks consider mortgage finance less risky than financing productive investment and can sway their business model towards a higher exposure in mortgage loans. Moreover, reliance on bank borrowing triggers a wide-ranging leverage effect and increasing reliance on bank financing, as retail borrowers seek to maximise their borrowing relative to their income; banks will also aim to optimise their asset-liability management (possibly involving innovative financing methods) to match a larger loan portfolio to their available capital.

- Persistent house price increases can involve a mispricing of capital and perverse incentives for funding. Market participants, whether they recognise an asset bubble episode or attribute it to an independent improvement of fundamentals, may also engage in speculative behaviours. ([8]) This feeds growing discrepancies between prices and fundamentals. It also entrenches the misconception that asset bubbles are beneficial to the sustainability of risk-taking balance sheet orientation. Furthermore, in the absence of adequate funding resources banks tend to rely more heavily on wholesale funding, which can exacerbate balance-sheet maturity mismatches if deposits prove inadequate.

- A house price bubble gives the false impression of a benign outlook for overall bank risks, as assets tend to grow more quickly than liabilities. As a result, the underestimation of risks leads banks to support a relaxing of credit standards, including low down-payments and some supervisory forbearance, and seek a more favourable tax and accounting treatment to shore up balance sheets.

Graph I.6: **Credit standards on loan to households for house purchases, euro area (net % of banks reporting a tightening, 2003Q1 to 2010Q4)**



(1) Factor affecting credit standards.
Source: ECB Bank Lending Survey.

Impact on the conduct of monetary policy and on risks to financial stability

Asset price bubbles hamper the proper transmission of monetary policy and render the outcome of monetary policy more difficult to predict. Against this background, recent research at the ECB indicates that economic conditions may sometimes necessitate taking steps to limit the effects of asset price bubbles so as to restore

([7]) The EU Commission has launched the Responsible Mortgage Lending and Borrowing initiative to mandate an adequate prior assessment of the borrowers' creditworthiness. The legislation should be adopted during spring 2011.

([8]) See in particular Abreu, D. and M.K. Brunnermeier (2003), 'Bubbles and crashes', *Econometrica*, Vol. 71, No 1, pp. 173-204.

the integrity of monetary policy instruments. ([9]) However, the conditions under which central bank measures can be effective in curbing the effect of asset price misalignments remain unclear. Furthermore, a common monetary policy cannot adequately address regional housing bubbles in the euro area.

Asset price bubbles and excessive credit growth increase systemic risk. Boom phases in house prices feed excessive investment and promote credit expansion. At the level of the individual banks, this does not necessarily create systemic risk since bank managers are expected to maintain adequate capital to match risks. However, the interplay of financial innovation, increased leverage, and banks' interconnectedness predispose bank balance sheets to amplify systemic risk. The possible presence of macroeconomic imbalances directly or indirectly related to asset prices (e.g. external deficits or public deficits) further increases such a risk, with a potential for contagion through market and balance sheet linkages between banks and the rest of the economy.

I.4. Regulatory and supervisory tools to limit financial instability risks

Given the distortions created by housing bubbles and the associated risks to financial stability, there is a need to design policy frameworks that can reduce the occurrence of bubbles and mitigate their effects. For that purpose, policy makers have a range of possible policy instruments at their disposal (see Table I.1). In the euro area, attempts to contain harmful regional house price bubbles need to be tailored to regional market conditions. National tax instruments can make a potentially valuable contribution to this aim. Furthermore, micro-prudential tools have an important role to play in preventing and mitigating the impact of asset price bubbles. While the prevention of asset and credit bubbles is not the main pursuit of micro-prudential oversight, measures targeted at the reduction of systemic risk and pro-cyclicality have the potential to curb excessive credit growth and the generation of asset price inflation.

The global financial turmoil prompted a wide range of regulatory reforms, including a complete overhaul of supervisory structures in the European Union. The main aim of these reforms is to reinforce the surveillance and monitoring of the financial system, shore up the solvency of the banking sector, and strengthen the overall financial stability of the system. The litmus test for these measures is their ability to dampen the pro-cyclicality of banking activity and reduce the sources of regulatory arbitrage while reinforcing international convergence and preserving the level playing field.

Although the regulatory reforms are applicable to the entire European Union, they are all the more necessary in the euro area due to the limitations of the single monetary policy to counteract potential financial imbalances on a country-by-country or regional basis. This sub-section reviews a range of regulatory and supervisory tools that have the potential to keep banks' leverage in check and thereby limit the risk of house price bubbles.

Table I.1: **Selected policy instruments to help limit housing bubbles**

Monetary Policy
Tax policy
Reduction of mortgage interest relief
Taxation of imputed rents (owner-occupied houses)
Property holding and transaction taxation
Regulatory policy
Capital adequacy requirements
Counter-cyclical capital buffers
Loan-loss provisioning rules
Accounting standards (e.g. asset valuation)
Maximum exposure limits
Maximum leverage ratios
Loan-to-value (LTV) limits
Loan-to-income (LTI) limits

Source: Commission services.

While the discretion granted to supervisors under Pillar 2 of the Basel framework provides the flexibility needed to apply many of these tools with a certain amount of judgment, it also creates the risk of inconsistent implementation across countries. The newly created European Systemic Risk Board (ESRB) will therefore play a pivotal role in identifying potential imbalances as well as risks to the stability of the financial system as a whole. Moreover, the new procedure proposed by the Commission on 29 September on the surveillance of macro-economic imbalances provides for an additional, complementary instrument to identify macro-financial risks early

([9]) The ECB has recently argued that 'both the experience of the recent financial crisis and the results of economic research have strengthened the case for central banks "leaning against the wind" of asset price bubbles'. See ECB, ibid.

on and to devise appropriate policy responses. One of the strengths of this new surveillance procedure, which will be operated in close relationship with the ESRB, is that it should provide effective instruments to monitor and ensure the proper implementation of measures that are deemed necessary to correct imbalances, possibly including financial sanctions.

Effective prevention of imbalances will require identifying housing bubbles on a timely basis and developing a good understanding of their ramifications in terms destabilising the financial system. This will clearly not be an easy task. For the supervisory bodies concerned, it will mean good access to timely micro data, the development of strong analytical tools and drawing on outstanding expertise in the economic sectors concerned. Recent economic research appears relatively encouraging in this context, pointing to a range of instruments and indicators that can be useful in detecting asset price misalignments and signalling financial distress early on. ([10]) But much further work is needed in that area.

Improving the valuation of assets

The rules for the valuation of financial assets (fair value and other valuation criteria) can have a strong influence on investment decisions made by banks. These rules determine whether the fluctuations of financial asset prices are translated into profits or losses in the banks' accounts.

Asset classes that are valued at market price at all times (marked-to-market) exert considerable volatility on banks' balance sheets, thereby potentially amplifying pro-cyclicality and bubbles. ([11])

Until recently, mortgage loan assets were mainly held by retail banks with a low risk profile. They were not marked-to-market but valued using more conservative valuation standards. However, in the run-up to the crisis, the high yields offered by complex financial instruments based on mortgage loans generated large capital inflows which were used for residential property lending. In most cases these instruments were held for speculative purposes and were marked-to-market.

Following the famous 'originate-to-distribute' model, mortgage loans were extended massively, on the back of an ever-increasing mortgage-backed securities market. As a result, residential mortgages became accessible to a wider spectrum of borrowers and a spiral was set in motion of increased demand for real estate, rapid growth of mortgage loans and further asset price increases, which turned out to be one of the roots of the financial crisis.

In reaction to these root causes and other accelerating factors of the crisis, the International Accounting Standards Board (IASB) have undertaken a full revision of the accounting standards which determine the valuation of financial instruments. ([12])

Impact of the rules on loan-loss provisioning

Appropriate rules for loan-loss provisioning can reduce pro-cyclicality and provide a cushion in the event of unforeseen loan losses. Essentially, loan-loss provisioning seeks to compensate for expected future losses that occur if a borrower does not repay according to the loan contract. The rules for provisioning have a strong impact on the accounting value and the yield of loans, credits and other receivables since provisions lower the value of the loans and reduce the profits of the entity which holds these instruments.

Currently, International Financial Reporting Standards (IFRS) follow an incurred loss approach, where specific provisions can only be registered when an event has an impact on the estimated future cash-flow of the loan. Empirical evidence suggests that this accounting methodology may generate a dangerous time lag before the underlying losses in a loan portfolio are registered. By way of example, in the period that preceded the crisis, the amount of loans in arrears and provisions sunk to very low levels. However, when the crisis began, loans in arrears started swelling, increasing abruptly the amount of provisions. This approach has proved extremely pro-cyclical, further choking access to financing

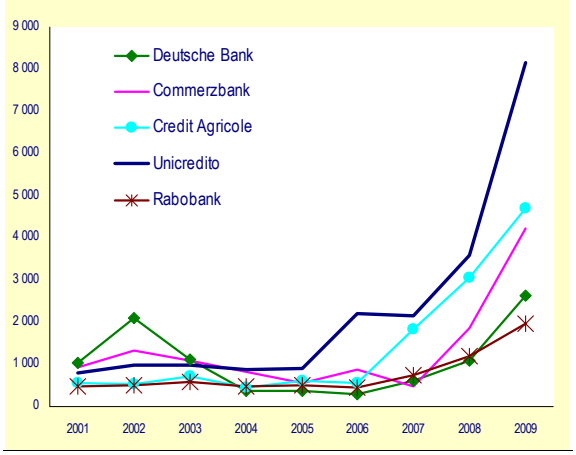
([10]) See, for instance, ECB (*ibid.*) and Bank for International Settlements (2010), 'Macroprudential policy and addressing procyclicality', BIS 80th annual Report (June).

([11]) For example, the accounting standards generally applied in the euro area — the International Financial Reporting Standards (IFRS) — prescribe that derivative contracts not serving to hedge positions must be valued at all times using fair value where fair value is marked-to-market or a valuation following market price fluctuations. According to the IASB, the definition of fair value is 'the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date'.

([12]) The International Accounting Standards Board is the accounting standard setter responsible for publication of the International Financial Reporting Standards applied most commonly in the euro area.

and aggravating the impact of the crisis (Graph I.7).

Graph I.7: **Loan-loss provisioning in selected euro-area banks (in bn EUR, end of year)**



Source: Bloomberg, Orbis, Commission services.

Already in 2000, Spanish regulators decided to supplement the current incurred-loss approach with a dynamic provisioning mechanism. With dynamic provisioning, the level of provisions increases during the economic upturn, thereby tempering the pro-cyclicality of the incurred-loss approach and providing a capital reserve in case unforeseen losses materialise.

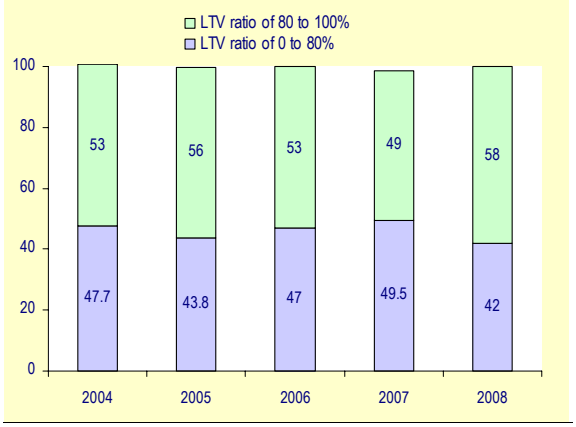
Drawing on the experience of the crisis, the IASB is currently revising the applicable rules for loan-loss provisioning in order to adopt a more forward-looking provisioning approach that is able to cushion against potential future losses. This measure is set to modify the yield and the valuation of the loan portfolio, partly correcting the incentives to invest in residential property.

Measures influencing the volume of credit

A number of measures can be employed to influence credit growth. The volume of credit supplied to the economy can be constrained by imposing limits either on banks or on borrowers. On the one hand, the total amount of lending can be limited by imposing additional capital requirements, binding leverage ratios or rules on large exposures on banks. On the other hand, the capacity of entities or individuals to borrow can be constrained by rules stipulating specific Loan-To-Value (LTV) or Loan-To-Income (LTI) ratios for determining the access to credit. These rules limit the amount of money that can be borrowed by an individual or a company based on the value of the collateral (LTV) or on the level of income (LTI), which could eventually contain excessive credit growth.

However, empirical evidence shows that the effectiveness of these measures depends on a number of factors. In the build-up to the US subprime crisis, for instance, financial institutes granted mortgage loans against the value of the collateral. The creditworthiness of the borrower played only a negligible role. As it turned out, the LTV approach was part of the problem in the sense that it fuelled a speculative spiral and contributed to the inflation of residential and commercial property rather than anchoring credit to its fundamentals.

Graph I.8: **Distribution of mortgages by Loan-To-Value ratios, Dublin area, Ireland (in %)**

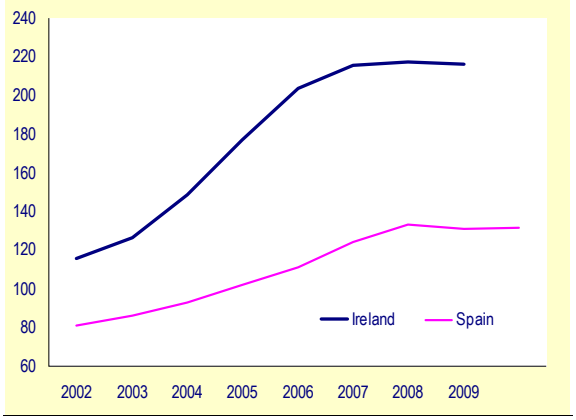


Source: Department of the Environment, Heritage and Local Government in Ireland and Commission services.

This experience teaches important lessons. First, LTV rules must be sufficiently stringent to ensure that the value of the collateral will cover bank losses even in the event of overpricing of the assets that are pledged against the loan. Secondly, the assessment of the value of the collateral should go hand-in-hand with a proper assessment of the creditworthiness of the borrower. In other words, effective rules for mortgage loans should combine both LTV and appropriate LTI ratios. Assessing credit risk on the basis of the value of collateral alone creates the wrong incentives.

The setting of binding thresholds based on both LTV and LTI ratios could have helped to avoid excessive credit growth in Ireland and Spain, too. As Graph I.8 shows, in Ireland the share of risky exposures with LTV ratios beyond prudent levels were significant and the ratio of total liabilities to disposable income had reached very high levels in the run-up to the crisis (Graph I.9).

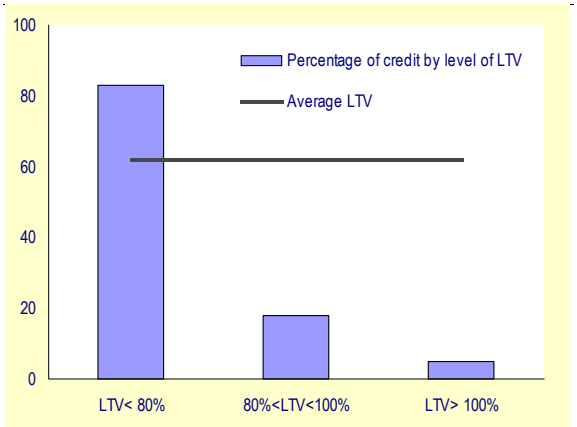
Graph I.9: **Ratio of loan to disposable income, Spain and Ireland (in %)**



Source: Banco de Espana, Central bank of Ireland.

While average LTV levels remained within reasonable limits in Spain (Graph I.10), the ratio of total liabilities to disposable income surged in the years preceding the crisis (Graph I.9). Graph I.11 also shows that the highest loss rates in Spain were registered in the construction and property development portfolios. The problems in this sector may have been avoided by diversifying much more the loan portfolio and applying more stringent LTI thresholds.

Graph I.10: **Distribution of retail mortgage credit by Loan-To-Value ratios, Spain (share in %)**



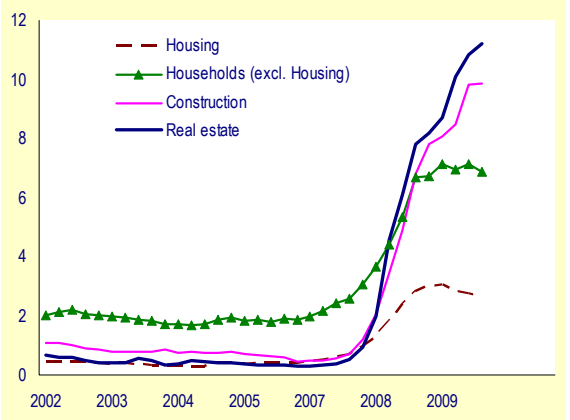
Source: Banco de Espana.

Fiscal measures provide another policy lever to influence the demand for mortgage loans. In particular, tax measures reducing tax deductibility for mortgage payments for retail borrowers, as well as measures to combat excessive loan portfolio held by banks can prove effective. As regards external factors contributing to house price bubbles, imposing a levy on incoming foreign direct investment in real estate could help limit the pressure on house prices.

However, the most common way of reducing the volume of bank lending is by increasing its financing cost by augmenting the amount of capital that banks have to hold for an asset class. This could act on both the supply of and the demand for credit by reducing banks' capacity to lend and, assuming the extra cost of capital will be partly passed on to the borrowers, dampening credit demand.

Prudential capital requirements can be modified using two regulatory mechanisms: capital charges for specific asset categories and the introduction of additional capital buffers. ([13]) By raising the capital charge of certain assets, regulators can modify the incentives for investing in a certain asset category and reduce the amount of associated capital inflows. For instance, the second amendment to the Capital Requirements Directive (CRD) 2006/49/EC, proposed in July 2009, has imposed more stringent rules on securitised assets to change modify incentives linked to these transactions and their underlying mortgages.

Graph I.11: **Ratios of doubtful assets for credit to the resident sector, Spain (in % of credit)**



Source: Banco de Espana.

The second mechanism to constrain the volume of credit is the introduction of additional counter-cyclical capital buffers. These buffers are calculated on the basis of macroeconomic variables, most commonly with reference to credit and GDP growth. The purpose is to identify and dampen periods of excessive growth (often linked

([13]) This can be done by increasing the weighting scheme of specific assets in the computation of Risk-Weighted Assets (RWA), which form the denominator of the regulatory capital ratio (such as Tier I under the Basel framework).

to the appearance of bubbles) by introducing a higher capital target. In the near future, the ESRB is set to contribute to prudential rules by advising on counter-cyclical buffers. ([14])

The leverage ratio is another measure of credit expansion, which, if restricted, could result in constraining the ability of banks to extend new loans since they would have to raise extra capital to continue expanding their balance sheet beyond this limit. In the context of an emerging asset price bubble, banks would probably seek to pass on the additional cost of capital to borrowers either through interest rate increases (price limit), or by limiting the magnitude of lending (quantitative limit).

Finally, rules on excessive concentration of risk are primarily meant to strengthen financial stability by improving the banking sector's diversification. The Capital Requirements Directive (CRD), 2006/48/EC, adopted on 14 June 2006 sets specific limits to large exposures held by banks. ([15]) Nevertheless, the existing rules on large exposures ([16]) have little bearing in the case of asset price bubbles, as the regulation does not provide for the possibility of imposing limits on a bank's exposure to a specific sector such as the real estate sector. The new supervisory architecture could allow the ESRB to monitor this type of concentration (by sector or asset class) with a view to possibly imposing temporary limitations when a bubble is building up.

I.5. Conclusion

Regulatory action to constrain banks' balance sheets can assist in controlling the occurrence and magnitude of housing price bubbles. It requires a coherent effort to integrate supervisory tools into a wider macro-policy approach that protects financial stability if the occurrence of macro-financial imbalances is to be prevented. In this vein, the creation of the European System of Financial Supervisors (EFSF) (allying the ESRB and the European Supervisory Authorities) will encourage balancing the micro-prudential supervisory tools with a macro-prudential approach to systemic risks. Moreover, the new broader macro-economic surveillance procedure proposed by the Commission will provide a complementary tool to detect and address unsustainable macro-financial trends early on. Meanwhile, the adoption of stronger capital requirements for banks by the end of this decade will buttress bank's resilience. Improved regulatory action also requires timely and comprehensive access to micro-based information that is evaluated using strong analytical tools. However, there is a need to keep up momentum to implement early corrective policies for safeguarding resilience of financial institutions and markets. The possible tension between the need to support aggregate demand could result in trade-offs that could ultimately dent the credibility of risk management and that weaken the commitment to the collective benefits of financial stability.

([14]) The next round of amendments to the CRD (CRD4) envisages the introduction of counter-cyclical capital buffers.

([15]) In particular, the Directive (2006/48/EC) sets limits for exposures to clients or groups of connected clients under the tools to limit credit risk. Clients are considered to be connected if there is a relationship of control between them or if, in the absence of such a relationship, the financial difficulties experienced by one client would be likely to provoke repayment or funding difficulties for all the other clients.

([16]) Articles 106 to 118 of Directive 2006/48/EC.

II. Special topics on the euro-area economy

The financial crisis has had a strong impact on the euro-area banking sector. In particular, the restructuring process that was initiated by the crisis and is still ongoing has slightly changed the trends in bank mergers and acquisitions (M&A). The cross-border dimension of these M&A operations is a key indicator of the integration process of the euro-area banking sector, which is fundamental to the integration and deepening of the EU internal market. The analysis presented in the first section of this chapter shows that the process of market integration is still ongoing, although at a slower pace as a consequence of the crisis and of the ensuing restructuring of the banking sector. Furthermore, the process of market integration is not uniform across countries and types of banks. In particular, some large banks appear to have continued to expand across borders.

The second section in this chapter looks into the effect of the sovereign debt crisis on the recovery process in the euro-area financial sector. The deterioration of investors' perception of sovereign risk has contributed to a negative feedback loop between public finances and financial market developments. It has also raised funding costs for banks in a number of Member States and has complicated the process of banks' balance sheet repair. The emergence of some sovereign bonds as risky assets has segmented the investor base and led to higher funding costs for some Member States, while at the same time benchmark interest rates have fallen in the euro area. Lower benchmark rates may stimulate economic activity, but they may also reduce profit margins in the financial industry and encourage risk-taking. Overall, the sovereign debt crisis has led to the recovery in the financial system becoming even more dependent on the strength of economic recovery than before.

External financing of non-financial corporations has traditionally been more bank-based in the euro area than in the US. Nevertheless, the last section argues that this may be changing. The surge in bond issuance by non-financial corporations in 2009 and the persistently high share of bonds in corporations' external funding in 2010 suggest that the euro-area corporate sector may have responded to the financial crisis and the tightening of bank credit conditions by diversifying its sources of external funding. If persistent, this diversification process would make part of the euro-area corporate sector — mostly large companies — less reliant on banks. It would also entail a shift of bank lending towards small and medium-sized enterprises.

II.1. The impact of the financial crisis on the integration of the euro-area banking sector

Introduction

Prior to the financial crisis, many banks expanded their balance sheets by increasing the use of wholesale funding, ([17]) allowing them to develop cross-border activities or even to acquire and integrate foreign banks within their groups. This integration process improved efficiency and profitability in the banking sector through increased competition, price transparency, interoperability among the participants and transfers of technology and managerial skills. Empirical evidence points to lower loan rates or higher deposit rates resulting from this process of integration. ([18])

Although critics of banking sector consolidation point to the risk of job losses and failed business strategies, the empirical evidence shows that cross-border activity provides a greater competitive impulse to national banking markets than purely domestic integration and that foreign bank entry tends to enhance consumer welfare. ([19])

([17]) As opposed to a more stable source of funding such as customer deposits.

([18]) European Commission (2007), 'Report of the Retail Banking Inquiry', *Commission Staff Working Document*; European Commission (2008), 'EMU@10 — Successes and challenges after ten years of EMU', European Economy Vol. 2 2008; SEC(2007) 106; Jimenez, G., J.A. Lopez, and J. Saurina (2007), 'How does competition impact bank risk-taking?', *Federal Reserve Board of San Francisco*, Working Paper No 2007-23; Humphrey, D.B. (2009), 'Payment scale economies, competition and pricing', ECB Working Paper Series No 1136.

([19]) In view of these potential economic benefits arising from cross-border activity between banks, the European Commission has been working since 2004 to examine the barriers to cross-border consolidation in the financial sector and how to address existing inefficiencies. Walkner, C. and J.P. Raes (2005), 'Integration and consolidation in EU banking — an unfinished business', *DG ECFIN Economic Paper* No 226.

The global financial crisis has acted as a shock to the ongoing transformation of the banking sector. As in other advanced economies, the majority of euro-area banks have been strongly affected by the sharp retrenchment on the interbank market, the balance sheet deterioration due to toxic and otherwise illiquid assets, and the collapse of global demand that followed Lehman's bankruptcy, although with varying degrees of intensity and some differences in timing of the distress.

The severe loss of liquidity in the asset-backed securities markets coupled with higher levels of non-performing loans hampered banks in performing one of their core functions, namely financing the real economy. At the same time, these circumstances forced banks to stop or delay their integration plans.

Integration of the euro-area banking sector can be assessed through different indicators, for instance the amount of foreign branches and subsidiaries; cross-border M&A; and the provision of services on a cross-border basis. This section focuses on cross-border M&A activity in order to shed some light on the challenges that cross-border banking integration is currently facing. ([20]) It shows that the process of market integration is still ongoing, although at a slower pace as a consequence of the crisis and the ensuing restructuring of the banking sector.

The financial crisis boosted State aid and bank restructuring under EU rules

Since the beginning of the crisis, significant restructuring has been carried out in the euro-area banking sector under close scrutiny of the Commission. Some degree of restructuring has typically been a condition for banks to be granted access to public support measures.

Under the Treaty on the Functioning of the European Union (TFEU), State aid that distorts competition is in principle prohibited. However, faced with the severity and systemic nature of the financial crisis, the Commission decided to urgently reassess the conditions for the application of the State aid framework, and in acknowledgement of the risk of a 'severe disturbance to the economy' thereby allowed some State aid as laid down in Article 107(3)(b) TFEU. To limit the distorting effects of such aid, the Commission produced various guidelines in the form of four Communications. ([21]) The Restructuring Communication ([22]) details the particular features that a restructuring plan (or a viability plan) has to display in the specific context of crisis-related State aid granted to financial institutions on the basis of Article 107(3)(b).

In assessing the restructuring requirements, the Commission takes into consideration the specific situation of each financial institution and in particular the degree to which such restructuring is necessary to restore viability without further State support. The main principle of restructuring is that it should lead to restoration of the viability of the undertaking in the longer term without State aid. As a general rule, the greater the reliance on government aid, the stronger the indication of a need to undergo in-depth restructuring in order to ensure long-term viability. Nevertheless, the individual assessment takes account of the individual situation and applies the restructuring framework in an appropriately flexible manner in the event of a severe shock endangering financial stability in one or more Member States.

So far, restructuring has taken two main forms: the sale of distressed banks and divestments of certain assets or activities (including through the sale to a "bad bank").

Sale of the bank. The sale of a distressed bank to another bank is considered as an appropriate element of restructuring. It can contribute to the restoration of long-term viability if the purchaser is viable and capable of absorbing the distressed bank. The sale of a bank has a consolidating effect within the sector. This consolidation can be of a domestic nature or cross-border, leading to relatively less or more cross-border banking integration respectively. ([23])

([20]) Mergers can be defined as the fusion of organisations (generally of comparable size) into one legal entity. Acquisitions are transactions where one firm purchases a controlling stake in another one, without necessarily combining the involved firm's assets.

([21]) These Communications provide detailed guidance on the criteria for the compatibility of State support to banks with the requirements of Article 107(3)(b). Three of the four documents set out the prerequisites for the compatibility of the main types of assistance granted by Member States — guarantees on liabilities, recapitalisations and asset relief measures.

([22]) European Commission (2009), '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.

([23]) An interesting case is the break-up of Fortis SA/NV, which led to more cross-border banking between Belgium and

Divestment. Banks benefiting from State aid are in some cases required to divest subsidiaries, branches, and portfolios of customers or other activities. In order for such measures to increase competition and support the internal market, the Commission seeks measures favouring the entry of competitors and cross-border activity. ([24]) It therefore pays particular attention to restructuring measures being undertaken without discrimination between banks from different Member States.

Although restructuring is specific to each individual bank, a broad examination of the various restructuring plans submitted so far to the Commission allows some main trends to be identified.

The most obvious effect of all restructuring plans is the reduction in size of the financial institution concerned. This reduction in size is not only a direct consequence of the need to return to viability, but may also arise from the obligation to ensure adequate burden-sharing (the divestment of certain activities or areas allowing the restructuring to be self-financed) and to adopt compensatory measures for competition distortions created by the aid (to foster competition by giving opportunities to new entrants to acquire existing activities).

The second obvious effect of restructuring operations is a general tendency for distressed banks to refocus the activity of the institution concerned on domestic activities and core business. The need to restore viability often leads to a concentration on market segments that are deemed the safest, which are typically the ones the institution is most familiar with. This explains the abandonment of exotic segments, in terms of both activities and geographic areas. Therefore, the divestment process leads naturally to a re-concentration on national markets.

Such measures often follow directly from the actions of the banks themselves, for the following reasons. First, difficulties of the distressed banks often originated from having ventured into unfamiliar markets and/or geographic areas during previous years through a process of M&A. Second, these distressed banks (e.g. RBS, Fortis, ING) were typically large systemic banks with substantial cross-border activities. This favoured a number of specific divestments, from both a financial stability and a corporate profitability perspective. While government interventions in the restructuring negotiations have sometimes revealed a temptation to preserve national ownership of domestic financial activities, bank restructuring and divestments have made it possible for more solid non-aided banks to expand abroad. ([25])

Restructuring operations under EU rules were not evenly distributed geographically. Some Member States, including large ones, did not see any of their financial institutions undergo restructuring at all (Italy, France, ([26]) Slovenia, Slovakia, Cyprus), or have had only a very limited number so far (Portugal). On the other hand, some Member States had a large number of their financial institutions restructured, representing a significant share of the total sector. This was particularly the case in Belgium and the Netherlands (which had very concentrated financial sectors), but also in Ireland and in Germany, where Landesbanken were the sources of significant difficulties. The situation in Greece is somewhat particular, as its financial institutions did not display indications of distress at the beginning of the crisis, only coming under pressure recently due to the persistence of the crisis and the emergence of sovereign difficulties.

But banks have also restructured on their own initiative

Beyond the cases of restructuring under EU rules, some banks have chosen to restructure on their own initiative, in order to avoid government intervention or to restore market confidence. These restructuring operations were aimed at creating sounder and more cohesive entities, leading in some cases to refocusing on a smaller set of activities, which in turn has had an effect on the cross-border presence of banks. The divestments of certain activities and particular types of assets have reduced the size of these banks' balance sheets and improved their capital ratios, in a similar way to the process observed for publicly rescued banks.

Other banks have also aimed at cleaning and strengthening directly their balance sheets, by

France through the acquisition of Fortis BE by BNP Paribas, and a more domestically owned banking sector in the Netherlands.

([24]) It should be pointed out that the Commission does not as such propose or dictate the restructuring actions, but only assesses them after submission by the beneficiary of the aid in cooperation with the national government involved.

([25]) To some extent, this 'nationalism' matches the sovereign dimension of the aid provided by the Member States to their systemic domestic banks.

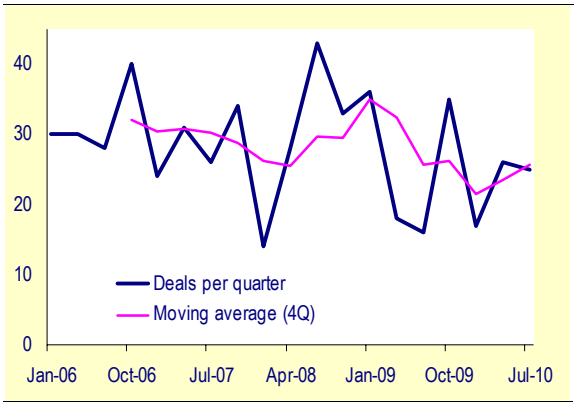
([26]) Disregarding the Belgian-French group Dexia.

writing-down or selling impaired assets and portfolios and by raising additional capital, partly also in order to meet expected higher capital requirements. ([27])

Bank M&A and divestment data point to slower international integration

In a historic perspective, two peaks for cross-border M&A deals in the banking sector are evident, one following the launch of the Single European Act in the late 1980s, and another in the late 1990s, prior to the creation of the euro. More recently, a relative decline in the number of announced M&A deals is evident following a further peak in the third quarter of 2008 (see Graph II.1.1), around the Lehman collapse. This can be seen as a consequence of the crisis in view of the deterioration in market confidence and the difficulties in finding buyers. ([28])

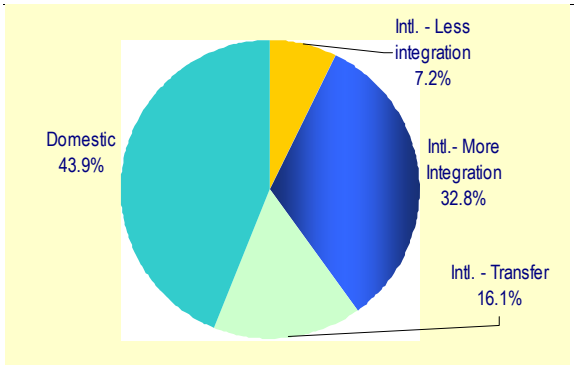
Graph II.1.1: **Evolution of M&A, euro-area banking sector (number of deals)**



(1) Based on announcements.
Source: Bloomberg and Commission services.

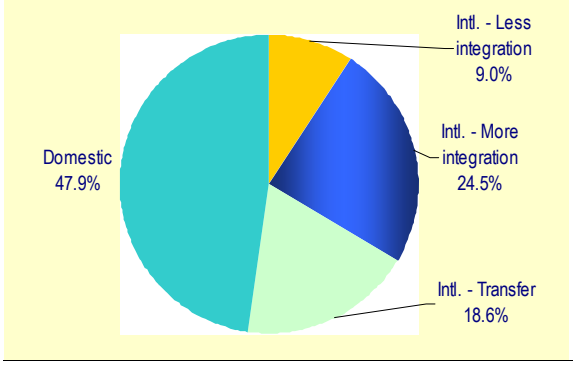
While direct cross-border retail activity of banks is usually limited, the ownership of banks is much more internationalised. ([29]) Since 2006, more than 50% of the M&A deals involved actors coming from at least two different countries.

Graph II.1.2: **M&A in the euro-area banking sector before the crisis (number of operations - 2006 to Sept 2008) (1)**



(1) "Domestic" deals: all parties are resident in the same country. "Intl.": international deal, i.e. transaction involving at least one non-domestic entity. "More integration": ownership of the target moves away from its country of origin. "Less integration": ownership of the target moves back to its country of origin. "Transfer" (neutral): both acquirer and seller come from a country other than the one of the target. Based on announcement dates. Date of collapse of Lehman Brothers taken as the cutting point.
Source: Bloomberg and Commission services.

Graph II.1.3: **M&A in the euro-area banking sector after the crisis (number of operations - Oct 2008 to Oct 2010) (1)**



(1) See footnote of previous graph.
Source: Bloomberg and Commission services.

Graphs II.1.2 and II.1.3 describe the effect of M&A transactions on market integration within the euro area. The indicator 'Intl. — More integration' shows the share of transactions where the ownership of a domestic target in the euro area was transferred to a non-domestic bank. In most cases the acquiring entity is also located in the euro area, although the sample includes all

([27]) Bloomberg estimates that €210bn of capital (both public and market capital) was raised by euro-area banks between 2008 and June 2010.

([28]) The analysis hereafter is based on the Bloomberg M&A database. It includes all deals announced between 2006 and October 2010 where the target is a bank with residence in the euro area (537 deals), irrespective of the residence of the buyer and seller. The analysis focuses on the number of deals rather than on volumes for two reasons: (1) large transactions would bias the picture and (2) data availability. Terminated deals were ignored. Three actors may play a role in each deal: a seller, an acquirer and the target; however, for an acquisition of a full entity or in joint ventures, there are only two actors: acquirer and target. The database only includes divestments of parts of the banks, so that it gives no indication of the activities or departments that are terminated.

([29]) See, for instance, European Commission (2009), 'European financial integration report 2009', Commission Staff Working Paper, SEC(2009) 1702 or ECB (2010), 'EU banking structures', September.

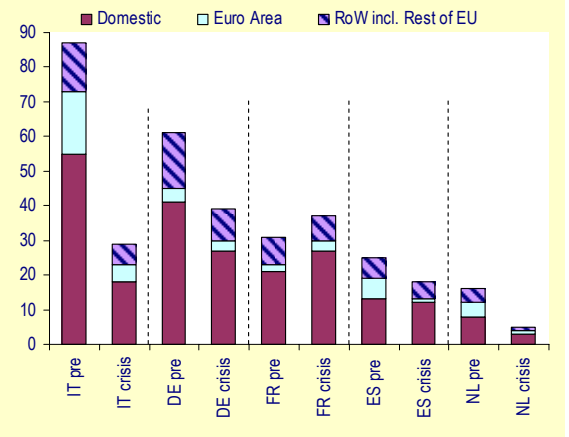
transactions, i.e. also involving non-EU entities (buyers or sellers). The indicator recording more integration registered 32.8% before the crisis (Graph II.1.2) and 24.5% during and after the crisis (Graph II.1.3), indicating a slowdown in integration within the euro area. At the same time, the share of domestic transactions ([30]) and transactions leading to less integration have both increased, to 47.9% from 43.9% and to 9% from 7.2% respectively. These three indicators point to a shift in the cross-border dimension of M&A towards a relatively slower pace of integration.

But developments in cross-border deals vary depending on countries considered

M&A transactions in the euro area were dominated by larger countries, in terms of the residency of targets, sellers and acquirers. Given the absolute size of the banking sectors of Germany, France, Italy, and Spain, it is not surprising that they account for the majority of transactions in all these categories. The total size of the banking system in Germany and France alone accounts for more than half of euro-area banking assets. This being said, it is also important to take into account the initial levels of integration and concentration when interpreting such figures, as a more highly concentrated banking sector is arguably less likely to offer as many potential target entities for M&A deals than a more fragmented one. ([31])

When looking at the origin of acquirers (Graph II.1.4) further differences between the euro-area countries are noteworthy. Firstly, most of the larger countries show a clear fall in the number of deals concluded between the pre-crisis period of 2006/2007 and the following three crisis years. Secondly, the reduction in M&A activity appears to have affected domestic and international transactions to a similar extent. One notable exception to this observation is the case of Spain and (to a lesser extent) the Netherlands, which saw a relative shift towards domestic acquisitions at the expense of deals featuring a foreign buyer from another euro-area country. Thirdly, looking at an extended sample that includes smaller euro-area countries (not depicted) further shows that M&A activity in smaller economies' banking sectors is typically more international, with euro-area countries accounting for around a quarter of acquisitions. Cross-border banking integration in the euro area thus appears not to be uniform, as significant differences are apparent between larger and smaller countries' banking sectors. However, this analysis does not afford any conclusions as to the extent to which this is due to the financial crisis and ensuing restructuring/divestment operations.

Graph II.1.4: **M&A in the euro-area banking sector, breakdown of origin by acquirers (number of deals pre-crisis [2006-07] and crisis period [2008 to Oct 2010])**



Source: Bloomberg and Commission sources.

Some major euro-area banks have seized the opportunity to expand across borders

Depending on the type of restructuring carried out, banks have either divested activities, raised capital (through shares or hybrid instruments), or used a combination of both measures to strengthen their financial position. Banks under restructuring following EU rules are in most cases prevented from any M&A activity that would lead to further expansion. Banks that were not directly supported by government interventions and that remained in comparatively good financial health have been in a better position to take advantage of M&A opportunities, given the comparatively low level of effective competition for an acquisition target and crisis-induced declines in the valuation of potential targets. As a result, some banks have acted mainly as acquirers, while other have mostly divested and reduced their activities. The analysis presented hereafter reveals that there are important geographical differences between sellers and acquirers, as most of the larger players' acquisitions are international, whereas divestments tend to be domestic.

([30]) Domestic deals are those where the three actors (seller, acquirer and target) are resident in the same country.

([31]) For instance, Belgium, the Netherlands and Finland have highly concentrated banking sectors, while those in Germany and Italy are relatively fragmented according to the Herfindahl index.

Table II.1.1: **Top 10 acquirers and sellers by number of deals, euro-area banking sector (2006-2010) (1)**

Top 10 Acquirers

Company	Country	Number of acquisitions	Total value (in million €) (2)	Government Support	Capital Increase (in billion €)	Total Assets (in trillion €)
BNP Paribas SA	FR	17 (10)	18253	Y	9,4 (5,1)	2.1
Credit Agricole SA	FR	17 (12)	24192	Y	8,9 (3,0)	1.6
Deutsche Bank AG	DE	15 (3)	11940	N	20.5	1.9
Societe Generale SA	FR	9 (2)	2329	Y	12,3 (3,4)	1.1
Intesa Sanpaolo SpA	IT	7 (0)	29935	N	4.0	0.7
Deutsche Postbank AG	DE	7 (0)	342	N	1.0	0.2
Natixis SA	FR	7 (2)	14807	N	5.8	0.5
Banco Santander SA	ES	6 (5)	1398	N	20.4	1.2
Marfin Popular Bank Public Co Ltd	CY	6 (4)	1160	N	0.0	0.0
Banco Popular Espanol SA	ES	6 (1)	627	N	1.2	0.1

Top 10 Sellers

Company	Country	Number of divestments	Total value (in million €) (3)	Government Support	Capital Increase (in billion €)	Total Assets (in trillion €)
Intesa Sanpaolo SpA	IT	21 (2)	12202	N	4.0	0.7
Commerzbank AG	DE	11 (5)	1112	Y	18,2 (18,2)	0.9
UniCredit SpA	IT	16 (5)	4823	N	11.0	1.0
RBS Holdings NV	NL	7 (2)	589	N	0.0	0.5
Banco Popolare SC	IT	7 (0)	1225	Y	1,5 (1,5)	0.1
HSBC Holdings PLC	GB	6 (6)	2391	N	21.3	1.7
Deutsche Bank AG	DE	6 (1)	352	N	20.5	1.9
BNP Paribas	FR	6 (2)	0	Y	9,4 (5,1)	2.1
Citigroup Inc	US	6 (4)	4900	Y	N/A	1.6
Banca Monte dei Paschi di Siena SpA	IT	6 (0)	822	Y	1,9 (1,9)	0.2

(1) 'Capital increases' include both public injections (in brackets) and capital raised on the market. For 'Number of acquisitions' and 'Number of divestments', numbers in brackets refer to euro-area transactions other than domestic.
(2) Total value includes only the value of acquisitions for which the sum was disclosed at the time of acquisition.
(3) Total assets at the end of December 2009.

Source: Bloomberg and Commission services.

To give an indication of the movements within the euro area, Table II.1.1 ranks the most active banks in terms of their number of sales and acquisitions. A look at the top sellers reveals that many banks have indeed strengthened their positions by both divesting and raising additional capital. As for government support and the restructuring imposed by the Commission, there is little indication that restructuring following State aid has been the dominant cause of divestment within the euro area, as the top sellers were mainly banks free of any restructuring requirements. Thus, restructuring on banks' own initiative, which in most cases has been a means to avoid government support, has been an important driver of changes in the banking sector as well. Similarly, the relationship between capital increases and divestment or acquisition activity is not straightforward as both sellers and acquirers have increased capital.

For the largest sellers, the majority of divestments are domestic. This is contrary to the hypothesis that in general, across the euro area, banks have refocused on their domestic market and divested euro-area activities outside their own domestic market. For the acquirers, the cross-border element of M&A is more sizeable, indicating that the most active banks have actually expanded throughout the euro area. The large presence of French banks ([32]) in terms of the number of transactions is notable. Other active acquirers, mainly from Spain, Italy and Germany, did not receive support at any point during the crisis. Among the active acquirers, several banks have raised considerable amounts of capital as well. This places these banks in a good position to continue their M&A activities in the future.

Taking into account the size of the more active buyers and sellers in combination with the earlier observation of an overall decrease in the cross-border dimension of M&A transactions, it may be concluded that the overall trend depicted earlier – of a refocus of banks on their domestic markets – does not hold for the most active and largest banks. Indeed, large acquiring banks have continued to expand their cross-border banking, while large sellers have divested more on their domestic markets.

([32]) French banks benefited from public capital injections, but to a lesser extent than those of other large EU countries, and repaid the funds very rapidly.

Conclusion

The financial crisis has had a tremendous impact on the euro-area banking sector. In particular, the restructuring process initiated during the crisis is still ongoing and has changed the trends in bank M&A transactions. The cross-border dimension of these M&A operations is a key indicator of the euro-area banking sector integration process, which is fundamental to the integration and deepening of the EU internal market.

The tentative evidence provided in the analysis at hand would indicate that the process of market integration is still ongoing, although at a slower pace as a consequence of the crisis and bank restructuring. Overall, M&A transactions have moved towards more domestic and 'repatriating' transactions, at the expense of transactions fostering international market integration.

However, differences across countries emerge. First of all, cross-border banking integration is not a uniform development within the euro area. A division exists between the larger countries' banking sectors and the smaller ones. Larger banking sectors' transactions are more domestically focused and the majority of acquisitions are by domestic banks. For the smaller banking sectors, the nature of transactions was predominantly international, including the euro area. But, with the exception of Spain, there do not seem to be diverging trends between the 'pre–crisis' and 'post-crisis' period in terms of geographic integration patterns, other than the clear fall in the number of M&A deals.

Secondly, data on the most active acquirers and sellers tentatively confirm that distressed banks have used both divestments and capital injections to strengthen their balance sheets, whereas stronger banks seem to have used the capital they raised during the crisis to expand. Often these large banks have divested more on their domestic markets and expanded throughout the rest of the euro area. Therefore, given their size, these banks are a crucial element in cross-border banking.

The impact on the various different banking activities, such as retail and wholesale activities, is not yet visible. Furthermore, the effect on other indicators of banking integration such as mortgage and deposit rates across countries is yet to be ascertained. Further investigation will have to reveal the impact of the financial crisis on these specific aspects.

Although a more cautious pace of expansion may have been expected in the light of the crisis, some banks have clearly seized the opportunity offered by the crisis in terms of cross-border expansion. Yet, most institutes have slowed their venturing into further cross-border integration for the moment. If this trend were continued it could herald an important change in the landscape of the euro-area's banking sector.

II.2. Has the sovereign debt crisis hampered the recovery process in the euro-area financial sector?

The recovery from the financial crisis progressed considerably in the global as well as the euro-area financial system throughout 2009. However, the 2010 sovereign debt crisis has caused renewed stress in the euro-area financial system and raised concerns about the robustness of its ongoing normalisation process. This section reviews channels through which the sovereign debt crisis of 2010 has impacted on financial activity and examines the implications for the recovery process in the euro-area financial sector.

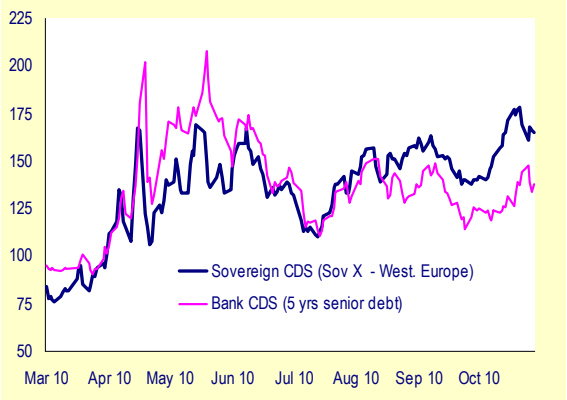
The public and the financial sector are interconnected through various channels. The most obvious one is that governments compete with financial intermediaries for the available pool of savings, the former for financing their debts and deficits, the latter for channelling funds to borrowers and investors. Since yields on government bonds are widely seen as the benchmark for prices of a range of private financial transactions, high public financing tend to raise yields across the board and have spurred a debate about possible crowding-out of private investment. Moreover, there have been concerns that banks could find it increasingly difficult to finance their activity in an environment of rising issuance of sovereign bonds, as they may have to compete with governments for funds.

The sovereign debt crisis has also highlighted the relevance of further, less apparent, connections between the financial and the public sector. On the liability side, for example, several financial intermediaries faced higher funding costs on wholesale markets shortly after the sovereign debt of the country where they were headquartered was downgraded. The quasi-simultaneity of changes to sovereign and corporate ratings suggests that credit risk in the public and banking sector has become strongly interrelated. On the asset side, some government bonds are no longer regarded as quasi-riskless, prompting some investors to restructure their portfolios. This has led to lower government benchmark interest rates, with possible consequences for financial institutions in terms of interest revenues and appetite for risk.

Spillover of credit risk from the public to the banking sector

Throughout 2010, sovereign downgrades were often closely followed by downgrades of banks located in the same country. This coincidence may mean that the credit risk of the public sector sets a floor beneath the credit rating of financial institutions. In addition to changes by rating agencies, markets' assessment of public and banks' credit risk also points to possible spillovers from the public to the banking sector. These spillovers are evidenced in Graph II.2.1 by a strong co-movement of the CDS indices of the public and the banking sectors in the euro area. Most peaks of public CDS took place before the peaks of banks' CDS and the correlation is highest if bank CDS lag sovereign CDS by one day, suggesting that in many cases the causality runs from the public to the banking sector.

Graph II.2.1: **Credit risk of the public and the banking sector as measured by CDS spreads of euro-denominated debt (in basis points)**



Source: Ecowin, Commission services.

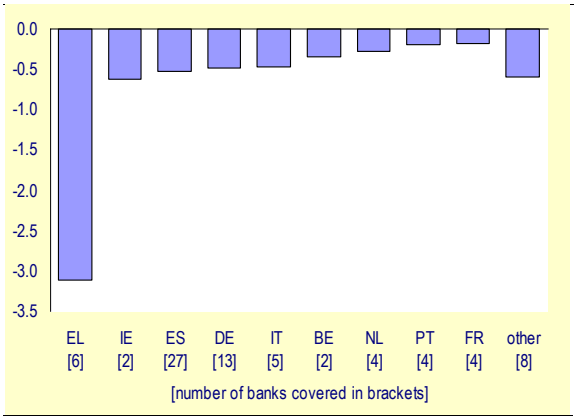
There are at least two (not mutually exclusive) explanations for the close correlation between public and financial credit risk.

The first explanation relates to the impact of higher risks attached to public debt on banks' liquidity and solvency.

- *Liquidity* is affected because government bonds are important vehicles for transactions on wholesale lending markets. They serve as collateral in banks' repurchase operations with the ECB but also in private repo transactions and in trade with financial derivatives. Changes in haircuts (for example following the downgrade of Greek bonds in June 2010) or higher margin requirements (e.g. as enacted by the clearing house LCH Clearnet on Irish bonds) reduce the value of government bonds used as collateral to obtain refinancing for financial activity. In the worst case, a fall in sovereign bond values may force financial institutions with a limited pool of collateral to reduce business.

- *Solvency* may be affected because declines in government bonds' market value affect banks' trading books, reducing their profits and capital. The EU-wide stress tests coordinated by the Committee of European Banking Supervisors (CEBS) in summer 2010 show that this effect can sometimes be substantial and varies depending on the banks and countries considered. The stress tests covered a panel of 91 banks of which 77 are headquartered in the euro area and assessed the impact of both a severe macroeconomic shock and a sovereign risk shock on banks' Tier 1 capital ratio. ([33]) The results show that the sovereign debt shock would cause the Tier 1 ratio to decline on average in the euro area from 8.8% to 8.1% (non-weighted average) or from 9.0% to 8.6% (weighted average). Graph II.2.2 shows that the drop would be markedly higher for banks located in some countries with difficult public debt positions. This is indicative of banks holding a large share of domestic sovereign bonds, while their exposure to sovereign bonds from other Member States is on average more limited. Considerable differences exist, however, across banks.

Graph II.2.2: **Changes in the Tier 1 capital ratio of banks in response to a sovereign risk shock, CEBS stress tests (average per country, in pp of Tier 1 ratio)**



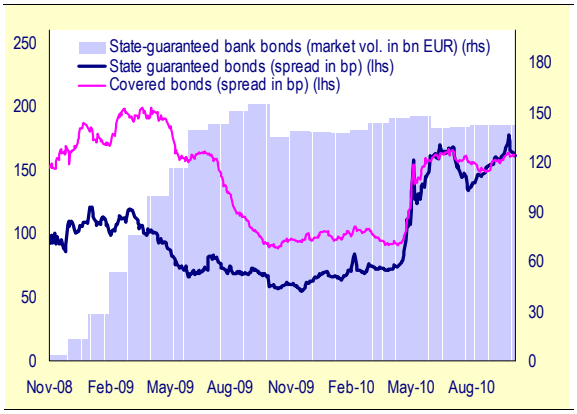
(1) Others include CY, LU, MT, AT, SI and FI.
Source: CEBS, Commission services.

The second explanation for the strong interdependence between public and financial credit risks relates to the fact that the public sector has become the implicit or even explicit guarantor of banks' solvency in many EU Member States.

([33]) The sovereign risk shock was modelled as a common shift in the yield curve (125 bp for the three-month rates and 75 bp for the 10-year rates) supplemented with country-specific upward shocks to long-term government bond yields (overall amounting to 70 bp for the euro area). See http://stress-test.c-ebs.org/documents/Summaryreport.pdf.

The public measures enacted during the 2008/09 banking crisis (extended guarantees, capital injections, asset purchases, etc.) mean that risks have partly been transferred from the financial to the public sector. However, there are signs that the value of public guarantees for the banking system has deteriorated over time. Graph II.2.3 shows that spreads on state-guaranteed bonds increased considerably in early summer 2010. Since then, it has become more expensive to issue a bank bond with a state guarantee than a covered bond. ([34]) The difference between state-guaranteed and covered bonds in the graph even underestimates the costs of issuing a guaranteed bond because, in addition to the coupon payable, the issuer has to pay a fee of 100-120 bp to the public sector as guarantor. Except in Spain and Greece, only few euro-area banks have resorted to the issuance of state-guaranteed bonds since May 2010.

Graph II.2.3: **State-guaranteed bank bonds: volume outstanding and spread of euro-denominated debt**



Source: Ecowin, Commission services.

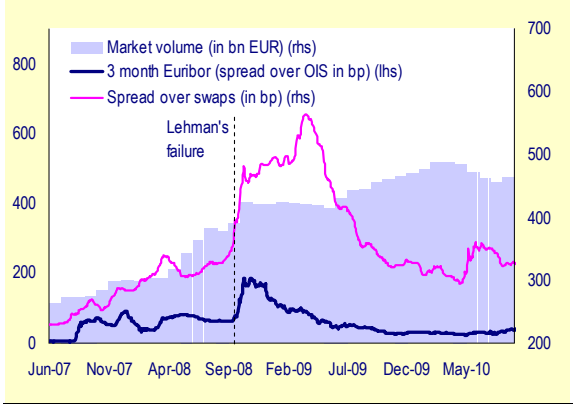
Obviously, spillovers in credit risk do not only run from the public sector to banks. Ireland is a clear case of reverse causality, i.e. of sovereign risks increasing because problems in the banking sector were perceived to have intensified. In autumn 2008, Ireland announced that it was in effect guaranteeing all deposits and debt of its banking system. In summer 2010, the rating agency Standard & Poors justified its downgrade of the Irish long-term sovereign credit rating with an upward revision of its estimate of the expected costs of financial sector support. Accordingly, market observers ascribed the rising spreads on Irish government bonds in autumn 2010 to the precarious situation of parts of its banking system.

([34]) A covered bond is a bond that is backed by revenue streams from an underlying asset, such as a mortgage or a loan.

Sovereign debt problems hampered banks' access to finance in some Member States

In the euro area as whole, tensions on government bond markets in 2010 have had a clear temporary impact on banks' capacity to tap long-term debt markets. Graph II.2.4 illustrates that the spreads of bank bonds moderated gradually until spring 2010, falling back to levels last seen in summer 2008 prior to the huge spread increase following Lehman's failure. In spring 2010, however, when the sovereign debt crisis intensified, banks' costs of issuing long-term debt securities rose again. Banks' issuance activity pre-Lehman's was accompanied by a rise in spreads, but thereafter followed a broadly inverse trend, with net issuance turning positive only once spreads began falling. This inverted trend showed tentative signs of normalising again in August 2010.

Graph II.2.4: **Conditions in euro-denominated bank debt markets, euro area (1)**



(1) MARKIT benchmark portfolio.
Source: Ecowin, Commission services.

The impact of the sovereign debt crisis on money markets in the euro area as a whole remained short-lived and contained, largely thanks to ECB policy interventions that accommodated liquidity shortages. ([35]) Money market rates rose slightly between April and July 2010 and the 3-month Euribor-OIS spread, widely seen as the central gauge of counterparty risk on wholesale money markets, widened over the summer before falling back to a level slightly above its starting position.

Nevertheless, while the aggregate impact on money market spreads in the euro area remained limited, developments in 'core' and 'peripheral' Member States diverged. When public debt managers faced challenging conditions on sovereign bond markets in some Member States, several banks located in these countries also encountered difficulties in accessing wholesale finance on money markets. As the ECB continued its full-allotment policy, these banks were able to substitute central bank funds for interbank funds. The fact that ECB lending channelled via the central banks of some Member States has remained at relatively high levels since is indicative of the depth of localised tensions on interbank markets linked to the sovereign debt crisis.

Overall, the available data indicate that the spillover of credit risk to the banking system temporarily increased financing costs of financial liabilities, although this was fairly short-lived in the euro area as a whole. However, it has also led to new pockets of exposure. Banks located in countries most strongly hit by the turmoil on sovereign debt markets have faced credit rating downgrades and limited access to refinancing markets on a more permanent basis. To the extent that the sovereign debt crisis constrains public sector support for the banking system, banks in need of further public capital, guarantees or liquidity may see their business position weakened as long as public finances are under stress. Others may see both their credit risk and refinancing costs progressively decoupled from those of the home country's public sector.

The sovereign crisis has triggered substantial changes in portfolio composition

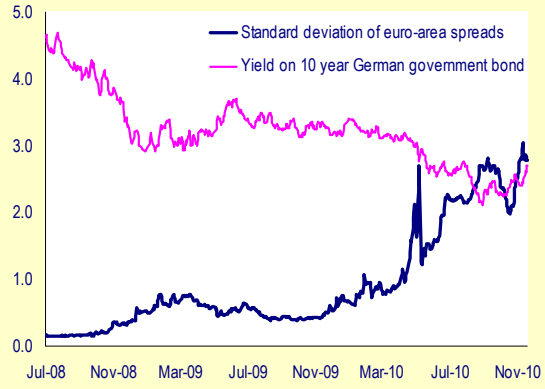
The impact of the sovereign debt crisis on financial markets is not restricted to banks. Ensuing changes in risk assessment have also deeply altered the composition of investment portfolios. Since the beginning of the sovereign debt crisis, the value of some government bonds has become more volatile and investors increasingly perceive even investment in euro-area government bonds as risky. Traditionally, fixed income investors are risk-averse, with a preference for long-term stability in the valuation of their portfolio. Some institutional investors face restrictions, either of a regulatory nature or from their customers, which limit their possibilities to take risks. For these investors, the reclassification of some government bonds as risky and volatile assets induced structural adjustments to their investment strategy.

There is some support for the notion of a shift in the composition of sovereign bond portfolios away from 'riskier' government bonds to ones

([35]) See 'Developments on financial markets in early May', Box 3 in *ECB Monthly Bulletin*, June 2010.

that are still considered as risk-free. Market sources indicate that since the sovereign debt crisis, the role of US and German government bonds as major risk-free assets has been reinforced. This implies additional demand for these benchmark bonds and consequently lower benchmark yields.

Graph II.2.5: **Benchmark yield and the dispersion of sovereign spreads in the euro area (in %)**



Source: Ecowin, Commission services.

Evidence of a redirection of sovereign bond portfolios towards safer bonds can be derived from the dispersion of sovereign bond yields (Graph II.2.5). Those Member States perceived as having relatively higher sovereign risk have experienced a relative rise in their bond yields. Interestingly, this development contrasts with the pre-crisis period when, due to the ongoing 'search for yield', sovereign bonds in the euro-area periphery generally out-performed the average. In this period, a decline in the German Bund yield was typically accompanied by a narrowing of yield spreads.

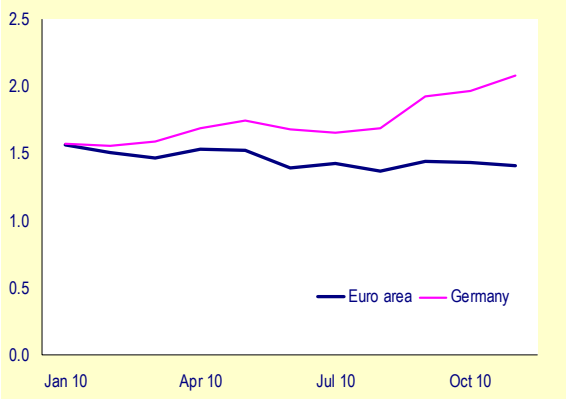
Market data indicate that trading in secondary markets for bonds of peripheral euro-area Member States slowed over the summer of 2010. During that period, when liquidity on bond markets is already traditionally low, the ECB under its Securities Market Programme was the main purchaser of the bonds concerned. ([36]) Low liquidity on markets implies that unexpected events may have a profound impact on market prices and spreads, exaggerating the effect of market news on changes in investor sentiment. Box II.2.1 presents estimations of the link between sovereign yields and liquidity that show that low levels of liquidity can push yields significantly upwards.

The narrowing of the available pool of benchmark bonds has also made them more sensitive to changes in investors' strategies. In August 2010, negative US economic indicators left investors scrambling to shift their portfolios from equities to risk-free bonds, which brought the German Bund yield down to its historically lowest level and the US Treasury close to the level recorded in January 2009, when a severe recession was expected.

Lower benchmark interest rates may boost activity but complicate balance sheet repair in the financial sector

Low benchmark interest rates have the potential to provide a positive impulse to economic activity in the euro area through higher asset prices and lower costs of debt servicing and investment. However, they may also weigh on banks' profitability, particularly their interest margins.

Graph II.2.6: **Consensus real GDP forecast for 2011, successive revisions during 2010 (annual growth in %)**



Source: Consensus Economics.

The positive effects depend on whether the low benchmark rate is not itself caused by the perception of weaker economic activity. This does not seem to be the case in the euro area. According to Graph II.2.6, growth forecasts for the euro area for 2011 hardly changed during the course of 2010, despite the sovereign crisis. If anything, market participants became slightly more optimistic regarding prospects in Germany.

In some cases, a fall in benchmark interest rates may, however, have a depressing impact on banks' profitability. For example, concerns have

([36]) The ECB decided in May 2010 that it would intervene in euro-area government bond markets (under the Securities Market Programme) in order to 'ensure depth and liquidity in those market segments which were dysfunctional', so as to restore an 'appropriate monetary policy transmission mechanism'.

Box II.2.1: **The link between sovereign liquidity and spreads — Tentative empirical support**

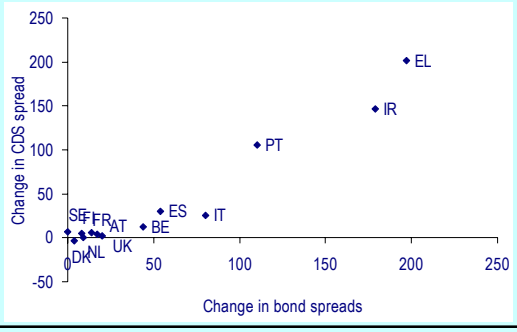
This box presents some tentative empirical support for the explanation that liquidity considerations interacted with spreads over summer 2010, using a simple cross-country OLS regression. Across euro-area Member States, changes in sovereign bond spreads and CDS spreads generally tend to be highly correlated and this is also true for the summer 2010 (see chart). A high correlation is not surprising because default risk is an important common factor for both variables. However, the decline in liquidity on some peripheral Member States' sovereign bond markets should be expected to have a different effect on bonds and CDS spreads. Thus, one could expect that bond spreads of illiquid sovereigns would increase by more than predicted on the basis of the rise in CDS spreads. The higher the liquidity in a market segment, the smaller should be ceteris paribus the increase in spreads. This hypothesis was tested with daily data for 11 euro-area Member States (BE, DE, EL, ES, IE, FR, IT, NL AT, PT, SF) with period-fixed effects FE_t. Regressing the daily changes in bond spreads ΔY over the period 1 June to 9 September 2010 on the daily changes in CDS spreads ΔCDS, daily changes in stock price indices ΔEQ and a measure of market size L gives:

$\Delta Y_{i,t}$ =	0.01	+ 0.24$\Delta CDS_{i,t}$	- 0.54 $\Delta EQ_{i,t}$	-0.017 $L_{i,t}$	+ FE_t + $\epsilon_{i,t}$
s.e.	0.003	0.021	0.291	0.007	
Prob	0.005	0	0.065	0.019	

Standard errors in brackets, R2 = 0.42, DW= 1.83, N = 772

Over this period, all variables in the estimated equation have the expected sign and are significant at the standard 5% level or, in the case of stock prices, ([1]) close to being significant. The results suggest that the increase in default risk and decrease in stock prices, reflecting the expected impact of the business cycle, had a large impact on the variation of bond spreads during summer 2010. Higher liquidity was associated with lower spreads. The measure for L used was the market value of iBoxx benchmark portfolios for sovereign bonds (in EUR trillion). ([2]) This number is available at daily frequency, although it changes only once a month. Interestingly, L is not significant when the regression is run for other periods (starting 9/2009, 1/2010, 4/2010), suggesting that this factor has influenced intra-area bond spreads in the recent past, but is not a permanent determinant of spreads. Comparable results are found if the volatility of changes in yields is taken as a measure of liquidity rather than market size. The coefficient is higher and more significant the more closely the estimation period is narrowed to summer 2010, suggesting that liquidity effects have recently become a determinant of bond yields.

Change in bond and CDS spreads over August 2010 (in basis points)



Source: Commission services.

([1]) This result is attributable to the use of period-fixed effects, which controls for factors that are common to all countries. When estimated without time-fixed effects, the change in stock prices is significant.
([2]) The series for EL was discontinued on 1 July 2010. The latest available value was used to fill observations after that date.

been raised that a low level of interest rates in combination with low lending volumes could unduly compress some banks' interest margins, thereby hindering their profitability and the recapitalisation of their balance sheets. Although net interest revenues are only one source of banks' profits, they are an important one and during the financial crisis their share in total revenues grew relative to trading and fee income.

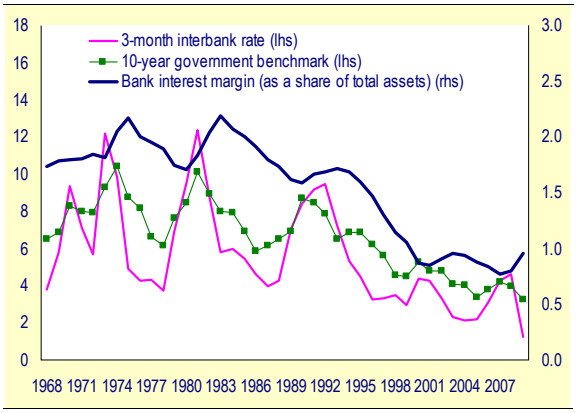
German data presented in Graph II.2.7 show that banks' interest rate margins tend to follow the development of the benchmark interest rate with a lag. Econometric estimations with German data suggest that the maximum negative impact of lower interest rates on banks' interest revenues occurs after three to four years. ([37]) Thus, low interest rates are likely to weigh on banks' profit margins over the medium term.

Similarly, life insurance companies that, for instance, guarantee a 3% per year return on the policy will find it difficult in times of low yields to assure this by investing in government or triple-A bonds. The persistently low interest rates may

([37]) To account for the interdependency of the variables, this was estimated with a vector autoregression, using interest revenues, nominal GDP and interest rates or the term structure.

induce them to take additional risks to meet guaranteed return targets.

Graph II.2.7: **Interest rates and interest margins in the German banking system (in %)**



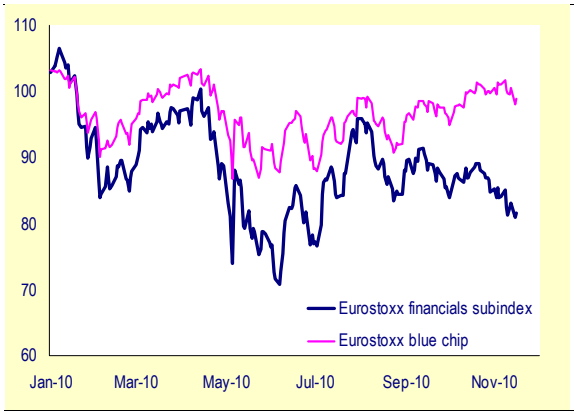
Source: Deutsche Bundesbank, Commission services.

The situation for financial institutions and, in particular, banks in peripheral euro-area Member States may be somewhat different. While they may face higher refinancing costs, they may also have the opportunity to pass on the higher government bond interest rates in their home country to higher retail lending rates, thereby maintaining their interest margin and shifting the adjustment burden further to the real economy. Available evidence suggests, however, that there has been no systematic shift of the interest burden to banks' customers although banks in some Member States seem, to a certain extent, to have to been able to do so in some market segments

Arguably, margin adjustment pressure will be stronger for banks that entered the sovereign crisis with low interest margins/revenues. Comparing 2009 balance sheet data across banks, there is, however, no indication that interest margins were significantly lower in banks located in peripheral Member States relative to those in 'core' countries. Neither is there evidence that banks that have received State aid have systematically lower interest margins. While a lower interest rate can be expected to increase the adjustment burden on banks, the impact on different banking clusters' profitability is ex ante difficult to derive.

Banks may be able to nevertheless generate steady net interest revenues if economic activity is sufficiently strong. Thus, the importance of the ongoing economic recovery for banks' profitability has increased since the sovereign debt crisis and the associated drop in benchmark interest rates. Whereas financial market participants initially focused on the sustainability of public debt, they later became worried about the consequences of austerity measures for economic growth once these were enacted. By end-November, broad stock market indices had recovered the losses incurred during the sovereign debt crisis, although still remaining below their pre-crisis peaks. However, shares in financial institutions underperformed the broad market index (Graph II.2.8). From their temporary low in late August 2010 to late November, they underperformed compared to the overall Eurostoxx index, implying that markets have turned more pessimistic regarding banks' profitability than profitability in the economy as a whole.

Graph II.2.8: **Stock prices in the euro area (Jan 2010=100)**



Source: Ecowin, Commission services.

Lower benchmark interest rates may increase risk-taking but may help lower compound risk

Low interest rates over an extended period of time may encourage risk-taking by the financial sector. Recent empirical studies by the IMF, BIS and ECB suggest that there has indeed been a link between low interest rates over an extended period and higher risk-taking in the past. ([38])

But at this stage there is little evidence of banks stepping up their risk-taking at the aggregate level. Despite favourable financing conditions, financial institutions are not raising as much

([38]) For the so-called risk-taking channel of monetary policy transmission see:
De Nicolò, G., G. Dell'Ariccia and L. Laeven (2010), 'Monetary policy and bank risk taking', *IMF Staff Notes*, No 10/09;
Altunbas, Y. L. Gambacorta and D. Marques-Ibanez (2010), 'Does monetary policy affect bank risk-taking?', *BIS Working Paper*, No 298;
Maddaloni, A. and J.L. Peydro (2010), 'Bank risk-taking, securitisation and low interest rates, *ECB Working Paper*, No 1248.

funding on wholesale markets as they used to do in previous years. In their efforts to reduce their sensitivity to wholesale funding, banks report that they aim at replacing short-term wholesale funding with more stable deposits. On the asset side, credit standards are still tight, suggesting that banks have not moved towards more risky lending behaviour. Investments in those assets that went through a strong boom-bust cycle in recent years (for example securitised assets) are reportedly still at a low level. This also holds for investments in markets that are genuinely risky, but which were not at the centre of the financial crisis, such as private equity, hedge funds, etc. Financial institutions have used past profits to improve their capital buffers, thereby reducing leverage.

Conclusions

Investors' worsening perception of sovereign risk has contributed to a negative loop between public finances and financial market developments. It has raised funding costs for banks in peripheral Member States and has complicated the ongoing process of balance sheet repair. The emergence of some sovereign bonds as risky assets has segmented the investor base and led to higher funding costs for some Member States, at a time of falling benchmark interest rates in the euro area. Lower benchmark rates may stimulate economic activity, but they may also reduce profit margins in the financial industry and encourage risk-taking. While this may run counter to the aim of minimising overall risk levels in the economy, there is currently little evidence of financial institutions increasing their risk positions or interrupting their deleveraging process. Overall, while risks have become less system-wide and more concentrated in individual Member States, the possibility of contagion across highly interconnected markets means that the EU financial system as a whole remains exposed. With the advent of the sovereign debt crisis, the prospects for recovery in the financial system have become even more dependent on the strength of the economic recovery than before.

II.3. Impact of the financial crisis on corporate finance: how big is the shift from bank financing to bonds?

The global financial crisis had detrimental consequences for banks' balance sheets, as well as for their funding costs and profitability, thus weighing negatively on their ability to supply new loans. As a result, banks tightened credit standards for all borrowers, including non-financial corporations. The restricted access to bank funding for the corporate sector induced the latter to seek other sources of external financing. The high level of euro-area corporate bond issuance in 2009 suggests that European corporations were able to partly replace bank financing with corporate bond market financing and, in addition, to do so at a relatively low average cost.

External financing of non-financial corporations has traditionally been more bank-based in the euro area than, for example, in the US, where the bulk of financing is done through the bond market. As a result of the financial crisis, euro-area firms — particularly large ones — seem to have moved towards this hitherto under-utilised form of external financing. Their success in doing so may suggest that corporate financial structures in the euro area are adaptable. If this change proved durable it would imply a more complete financial structure in the euro area with the possibility for large firms to obtain external financing from market sources and a relative concentration of bank lending towards small and medium-sized enterprises.

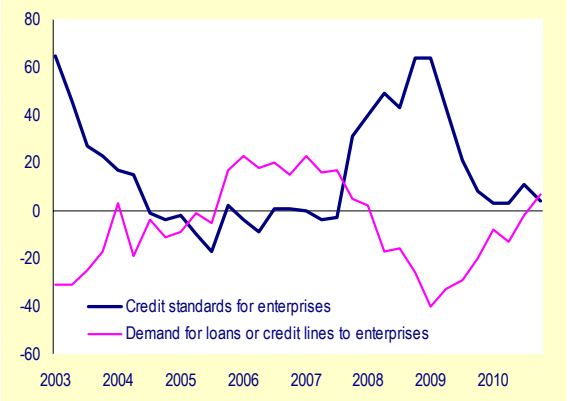
The financial crisis gave a boost to market financing

Bank lending has traditionally been the most important source of external financing for non-financial corporations in the euro area. From the start of the year 2000 to the second quarter of 2007, bank loans accounted on average for around 65% of the total external financing of non-financial corporations, while debt securities issued and net equity issued (netting equity issuance with the acquisition of equity) accounted for only 11% and 0.5% respectively.

In comparison with the US, the role of market funding is small in the euro area. In 2007, the capitalisations of the euro-area's equity and corporate bond markets stood at 85% and 81% of GDP respectively. At the same time, the respective US market capitalisations amounted to 144% and 168% of GDP.

In mid-2007, when the first signs of financial turbulence emerged, global credit conditions worsened substantially. The peak of the tightening of credit standards occurred in early 2009 and since then the rate of net tightening of credit standards has been on a declining trend, although banks have not yet started to ease their credit conditions (see Graph II.3.1). Whereas economic prospects have started to improve, net lending to non-financial corporations in the euro area remained in negative territory until the last quarter of 2010.

Graph II.3.1: **Credit standards and demand for loans by enterprises in the euro area (in %) (1)**



(1) net % of banks reporting a tightening of standards or an improvement in demand.
Source: ECB Bank Lending Survey.

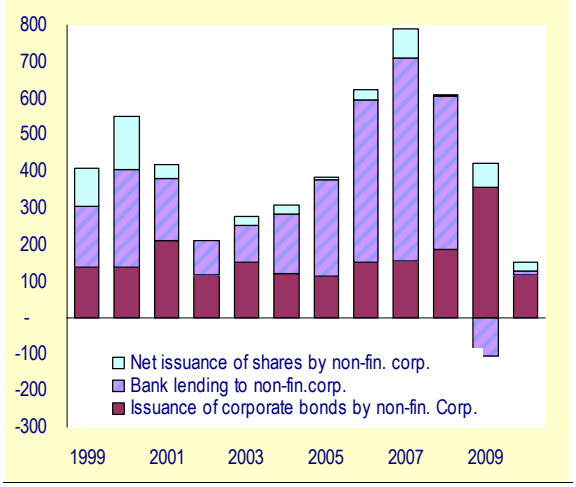
In this situation, several euro-area enterprises turned to the bond market in search of external financing. Graph II.3.2 shows that the issuance of bonds by the non-financial corporate sector in 2009 reached a record high, at nearly twice the amount registered in 2008 (EUR 354bn and EUR 183bn respectively). This suggests that non-financial corporations were able in 2009 to compensate partly for the loss of bank lending by increased bond issuance. Some research has also concluded that the substitution of debt securities for bank loans by non-financial corporations is indicative of binding bank loan supply constraints in the euro area. ([39])

In view of the fixed transaction costs involved when tapping market sources, the issuance of a bond requires a minimum amount to make economic sense. The possibility of seeking external financing is thus available mostly to large enterprises and does not apply to small and medium-sized enterprises (SMEs), whose financing remains mostly bank-based. The

([39]) See IMF (2010), 'Euro Area Policies: Selected Issues', *IMF Country Report*, No 10/222.

redirection of big firms towards debt securities nevertheless also helped SMEs as it freed up some of the banks' lending capacity, which may have been used to meet SMEs' funding needs. Conversely, SMEs were hurt when bond markets dried up during the critical phase of the financial crisis in late 2008 and corporate issuers sought external financing from banks, thereby curtailing the pool available to SMEs.

Graph II.3.2: **Bank, bond and share financing, euro-area non-financial corporate sector (EUR billion) (1)**

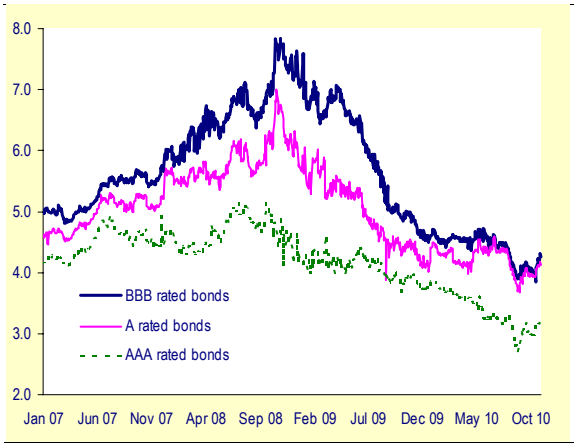


(1) 2010 covers data for the first 9 months.
Source: ECB, Commission services.

The increased issuance of corporate bonds did not have a discernible adverse impact on the costs of bond market financing. Firstly, corporate issuers benefited from the downward trend in government benchmark yields (typically the German Bund in the euro area) in 2009. Secondly, corporate spreads relative to the benchmark declined strongly, leading to a marked decline in yields, in particular for lower-rated bonds such as BBB. From above 400 bp at the peak of the financial crisis in late 2008, spreads on corporate BBB bonds fell to below 150 bp in late 2009. In all rating categories for which benchmark time series are available, yields on corporate bonds declined to a lower level in 2009 than recorded before the start of the subprime crisis in 2007 (Graph II.3.3). Thus, declining risk premia in the aftermath of the financial crisis clearly over-compensated the possible impact of higher bond supply on funding costs. ([40])

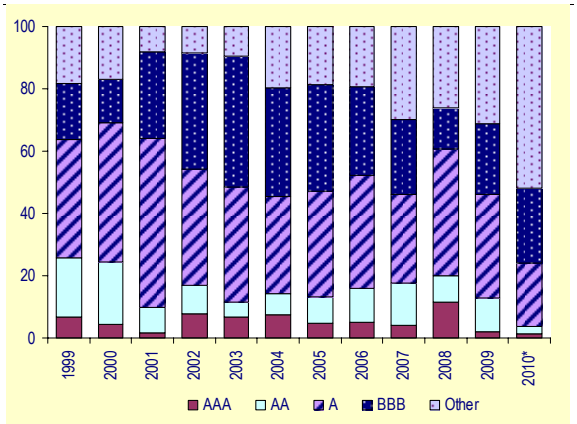
Some incentives for increased issuance activity are likely to persist. A number of non-financial corporations issued euro-denominated bonds for the first time in 2009. As issuance involves some entry costs (e.g. to build up an investor base), corporations that have issued once become more likely to issue in the future. Therefore, it is probable that the financial crisis has had a lasting favourable impact on corporate bond issuance by increasing the constituency of corporate issuers and thereby broadening the possible sources of financing for large companies.

Graph II.3.3: **Yields on corporate bonds (10 year maturity, in %)**



Source: Ecowin.

Graph II.3.4: **Rating structure of bond issuance, euro-area non-financial corporations (in % of total issuance) (1)**



(1) 2010 covers data for the first 9 months.
Source: Commission services.

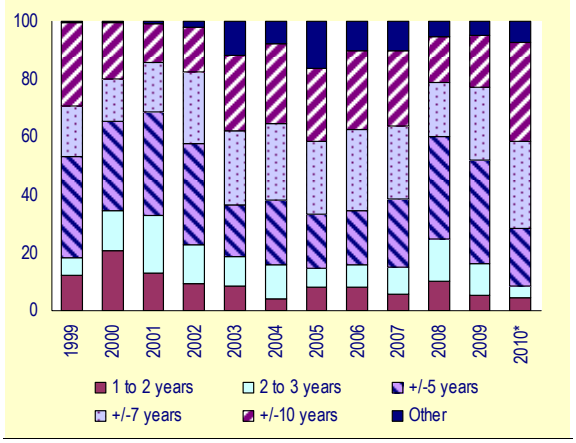
The surge in issuance did not adversely affect the average credit quality of corporate issuance. The share of issues with a rating of at least BBB remained broadly constant in 2009 (Graph II.3.4). Although the amount of non-rated issues rose significantly in 2010, most of them came from large firms with an established brand name. It was also reported that a few established corporate

([40]) Corporate spreads remain, however, higher than before the financial crisis.

issuers ceased to use credit ratings when issuing bonds. Some market observers therefore claim that credit quality was better than the average rating would suggest.

As regards the characteristics of the issuances, there has been a visible shift towards longer maturities over the last three years (see Graph II.3.5). Thus firms do not seem to have used bond issuances primarily to plug short-term funding gaps.

Graph II.3.5: **Maturity structure of bond issuance, euro-area non-financial corporations (in % of total issuance) (1)**



(1) 2010 covers data for the first 9 months.
Source: Commission services.

With respect to the geographic distribution of issuers, three Member States (FR, DE, NL) account for a combined share of 50% of euro-denominated long-term corporate bonds. ([41]) The share of German, French and Italian firms increased at the expense of Dutch and US corporations in 2009, and further in 2010. The market share of issuers from the 'peripheral' euro-area Member States (EL, ES, IE, PT) remained broadly constant until 2010.

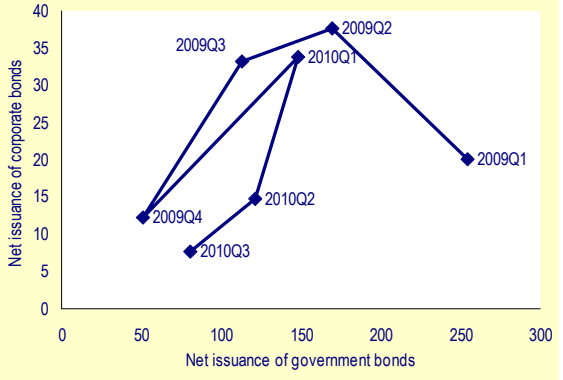
Share of corporate bond finance remains high in 2010 despite declining issuance

Issuance activity has slowed down on the euro corporate bond market in 2010. The amount issued over the first nine months is broadly comparable to the average level reached over the same period in 2006-08, suggesting that 2009 may have been a special year, driven by special factors such as an uncertain business cycle outlook and a high risk of credit constraints. Thus, developments in 2010 may represent a return to more normal conditions. However, despite the fall in absolute issuance levels, the share of corporate bonds in firms' external financing has remained high in 2010. The issuance of quoted shares has also weakened, while bank lending is still far below pre-crisis levels.

The cost of borrowing cannot be the reason for the decline in euro-area issuance of corporate bonds this year compared with 2009. Despite an increase in the spread of corporate bonds, further falls in the benchmark interest rate on government debt pushed the yield on corporate debt to very low levels, with the coupon paid by the average corporation coming close to the lowest level in 20 years.

The crowding-out of private sector issuance by the substantial increase in public sector issuance does not seem to be the main reason for the decline of corporate bond issuance either. Yields rose in response to increased issuance, mainly by central governments, but there were no indications of supply constraints. Between the second quarter of 2009 and the third quarter of 2010, there was a positive correlation between the net issuance of corporate and government bonds (Graph II.2.6), whereas crowding-out should result in a negative correlation. Notwithstanding the issue of crowding-out, the sovereign debt crisis may have weakened issuance activity on private and public bond markets alike as suggested by the fall in issuance on both sovereign and corporate markets visible in Graph II.2.6 in 2010Q2 and 2010Q3.

Graph II.3.6: **Net issuances of public and corporate bonds, euro area (in billion EUR)**



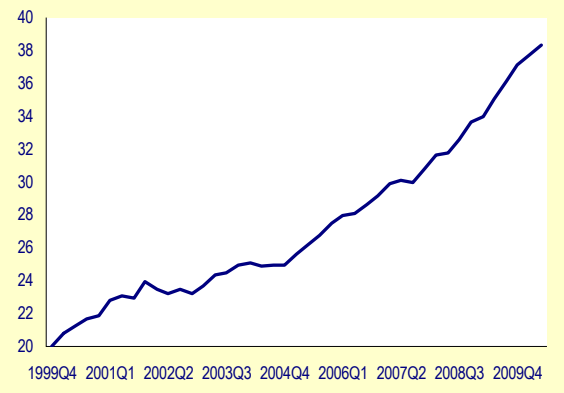
Source: ECB, Commission services.

The economic upswing could be a reason for lower issuance activity. A rebound in economic activity normally increases earnings and provides liquidity for firms in the form of internal funding. There may also be a lower need for external

([41]) Long-term means with a maturity of more than 1 year.

funding at the early phase of an economic upswing, when firms react to higher demand by increasing capacity utilisation, rather than by stepping up capacity through higher investment in physical capital. Such a hypothesis of lower external financing needs of the corporate sector is also supported by the belated recovery in investment growth ([42]) and by financial accounts data, which show that non-financial corporations have raised their holdings of liquid financial assets. In the second quarter of 2010, the combined holdings of deposits, short-term loans and short-term debt securities by non-financial corporations amounted to 38.3 % of GDP, up 3 pp over the same quarter a year earlier (Graph II.3.7). In particular, the share of loans extended by non-financial corporations increased, suggesting that intra-firm loans have become an increasingly important means of financing. Anecdotal evidence suggests that euro-area companies are endowed with relatively high cash reserves also due to the high corporate bond issuance last year. Finally, further support for the hypothesis of lower external funding needs comes from the spike of buy-back operations by European corporations. The number of buy-backs has risen from ten in the whole of 2009 to twenty-one in the current year to November 2010.

Graph II.3.7: **Liquid asset holdings of non-financial corporations (% of GDP)**



Source: Commission services.

Finally, there are widespread expectations that interest rates could remain low for some time. Overall, the slowdown of corporate bond issuance in 2010 probably reflects a range of factors, among which high liquid asset positions in European corporations — that funded aggressively last year — and expectations of low interest rates play an important role.

Conclusions

It is too early to conclude whether a durable structural shift from bank to bond financing has taken place in the euro-area corporate sector. Nevertheless, the surge in bond issuance by non-financial corporations in 2009 and the persistently high share of bonds in corporations' external funding in 2010 suggest that part of the euro-area corporate sector may have responded to tightened bank credit conditions by looking for other sources of external funding. If persistent, this diversification in the use of financing sources would make part of the euro-area corporate sector — mostly large companies — less reliant on banks and possibly less vulnerable to adverse developments in this sector.

([42]) Quarterly investment growth in the euro area was negative until early 2010 and only became positive in the second quarter this year.

III. Recent DG ECFIN publications

1. Policy documents

EUROPEAN ECONOMY 3. May 2010.
Convergence report 2010
http://ec.europa.eu/economy_finance/publications/european_economy/2010/ee3_en.htm

EUROPEAN ECONOMY 4. June 2010.
Public finances in EMU - 2010
http://ec.europa.eu/economy_finance/publications/european_economy/2010/ee4_en.htm

EUROPEAN ECONOMY 5. July 2010.
Labour market and wage developments in 2009
http://ec.europa.eu/economy_finance/publications/european_economy/2010/ee5_en.htm

EUROPEAN ECONOMY 6. October 2010.
Directorate General for Economic and Financial Affairs (ECFIN) and Directorate General for Taxation and Customs Union (TAXUD), European Commission
Monitoring tax revenues and tax reforms in EU Member States 2010 - Tax policy after the crisis
http://ec.europa.eu/economy_finance/publications/european_economy/2010/pdf/ee-2010-6_en.pdf

EUROPEAN ECONOMY 7. November 2010.
European economic forecast – autumn 2010
http://ec.europa.eu/economy_finance/publications/european_economy/2010/pdf/ee-2010-7_en.pdf

EUROPEAN ECONOMY. OCCASIONAL PAPERS. 66. August 2010.
External Imbalances and Public Finances in the EU
http://ec.europa.eu/economy_finance/publications/occasional_paper/2010/op66_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. 67. August 2010.
National fiscal governance reforms across EU Member States. Analysis of the information contained in the 2009-2010 Stability and Convergence Programmes
http://ec.europa.eu/economy_finance/publications/occasional_paper/2010/op67_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. 68. August 2010.
The Economic Adjustment Programme for Greece. First review – summer 2010
http://ec.europa.eu/economy_finance/publications/occasional_paper/2010/op68_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. 69. September 2010.
2010 Pre-accession Economic Programmes of candidate countries: EU Commission assessments
http://ec.europa.eu/economy_finance/publications/occasional_paper/2010/pdf/ocp69_en.pdf

EUROPEAN ECONOMY. OCCASIONAL PAPERS. 70. October 2010.
Efficiency and effectiveness of public expenditure on tertiary education in the EU
http://ec.europa.eu/economy_finance/publications/occasional_paper/2010/pdf/ocp70_en.pdf

EUROPEAN ECONOMY. OCCASIONAL PAPERS. 71. November 2010.
Progress and key challenges in the delivery of adequate and sustainable pensions in Europe (A Joint Report on Pensions)
http://ec.europa.eu/economy_finance/publications/occasional_paper/2010/pdf/ocp71_en.pdf

EUROPEAN ECONOMY. OCCASIONAL PAPERS. 72. December 2010.
The Economic Adjustment Programme for Greece – Second review – autumn 2010
http://ec.europa.eu/economy_finance/publications/occasional_paper/2010/pdf/ocp72_en.pdf

2. Analytical documents

EUROPEAN ECONOMY. ECONOMIC PAPERS. 421. July 2010
Yu-Wei Hu (OECD)
Management of China's Foreign Exchange Reserves: A case study on the State Administration of Foreign Exchange (SAFE)
http://ec.europa.eu/economy_finance/publications/economic_paper/2010/ecp421_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. 422. September 2010
Janos Varga and Jan in 't Veld (European Commission)
The potential impact of EU Cohesion Policy Spending in the 2007-13 programming period: a model-based analysis
http://ec.europa.eu/economy_finance/publications/economic_paper/2010/ecp422_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. 423. September 2010
Rossella Calvi (MSc Economics and Social Sciences, Bocconi University)
Assessing financial integration: a comparison between Europe and East Asia
http://ec.europa.eu/economy_finance/publications/economic_paper/2010/ecp423_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. 424. September 2010
Alexandr Hobza and Gilles Mourre (European Commission)
Quantifying the potential macroeconomic effects of the Europe 2020 strategy: stylised scenarios
http://ec.europa.eu/economy_finance/publications/economic_paper/2010/ecp424_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. 425. September 2010
Anton Jevčák, Ralph Setzer and Massimo Suardi (European Commission)
Determinants of Capital Flows To the New EU Member States Before and During the Financial Crisis
http://ec.europa.eu/economy_finance/publications/economic_paper/2010/ecp425_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. 426. September 2010
Werner Roeger and Jan in 't Veld (European Commission)
Fiscal stimulus and exit strategies in the EU: a model-based analysis
http://ec.europa.eu/economy_finance/publications/economic_paper/2010/pdf/ecp426_en.pdf

EUROPEAN ECONOMY. ECONOMIC PAPERS. 427. September 2010
Matteo Salto, Alessandro Turrini (European Commission)
Comparing alternative methodologies for real exchange rate assessment
http://ec.europa.eu/economy_finance/publications/economic_paper/2010/pdf/ecp427_en.pdf

EUROPEAN ECONOMY. ECONOMIC PAPERS. 428. October 2010
Pietro Biroli (University of Chicago), Gilles Mourre (European Commission and Université libre de Bruxelles), Alessandro Turrini (European Commission)
Adjustment in the Euro Area and Regulation of Product and Labour Markets: An Empirical Assessment
http://ec.europa.eu/economy_finance/publications/economic_paper/2010/pdf/ecp428_en.pdf

EUROPEAN ECONOMY. ECONOMIC PAPERS. 429. December 2010
Martin Larch (European Commission), Paul van den Noord (OECD), Lars Jonung (Lund University, Swedish Fiscal Policy Council)
The Stability and Growth Pact: Lessons from the Great Recession
http://ec.europa.eu/economy_finance/publications/economic_paper/2010/pdf/ecp429_en.pdf

EUROPEAN ECONOMY. ECONOMIC PAPERS. 430. December 2010
Lukas Vogel (European Commission)
China's External Surplus: Simulations with a Global Macroeconomic Model
http://ec.europa.eu/economy_finance/publications/economic_paper/2010/pdf/ecp430_en.pdf

EUROPEAN ECONOMY. ECONOMIC PAPERS. 431. December 2010

Costas Karfakis (University of Macedonia)
The portfolio balance effect and reserve diversification: an empirical analysis
http://ec.europa.eu/economy_finance/publications/economic_paper/2010/pdf/ecp431_en.pdf

3. Regular publications

Business and Consumer Surveys (harmonised surveys for different sectors of the economies in the European Union (EU) and the applicant countries)
http://ec.europa.eu/economy_finance/db_indicators/surveys/index_en.htm

Business Climate Indicator for the euro area (monthly indicator designed to deliver a clear and early assessment of the cyclical situation)
http://ec.europa.eu/economy_finance/db_indicators/surveys/documents/2010/bci_2010_08_en.pdf

Key indicators for the euro area (presents the most relevant economic statistics concerning the euro area)
http://ec.europa.eu/economy_finance/db_indicators/key_indicators/documents/key_indicators_en.pdf

Monthly and quarterly notes on the euro-denominated bond markets (looks at the volumes of debt issued, the maturity structures, and the conditions in the market)
http://ec.europa.eu/economy_finance/publications/bond_market/index_en.htm

Price and Cost Competitiveness
http://ec.europa.eu/economy_finance/db_indicators/competitiveness/index_en.htm

Contributors to this issue are:

Focus: Regulatory changes in the financial sector and the prevention of housing bubbles	*A. Benzo and M. Hassine*
The Impact of the financial crisis on the integration of the euro-area banking sector	*W. De Weert, J. Rodriguez, E Velissaratos and J. Villar Burke*
Has the sovereign debt crisis hampered the recovery process in the euro-area financial sector?	*M. Thiel*
The impact of the financial crisis on corporate finance: how important is the shift from bank financing to bonds?	*M. Lewandowska and M. Thiel*

Comments on the report would be gratefully received and should be sent to the Editor-in-Chief:

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