
European bank funding and deleveraging¹

Asset prices broadly recovered some of their previous losses between early December and the end of February, as the severity of the euro area sovereign and banking crises eased somewhat. Equity prices rose by almost 10% on average in developed countries and by a little more in emerging markets. Bank equity prices increased particularly sharply. Gains in credit markets reflected the same pattern. Central to these developments was an easing of fears that funding strains and other pressures on European banks to deleverage could lead to forced asset sales, contractions in credit and weaker economic activity. This article focuses on developments in European bank funding conditions and deleveraging, documenting their impact to date on financial markets and the global economy.

Funding conditions at European banks improved following special policy measures introduced by central banks around the beginning of December. Before that time, many banks had been unable to raise unsecured funds in bond markets and the cost of short-term funding had risen to levels only previously exceeded during the 2008 banking crisis. Dollar funding had become especially expensive. The ECB then announced that it would lend euros to banks for three years against a wider set of collateral. Furthermore, the cost of swapping euros into dollars fell around the same time, as central banks reduced the price of their international swap lines. Short-term borrowing costs then declined and unsecured bond issuance revived.

At their peak, bank funding strains exacerbated fears of forced asset sales, credit cuts and weaker economic activity. New regulatory requirements for major European banks to raise their capital ratios by mid-2012 added to these fears. European banks did sell certain assets and cut some types of lending, notably those denominated in dollars and those attracting higher risk weights, in late 2011 and early 2012. However, there was little evidence that actual or prospective sales lowered asset prices, and overall financing volumes held up for most types of credit. This was largely because other banks, asset

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managers and bond market investors took over the business of European banks, thus reducing the impact on economic activity.

Bank funding pressures and policy responses

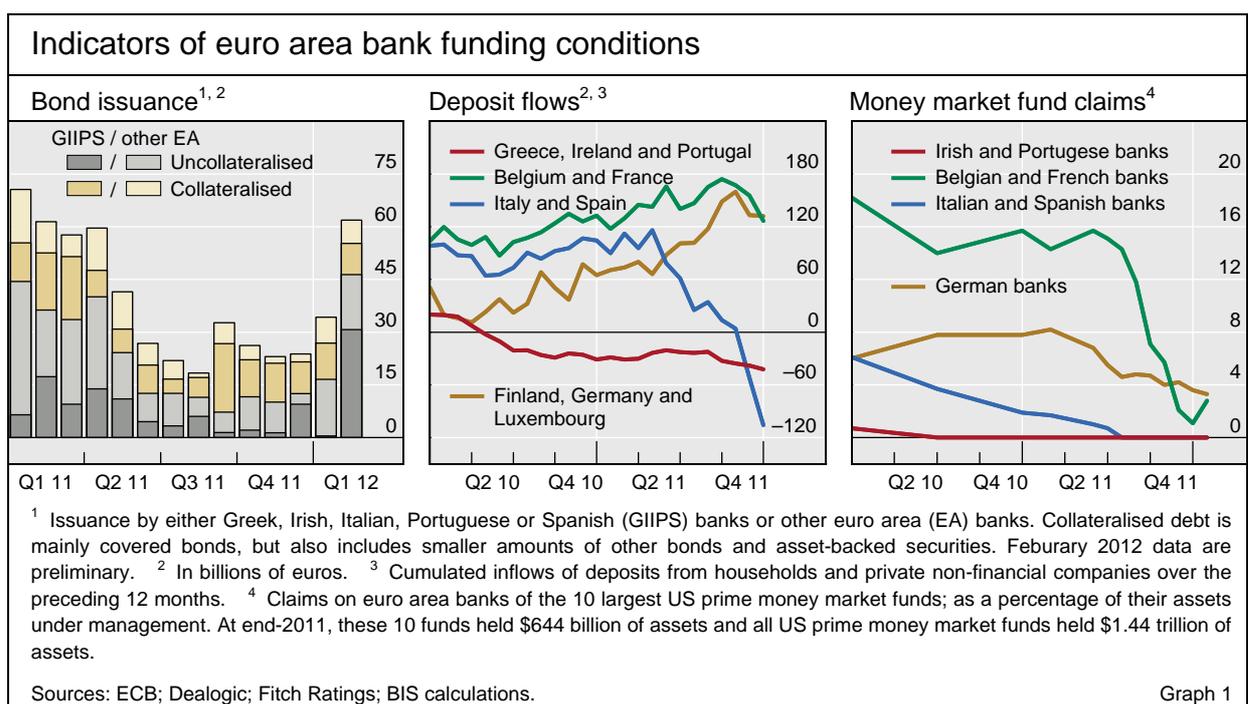
European bank funding conditions deteriorated towards the end of 2011, as faltering prospects for economic growth and fiscal sustainability undermined the value of sovereign and other assets. Bond issuance by euro area banks in the second half of the year, for example, was just a fraction of its first half value (Graph 1, left-hand panel). Until December, uncollateralised issuance by banks in countries facing significant fiscal challenges was especially weak. Deposits also flowed out of banks in these countries, with withdrawals from Italy and Spain accelerating in the final quarter of the year (Graph 1, centre panel). At this time, US money market funds significantly reduced their claims on French banks, having already eliminated their exposures to Greek, Irish, Italian, Portuguese and Spanish institutions (Graph 1, right-hand panel). The pricing of long- and short-term euro-denominated bank funding instruments also deteriorated, both in absolute terms and relative to that of non-euro instruments, as did the cost of swapping euros into dollars (Graph 2).

European bank funding conditions deteriorated in late 2011 ...

The policy response

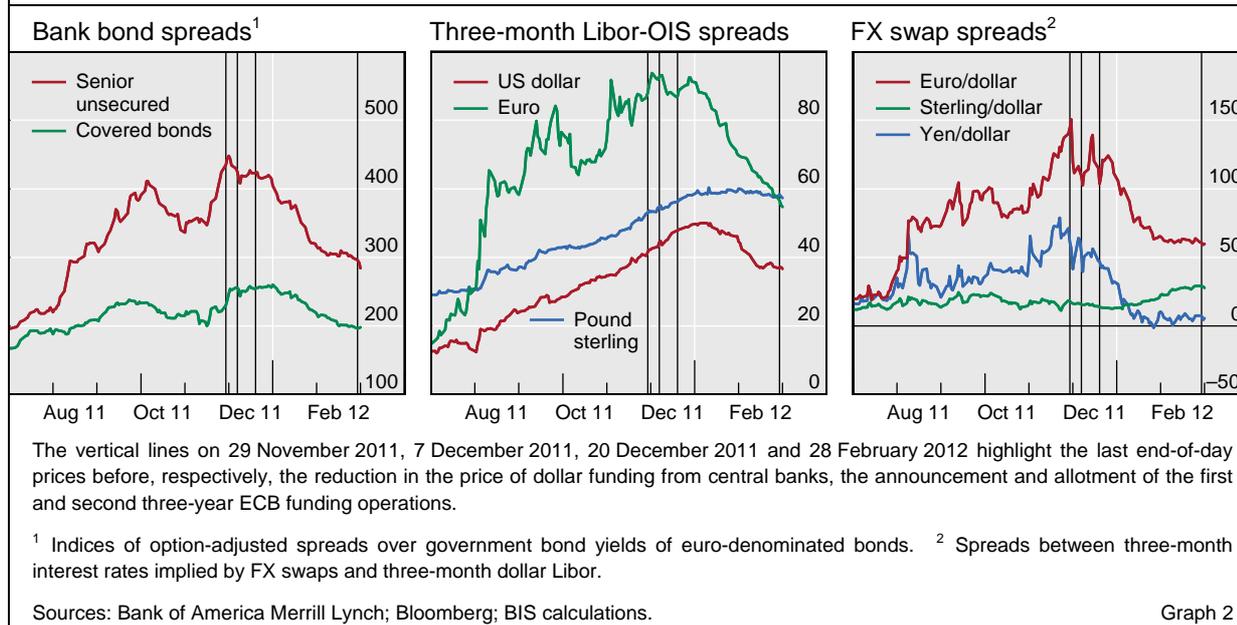
Around early December, central banks announced further measures to help tackle these funding strains. On 8 December, the ECB said that it would supply banks in the euro area with as much three-year euro-denominated funding as they bid for in two special longer-term refinancing operations (LTROs) on 21 December 2011 and 29 February 2012. At the same time, it announced that Eurosystem central banks would accept a wider range of collateral assets than previously. The ECB also said that it would halve its reserve ratio from

... until central banks announced new policy measures



Pricing of bank funding instruments

In basis points



18 January, reducing the amount that banks must hold in the Eurosystem by around €100 billion. A few days earlier, six major central banks, including the ECB, the Bank of England and the Swiss National Bank, had announced a 50 basis point cut to the cost of dollar funds offered to banks outside the United States. They also extended the availability of this funding by six months to February 2013.

These were widely used ...

Euro area banks raised large amounts of funding via the ECB's three-year LTROs, covering much of their potential funding needs from maturing bonds over the next few years. Across both operations, they bid for slightly more than €1 trillion. This was equivalent to around 80% of their 2012–14 debt redemption, more than covering their uncollateralised redemptions (Graph 3, left-hand panel).

Banks in Italy and Spain made bids for a large proportion of the funds allocated at the first three-year LTRO (Graph 3, centre panel), while the funding situation of banks in other regions improved indirectly.² Banks in Germany, Luxembourg and Finland, for example, did not take much additional funding at the first LTRO. However, some of the allotted funds, perhaps after a number of transactions, ended up as deposits with these banks, boosting the liquidity of their balance sheets. In turn, they significantly increased their Eurosystem deposits (Graph 3, right-hand panel). There was also little change in the LTRO balance at the Greek, Irish and Portuguese central banks. However, banks in these jurisdictions had already borrowed a combined €165 billion before December and may have been short of collateral to use at the first LTRO.

² At the time of going to press, data on funding raised by banks in different countries at the second three-year LTRO were not available.

Bank funding conditions improved following these central bank measures. Investors returned to long-term bank debt markets, buying more uncollateralised bonds in January and February 2012 than in the previous five months (Graph 1, left-hand panel). US money market funds also increased their exposure to some euro area banks in January (Graph 1, right-hand panel). Indicators of the cost of long- and short-term euro-denominated bank funding instruments also turned, as did the foreign exchange swap spread for converting euros into dollars (Graph 2).

... and led to improved funding conditions

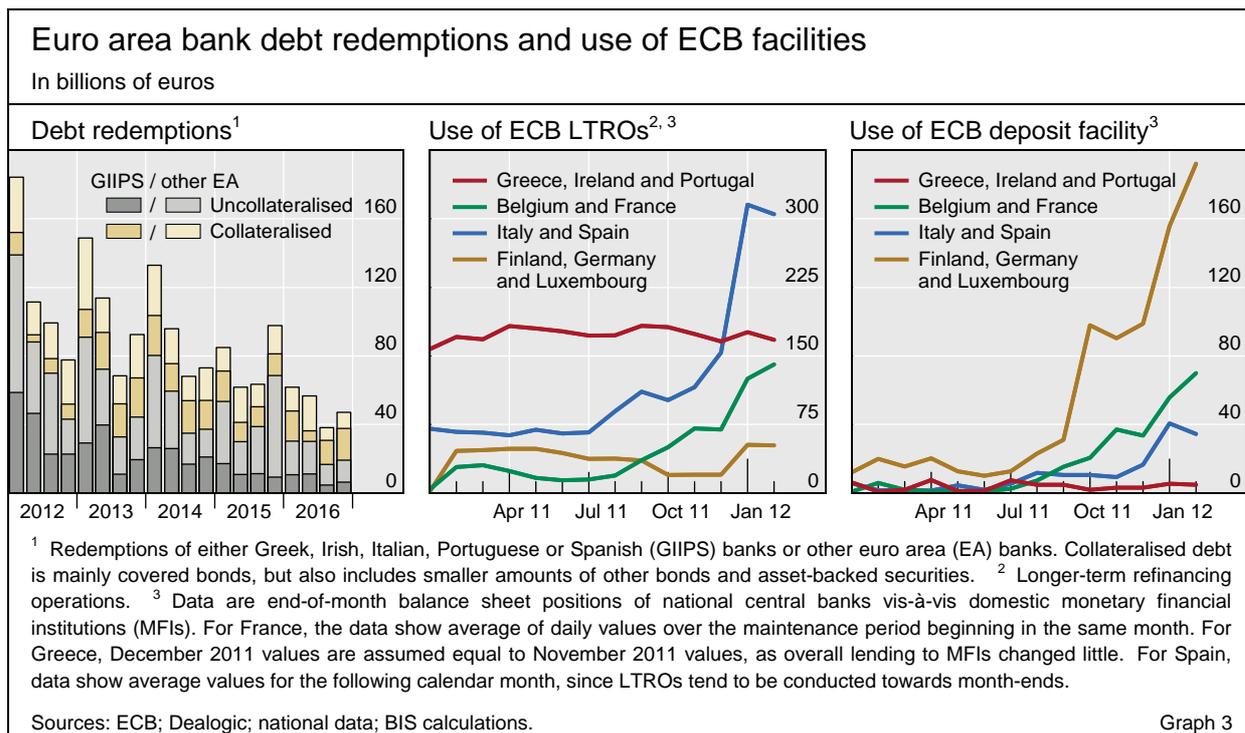
The nexus between sovereign and bank funding conditions

Funding conditions for euro area sovereigns improved in parallel to those of banks in December 2011 and early 2012. Secondary market yields on Irish, Italian and Spanish government bonds, for example, declined steadily during this period (Graph 4, left-hand panel). Yields on bonds with maturities of up to three years fell by more than those of longer-dated bonds (Graph 4, centre panel). At this time, these governments also paid lower yields at a series of auctions, despite heavy volumes of issuance. One notable exception to this trend was the continued rise in yields on Greek government bonds. This reflected country-specific factors, including the revised terms of a private sector debt exchange and tough new conditions for continued official sector lending.

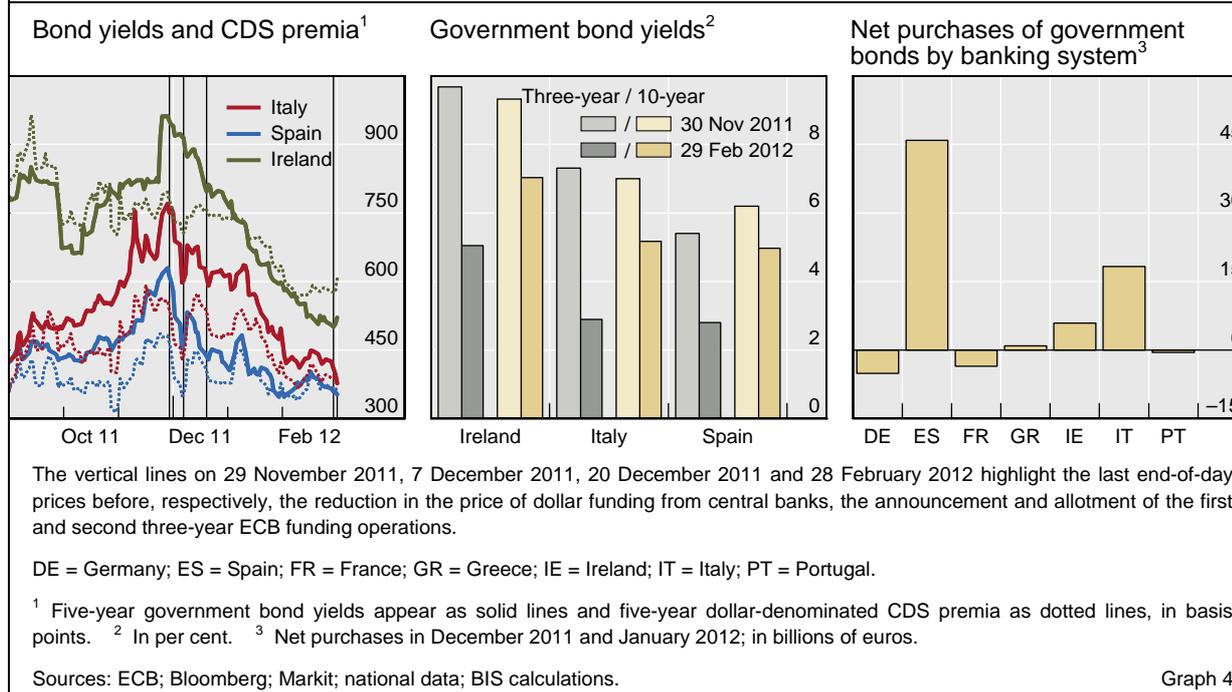
Sovereign funding conditions also improved ...

Part of the decline in government bond yields appeared to reflect diminished perceptions of sovereign credit risk. This was consistent with declines in sovereign CDS premia. In turn, part of the reduction in sovereign credit risk probably reflected improvements in bank funding conditions. This could have worked via two channels. First, any reduction in the likelihood of banks failing because of funding shortages would have cut the probability of government support for these banks. Second, any easing of pressure on banks

... reflecting the better situation of banks ...



Indicators of euro area government funding conditions



to shed assets would have boosted the outlook for economic activity and, hence, public finances. In addition, some of the improvements in perceptions of sovereign credit risk during this period probably reflected announcements made at the 8–9 December EU summit. These outlined arrangements to strengthen fiscal discipline in the union and to bring forward the launch of the European Stability Mechanism.

... and their
intermediation of
funding to
sovereign assets

A further part of the decline in yields on government bonds appeared to reflect the additional cash in the financial system available to finance transactions in these and other securities. This was consistent with government bond yields declining by more than CDS premia.³ Banks in Italy and Spain, for example, used new funds to significantly boost their holdings of government bonds (Graph 4, right-hand panel). While other euro area banks were less active in this respect, they may have committed new funds to help finance positions in government bonds for other investors. Or they may have purchased other assets and the sellers of those assets may have invested the resulting funds in government bonds.

This fed back
positively into bank
funding conditions

These improvements in funding terms for euro area sovereigns fed back into bank funding conditions. In particular, higher market values of sovereign bonds enhanced the perceived solvency of banks, which made them more attractive in funding markets. However, this link earlier worked in reverse and could potentially do so again.

³ New CDS positions require very little funding compared with an equivalent position in a bond. So, while changes in CDS premia mainly reflect changes in the compensation requirements of investors for credit risk, changes in bond yields may additionally reflect changes in the conditions of funding those bonds.

Deleveraging prospects and consequences

The sharp rise in funding costs and growing concerns over adequate capitalisation toward the end of 2011 added to existing market pressures on European banks to deleverage. Deleveraging is part of a necessary post-crisis adjustment to remove excess capacity and restructure balance sheets, thus restoring the conditions for a sound banking sector. That said, the confluence of funding strains and sovereign risk led to fears of a precipitous deleveraging process that could hurt financial markets and the wider economy via asset sales and contractions in credit. The extension of central bank liquidity and the European Banking Authority's (EBA) recommendation on bank recapitalisation, however, played important parts in paving the way toward a more gradual deleveraging process.

Before funding strains eased, fears over deleveraging grew ...

Deleveraging prospects: capital-raising and asset-shedding

The European bank recapitalisation plan announced in October 2011 brought fears of deleveraging to the forefront of financial market concerns. It required 65 major banks to attain a 9% ratio of core Tier 1 capital to risk-weighted assets (RWA) by the end of June 2012, and the authorities identified a combined capital shortfall of €84.7 billion at 31 major banks as of end-September 2011 (see box). Banks can deleverage either by recapitalising or by reducing RWA, with different economic consequences. In order to safeguard the flow of credit to the EU economy, supervisory authorities explicitly discouraged banks from shedding assets.

... compounded by new capitalisation targets

Banks thus planned to meet their shortfalls predominantly through capital measures, and some made progress in spite of unfavourable market conditions. Low share prices, as at present, cause a strong dilution effect, drawing resistance from incumbent shareholders and management.⁴ The experience of UniCredit, whose deeply discounted €7.5 billion rights issue led to a 45% (albeit transient) plunge in its share price, deterred other banks from following suit. Capital can also be built through retained earnings, debt-to-equity conversion or redemption below par. Some banks opted to convert outstanding bonds, notably Santander for €6.83 billion. Overall, banks plan to rely substantially on additions to capital and retained earnings to reach the 9% target ratio. The actions and plans of EBA banks thus helped to ease market fears over potential shedding of assets among banks with capital shortfalls (see box).

These were later allayed by capital-raising plans ...

The extent of asset-shedding observed in markets reflects a broader trend among European banks towards deleveraging over the medium term. French and Spanish banks, for instance, sold dollar-funded assets and divested foreign operations partly to focus their business models on core activities. Major UK banks, similarly, continued to shrink their balance sheets, although none had to meet any EBA capital shortfall. In view of recurring funding pressures and changing business models, many banks, with or without EBA

... although many banks plan to shed assets over the next few years

⁴ The feature on p 45 in this issue examines bank equity returns and the cost of capital.

Limited asset-shedding among banks under the European recapitalisation plan

The European Banking Authority (EBA) published its recommendation relating to the European bank recapitalisation plan on 8 December 2011. This forms part of a broader set of EU measures agreed in October 2011 to restore confidence in the banking sector. By the end of June 2012, 65 banks must reach a 9% ratio of core Tier 1 capital to risk-weighted assets (RWA). Capital will be assessed net of valuation losses on EEA sovereign exposures incurred by end-September 2011 (“sovereign buffer”). The 31 banks located in the shaded area below the regulatory line (capital = 0.09 RWA) in Graph A (left-hand panel) were below the 9% target ratio, as of end-September 2011, by an aggregate shortfall of €84.7 billion. The aggregate shortfall among all 71 banks in the EBA sample reaches €114.7 billion when six Greek banks are included with an estimated shortfall of €30 billion against the (stricter) capital targets under the EU/IMF financial assistance programme.

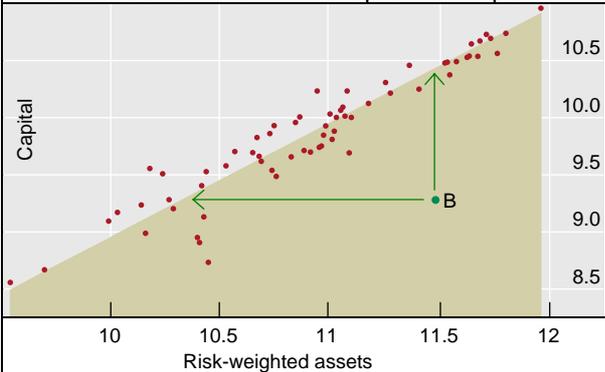
The plans banks submitted to regulators in January 2012 suggest that the shedding of bank assets will play a small part in reaching the target ratio. As the example of bank B in the left-hand panel illustrates, banks can deleverage either by recapitalising (moving upward) or by reducing RWA (moving leftward). The EBA’s first assessment shows that banks intend to cover 96% of their original shortfalls by direct capital measures, although the proposed measures also surpass the original capital shortfall by 26%. Planned capital measures thus account for 77% of the overall effort, and comprise new capital and reserves (26%), conversion of hybrids and issuance of convertible bonds (28%), and retained earnings (16%), while the remaining 23% rely on RWA reductions, notably on internal model changes pre-agreed with regulators (9%) and on the shedding of assets (10%), comprising planned RWA cuts of €39 billion in loan portfolios and some €73 billion through asset sales.

In this regard, the European bank recapitalisation plan reduced, but did not eliminate, the need for banks with capital shortfalls to shed assets (Graph A, right-hand panel). The likely scale of asset-shedding cannot be inferred reliably from RWA reductions. However, assuming a 75% average risk weight on loans and that the average risk weight on disposed assets equals that on holdings (43%, from average RWA as a share of total assets, using Bloomberg data), the planned RWA cuts of €112 billion relating to lending cuts and asset sales (= €39 + €73 billion) translate into an estimated €221 billion reduction in total assets. Some of the lending cuts are an inevitable part of restructuring under state aid rules. While these amounts are sizeable, they are an order of magnitude smaller than if banks had sought to reach the target ratio without significant additions to their capital.

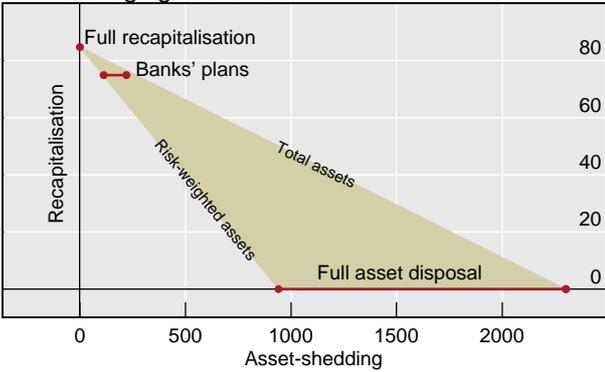
Capital-raising versus asset-shedding to close banks’ capital shortfalls

In billions of euros

EU banks under the EBA recapitalisation plan¹



Deleveraging scenarios²



¹ Balance sheet data as of end-September 2011 for the EBA sample (excluding Greek banks) on logarithmic scales (base 10). Reported risk-weighted assets (RWA) appear on the x-axis, while the y-axis shows banks’ core Tier 1 capital net of the required sovereign capital buffer. ² Combinations of capital-raising (y-axis) and asset-shedding (x-axis) for various assumptions on how banks could meet the 9% target ratio by June 2012. The shaded area defines a range for the potential shedding of RWA (left border) and the estimated shedding of total assets (right border). The latter is estimated by dividing the necessary reductions in RWA by the average risk weight of each bank before aggregation. This mapping assumes that the average risk weight on disposed assets equals that on total holdings, as when banks sell risky assets in equal proportions. “Banks’ plans” shows the shedding of risk-weighted (left dot) and total assets (right dot) estimated on the basis of the EBA’s first aggregate assessment.

Sources: EBA; Bloomberg; authors’ calculations.

Graph A

capital shortfalls plan to extend the ongoing trend of shedding assets. Industry estimates of overall asset disposals by European banks over the coming years thus range from €0.5 trillion to as much as €3 trillion.⁵

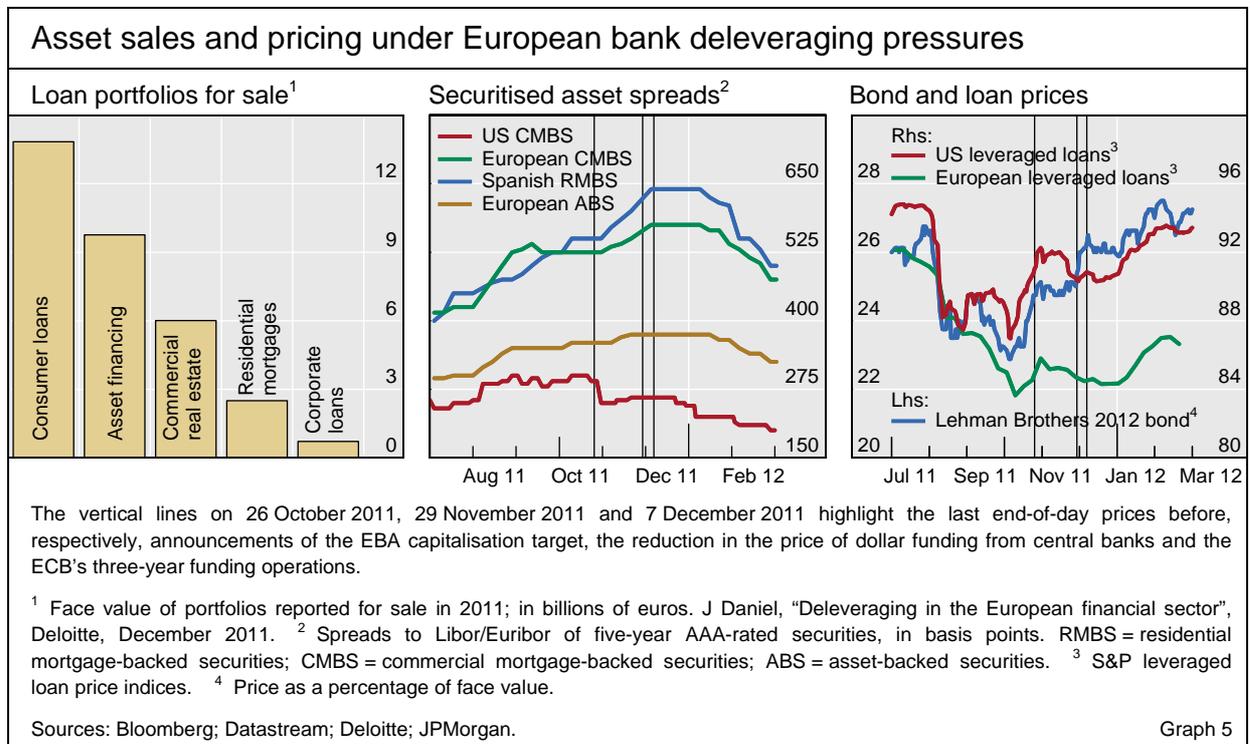
The extension of central bank liquidity eased the pace of asset-shedding observed in late 2011, but did not turn the underlying trend. If the banks in the EBA sample, for instance, failed to roll over their senior unsecured debt maturing over a two-year horizon, which amounts to more than €1,100 billion (€600 billion among banks with a capital shortfall), they would have to shed funded assets in equal measure. By covering these funding needs, the LTROs and dollar swap lines helped avert an accelerated deleveraging process. But many banks continued to divest assets in anticipation of the eventual expiration of these facilities. Banks are also mindful that a sustained increase in their capitalisation would facilitate both regulatory compliance and future access to the senior unsecured debt market.

The central bank actions also helped to ease the pace of the deleveraging process

Evidence of asset sales and price falls

As deleveraging pressures grew towards the end of 2011, European banks offered for sale a significant volume of assets, notably those with high risk weights or market prices close to holding values (Graph 5, left-hand panel). Offerings with high risk weights included low-rated securitised assets, distressed bonds and commercial property and other risky loans. Although some such transactions were completed, others did not go through because the offered prices were below banks' holding values. Selling at these prices

Asset sales increased ...



⁵ For an analysis in the upper part of this range, see "European banks", Morgan Stanley Research, 6 December 2011.

would have generated losses, thus reducing capital and preventing the banks from achieving the intended deleveraging. In contrast, other offerings included aircraft and shipping leases and other assets with steady cash flows and collateral backing, since these often fetched face values and thus avoided losses. Moreover, as dollar funding remained more expensive than home-currency funding for many European banks, dollar-denominated assets were in especially strong supply.

... but did not clearly drive prices down

Despite this, there is little evidence that actual or expected future sales significantly affected asset prices. Graph 5 (centre and right-hand panels) shows time series of price quotes for selected high-spread securitised assets, distressed bonds and leveraged loans. True, the price of US leveraged loans fell and spreads on some securitised assets rose after the EBA capital target announcement, consistent with the deleveraging implications of this news. And the price of distressed Lehman Brothers bonds increased after the reduction in the cost of dollar financing from central banks. But these changes were not unusually large compared with past price movements. Furthermore, some of the other price reactions shown in the graph were in directions opposite to those implied by the deleveraging news. That said, banks also offered for sale some assets that do not have regular price quotes, including parts of their loan portfolios. Market participants reported gaps between the best bid and offered prices for some of these assets, with low bid prices sometimes attributed to prospective supplies of similar assets from other banks.

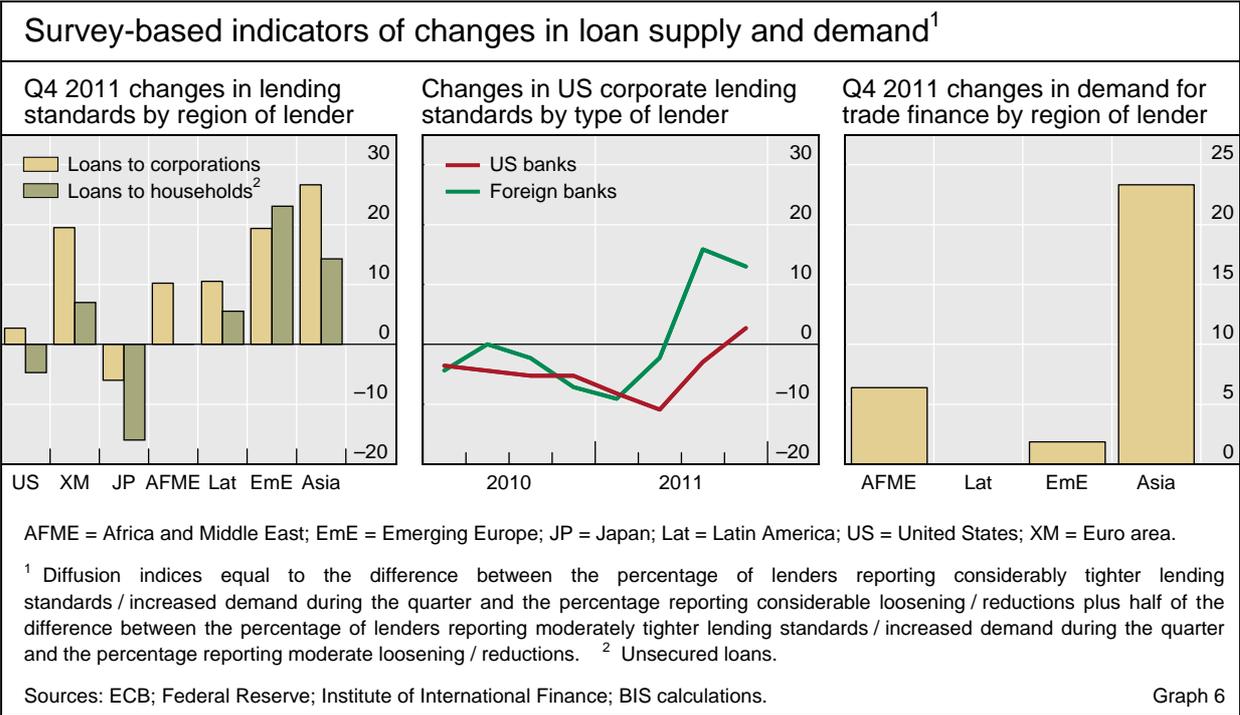
Evidence of credit constraints

At the same time, bank credit declined in some areas ...

Strong deleveraging pressures during the final quarter of 2011 were also associated with weak or negative growth in the volume of credit extended by many European banks. Credit extended by financial institutions in the euro area, for example, turned down during this period, with credit to non-bank private sector borrowers in the area falling by around 0.5%, while assets vis-à-vis non-euro area residents declined by almost 4%. Outstanding loans to euro area non-financial corporations grew by just over 1% and loans to households for house purchases by around 2%, while consumer credit declined by just over 2%.

... mainly due to supply, rather than demand

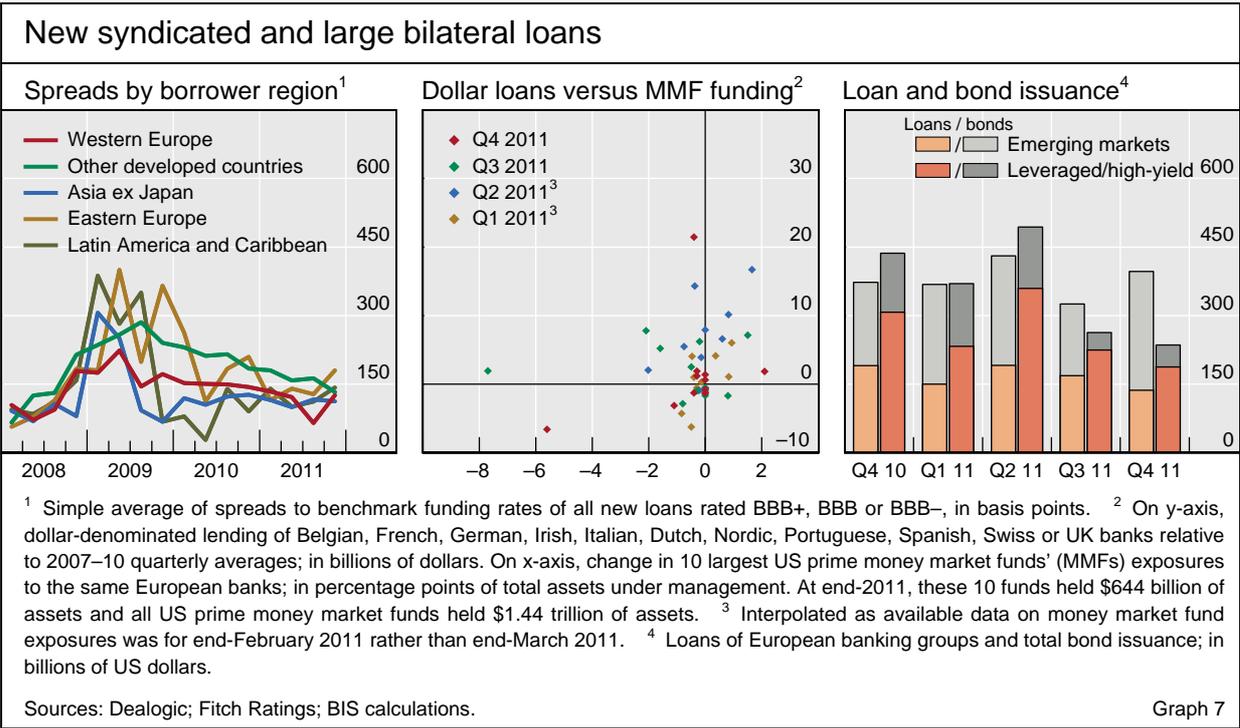
Lending surveys and changes in loan interest rates both suggested that changes in supply were important drivers of weak credit volumes. For example, many more euro area lenders tightened terms on corporate loans than loosened them in the final quarter of 2011 and a significant balance also tightened standards on loans to households (Graph 6, left-hand panel). In contrast, the balance between lenders reporting either increased or reduced demand for corporate loans was much more even. Also, more non-US (mainly European) banks operating in the United States tightened approval standards on loans to US corporations than loosened them in the third and fourth quarters of 2011 (Graph 6, centre panel). This contrasted with domestic US banks making loans to the same borrowers, who in aggregate reported no significant tightening. In addition, average interest rate margins on new syndicated and large bilateral loans to borrowers with common credit ratings increased in the final quarter of 2011 in regions that rely relatively heavily on funds from EU



banking groups, while they fell in regions that rely less heavily on the same banks for funds (Graph 7, left-hand panel).

Lending cuts by European banks focused primarily on risky and dollar-denominated loans. For example, EU banks reduced their funding contributions to new syndicated and large bilateral leveraged and project finance loans between the third and fourth quarters of 2011 by more than for other, less risky types of lending (Table 1). Funds from weaker banking groups (defined as those with EBA capital shortfalls plus all Greek banks) for project financing declined more than proportionately. The same was true of dollar-denominated

Dollar-denominated and risky lending by EU banks fell sharply ...



Changes in new lending by type of lender and loan ¹					
Loan type	Change in new lending between Q3 2011 and Q4 2011, by type of lender; in per cent			2011 lending volume	
	Weaker EU banks ²	Other EU lenders	All lenders worldwide	In billions of dollars	Denominated in dollars (%)
All loans	-14.6	-6.0	0.4	4,181	62
Dollar-denominated	-16.2	2.4	4.4	2,503	100
Leveraged ³	-43.0	-43.4	-18.3	1,085	80
Project finance	-39.0	-21.4	-7.0	319	40
Trade finance	-23.5	-9.8	-4.6	65	88
Aircraft/ship leasing	-40.5	-12.9	7.3	49	85

Colour coding: [< -30] [-30 to -15] [-15 to 0]

¹ Lending measured as newly signed syndicated and large bilateral loans by consolidated organisational groups, excluding any loans subsequently cancelled or withdrawn. Where the relative contributions to syndicated loans were not reported, these were assumed to be distributed evenly between participants. ² The 31 banking groups with EBA capital shortfalls, plus all Greek banking groups. ³ Loans rated below investment grade, plus some non-rated loans depending on pricing and characteristics. All loans for leveraged buyouts included. All loans for asset financing excluded.

Sources: Dealogic; BIS calculations. Table 1

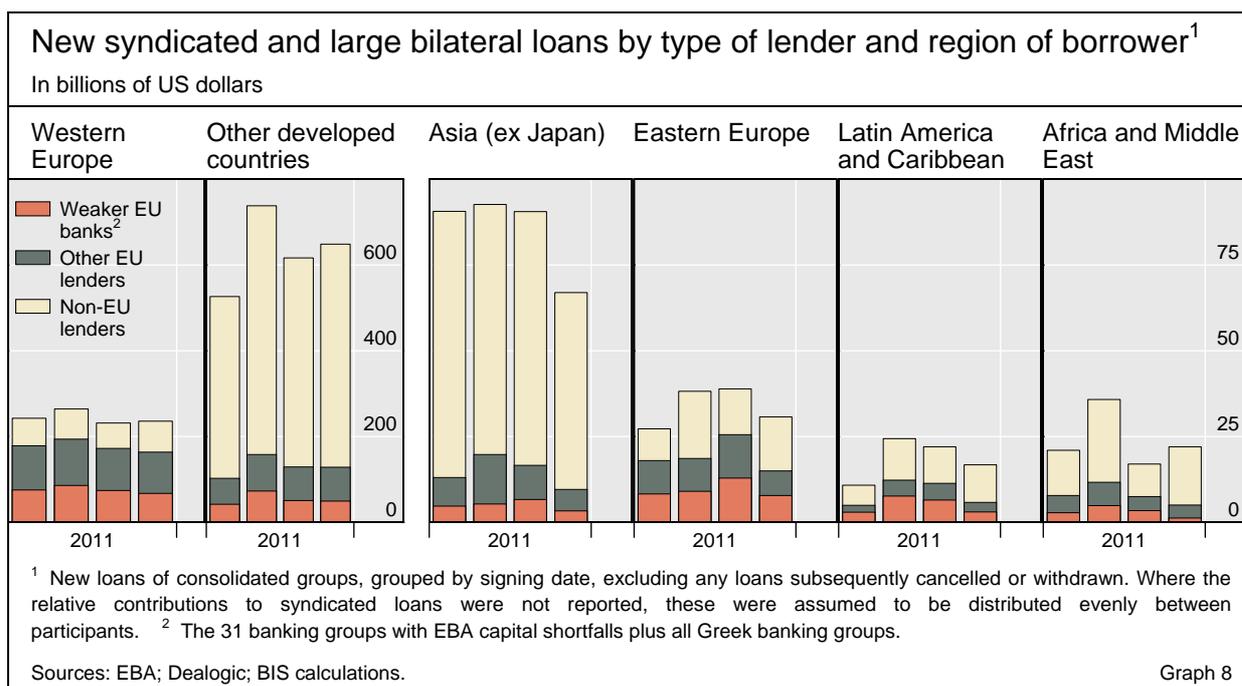
lending and financing of trade, aircraft and ships, which are largely denominated in dollars. As Graph 7 (centre panel) suggests, this may have reflected withdrawals of dollar funding.

... as did lending to emerging markets

European banks also cut lending to emerging markets. Their consolidated foreign claims on emerging Europe, Latin America and Asia had already started to fall in the third quarter of 2011 (see pages 18–20 of the Highlights). New syndicated and large bilateral loans from EU banking groups to emerging market borrowers then fell in the final quarter of the year. This was in contrast to lending to western Europe and other developed countries, which was essentially unchanged (Graph 8). At the same time, banks tightened terms on new loans to corporations and households in emerging markets (Graph 6, left-hand panel). The more pervasive tightening in emerging Europe than elsewhere may have reflected the widespread ownership of banks in the region by EU banking groups. Reduced lending to emerging Europe may also reflect lower demand, however, as the region's economic growth forecasts fell by more than those for any other during the final quarter of 2011.

Other forms of financing largely filled the gaps ...

Increased financing from other banks and bond market investors largely compensated for the cuts made by European banks in the final quarter of 2011. As a result, the overall volume of new syndicated and large bilateral loans was essentially the same as in the third quarter. In trade finance, for example, a strong balance of Asia-based lenders reported increased demand (Graph 6, right-hand panel) and these and other non-European lenders ensured that financing of trade did not fall overall. More generally, types of lending mostly denominated in dollars were quite steady in aggregate, even though contributions from European banks declined. Elsewhere, higher bond market



issuance offset reductions in the supply of bank credit. In particular, increased emerging market bond issuance more than offset the corresponding decline in bank lending, while a modest rise in high-yield bond issuance only partially offset the decline in leveraged lending (Graph 7, right-hand panel).

Conclusion

Pressures on European banks to deleverage increased towards the end of 2011 as funding strains intensified and regulators imposed new capitalisation targets. Many of these banks shed assets, both through sales and by cutting lending. However, this did not appear to weigh heavily on asset prices, nor did overall financing fall for most types of credit. This was because other banks, asset managers and bond market investors took over the business of European banks. An open question is whether other financial institutions will be able to substitute for European banks as the latter continue to deleverage. The reduction in deleveraging pressures in late 2011 and early 2012, after measures by central banks mitigated bank funding strains, means at least that this process may run more gradually. This should reduce any impact on financial markets and economic activity.