

Financial Stability Report

June 2012 | Issue No. 31



BANK OF ENGLAND





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In June 2010, the Chancellor of the Exchequer set out a plan for fundamental changes to the system of UK financial regulation. In July 2010 and February 2011, the Government published consultation documents on the proposed changes, and in January 2012 introduced the Financial Services Bill to Parliament. The legislation will establish a Financial Policy Committee (FPC) charged with a primary objective of identifying, monitoring and taking action to remove or reduce systemic risks with a view to protecting and enhancing the resilience of the UK financial system. In June 2012, the Chancellor announced that the Government would amend the Bill to give the FPC a secondary objective to support the economic policy of the Government.

The Government intends the FPC to be a Committee of the Bank of England's Court of Directors, and in February 2011 the Court created an interim FPC to undertake, as far as possible, the future statutory FPC's macroprudential role. Although lacking the proposed statutory powers of Direction and Recommendation of the statutory FPC, the interim FPC contributes to maintaining financial stability by identifying, monitoring and publicising risks to the stability of the financial system and advising action to reduce and mitigate them. It also carries out preparatory work and analysis in advance of the creation of the permanent FPC.

The proposed legislation will require the FPC to publish a *Financial Stability Report* twice a year. This *Financial Stability Report* was produced under the guidance of the interim FPC. It covers the Committee's assessment of the outlook for the stability and resilience of the financial sector at the time of preparation of the *Report*, and the policy actions it advises to reduce and mitigate risks to stability.

The interim Financial Policy Committee:

Mervyn King, Governor

Paul Tucker, Deputy Governor responsible for financial stability

Charles Bean, Deputy Governor responsible for monetary policy

Andrew Bailey, Head of the Prudential Business Unit of the Financial Services Authority

Adair Turner, Chairman of the Financial Services Authority

Alastair Clark

Michael Cohrs

Paul Fisher

Andrew Haldane

Robert Jenkins

Donald Kohn

Tom Scholar attended as the Treasury member.

Martin Wheatley, Head of the Conduct Business Unit of the Financial Services Authority and CEO Designate of the Financial Conduct Authority, also attended in a non-voting capacity.

This document was delivered to the printers on 28 June 2012 and, unless otherwise stated, uses data available as at 21 June 2012.

The *Financial Stability Report* is available in PDF at www.bankofengland.co.uk.

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Executive summary

The interim Financial Policy Committee agreed the following policy recommendations at its meeting on 22 June:

- The Committee recommends that, taking into account each institution's risk profile, the Financial Services Authority (FSA) works with banks to ensure they build a sufficient cushion of loss-absorbing capital in order to help to protect against the currently heightened risk of losses. That cushion may temporarily be above that implied by the official transition path to Basel III standards and would support additional lending to the real economy, including via the planned 'funding for lending' scheme. Banks should continue to restrain cash dividends and compensation in order to maximise the ability to build equity through retained earnings.
- In addition, the Committee reiterates its recommendation to the FSA to encourage banks to improve the resilience of their balance sheets, including through prudent valuations, without exacerbating market fragility or reducing lending to the real economy.
- The Committee recommends that banks work to assess, manage and mitigate specific risks to their balance sheets stemming from current and future potential stress in the euro area.
- The Committee recommends that the FSA makes clearer to banks that they are free to use their regulatory liquid asset buffers in the event of a liquidity stress. The ability to do so is enhanced by additional contingent liquidity made available to banks by the Bank. The Committee also recommends that the FSA considers whether adjustments to microprudential liquidity guidance are appropriate, taking some account of this additional liquidity insurance.
- The Committee recommends that UK banks work with the FSA and the British Bankers' Association (BBA) to ensure greater consistency and comparability of their Pillar 3 disclosures, including reconciliation of accounting and regulatory measures of capital, beginning with the accounts for the current year.

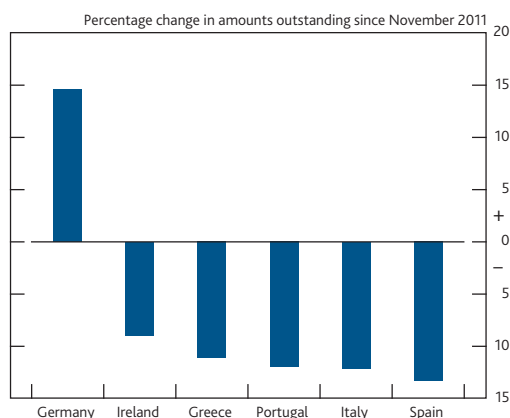
The Committee judged that this advice was appropriate in light of its conclusions about the outlook for financial stability.

Risks

The outlook for financial stability has deteriorated, particularly in light of heightened uncertainty about how, and when, euro-area risks will be resolved.

Official policy measures, including the European Central Bank's (ECB's) longer-term refinancing operations (LTROs), improved bank funding conditions and reduced market volatility in early 2012. But underlying concerns about sovereign indebtedness,

Chart 1 Foreign deposits with monetary financial institutions in selected euro-area countries^(a)

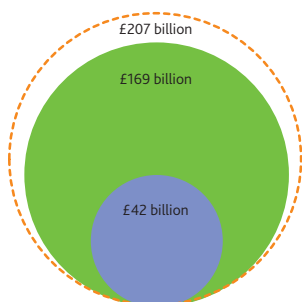


Sources: Banca d'Italia, Banco de España, Banco de Portugal, Bank of Greece, Central Bank of Ireland, Deutsche Bundesbank and Bank calculations.

(a) Data to April 2012.

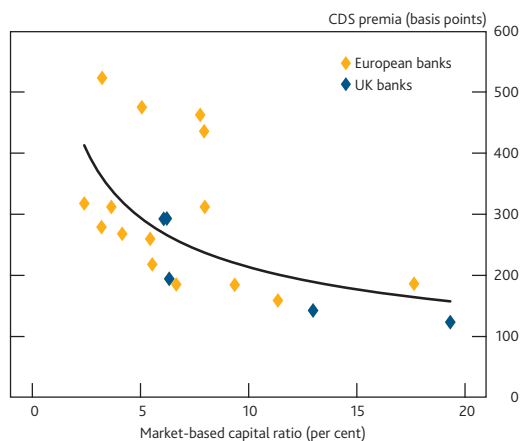
Chart 2 UK banks' exposures to vulnerable euro-area countries

- Total exposures to sovereigns and banks in vulnerable euro-area countries
- Total exposures to sovereigns, banks and non-bank private sector borrowers (net of provisions) in vulnerable euro-area countries
- Core Tier 1 capital



Sources and footnotes: see Table 2.A.

Chart 3 Market-based capital ratios and funding costs^{(a)(b)(c)}



Sources: Capital IQ, Markit Group Limited, published accounts and Bank calculations.

- (a) Market-based capital ratios are banks' market capitalisation as a percentage of published risk-weighted assets.
 (b) The sample shown is the largest 20 European banks by assets.
 (c) Funding costs are proxied by five-year senior CDS premia. The 'line of best fit' shown above illustrates their relationship with market-based capital ratios.

banking sector resilience and imbalances across the euro area persisted and the improvement in sentiment proved temporary. Such concerns have been reflected in a sustained redistribution of international capital, towards assets perceived as relatively safe and away from vulnerable euro-area countries (**Chart 1**).

Major UK banks' exposures to the most vulnerable economies' sovereigns and banks are low (**Chart 2**). But their exposures to non-bank private sector borrowers in many of these countries are significantly larger. Banks in other EU countries are also exposed to vulnerable euro-area countries. If contagion spread, significant disruption would be likely through secondary channels, such as counterparty risk, funding market stresses and feedback from macroeconomic weakness.

Resilience

Efforts by UK banks to build resilience through higher capital levels and stronger funding structures have provided some insulation from strains in the euro area. But as actual and expected bank profitability has declined, progress in building capital has slowed and market-based measures of capital adequacy have fallen. Consistent with these developments, funding costs have remained high (**Chart 3**).

UK banks' holdings of highly liquid assets have tripled since the end of 2008, providing significant protection against potential future funding strains. In the event of short-term liquidity shocks, UK banks could run down these buffers. They are also now able to access the recently activated Extended Collateral Term Repo Facility, as well as the Bank's Discount Window Facility, against which they have pre-positioned a substantial amount of collateral.

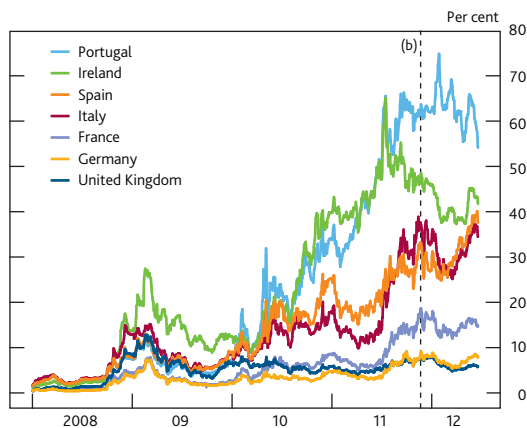
Credit conditions

Credit growth has remained weak in the United Kingdom over the past few years, reflecting a combination of supply and demand influences. More recently, supply appears to have tightened further. Banks have been passing through higher funding costs to the interest rates on both corporate and secured household lending. That highlights the potential for an adverse feedback loop to develop, were the economy to weaken and the quality of banks' assets to deteriorate. Various policy measures have been announced aimed at reversing this process, notably the 'funding for lending' scheme. In addition, the Bank of England has activated the Extended Collateral Term Repo Facility, thus providing additional liquidity insurance to guard against prospective market stress.

1 Global financial environment

Conditions in the global financial environment deteriorated significantly in the second quarter of 2012, as euro-area concerns intensified. Despite official policy measures, such as the European Central Bank's longer-term refinancing operations, underlying concerns about sovereign indebtedness, banking sector resilience and imbalances across the euro area persisted and the improvement in sentiment proved temporary. Risk aversion in the international financial system rose and evidence of capital flight from some euro-area countries increased. The outlook for global growth weakened, deleveraging by some advanced-country banks continued and credit conditions for UK households and companies tightened.

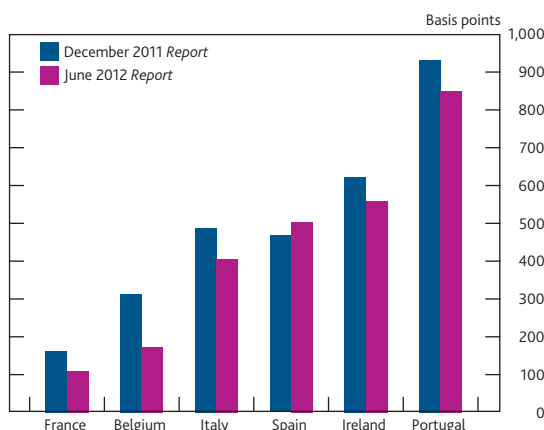
Chart 1.1 Market-implied default probabilities over the next five years for selected sovereign debt^(a)



Sources: Markit Group Limited and Bank calculations.

- (a) Probability of default, derived from CDS premia, from the perspective of a so-called 'risk-neutral' investor that is indifferent between a pay-off with certainty and an uncertain pay-off with the same expected value. If market participants are risk-averse, these measures may overstate actual probabilities of default. A loss given default of 60% is assumed.
 (b) December 2011 Report.

Chart 1.2 Spreads of government bonds over German bunds in selected euro-area countries^(a)



Sources: Thomson Reuters Datastream and Bank calculations.

- (a) Ten-year government bond spreads over German bunds.

This section summarises key developments in the global financial environment since the December 2011 Report, including the provision of financial services to UK households and companies during this period. The rest of the Report examines: short-term (Section 2) and medium-term (Section 3) risks to the financial system; the activity of the FPC and progress on previous recommendations (Section 4); and, against that backdrop, the policy actions that the FPC advises to reduce risks to the financial system (Section 5).

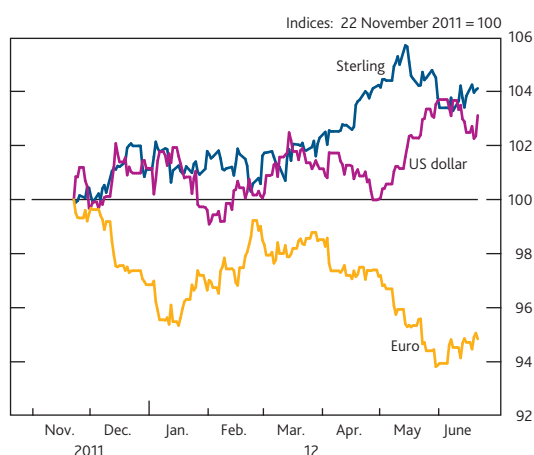
Euro-area sovereign risk concerns were heightened...

Sovereign risk concerns in some euro-area countries have intensified over the period since the December 2011 Report (Chart 1.1). The cost of default protection on sovereign debt, as measured by credit default swaps (CDS), reached record highs in Spain. Spreads of Spanish bonds over German bunds widened from already high levels and spreads remained elevated in a number of other euro-area countries (Chart 1.2). Meanwhile, the euro depreciated by 5% on a trade-weighted basis as concerns about a disorderly resolution of euro-area tensions increased (Chart 1.3).

...despite the positive effects of official actions...

Sentiment towards the euro area improved during the early months of 2012 in response to policy measures taken to help reduce financial system strains. The European Central Bank's (ECB) two longer-term refinancing operations (LTROs), announced in December 2011, helped to ease bank funding pressures. In total, the ECB lent over €1 trillion to euro-area banks, a net injection of around €500 billion. That was equivalent to approximately 60% of euro-area banks' estimated term funding requirements for 2012. Other policy actions included agreement on a second IMF/EU assistance programme for Greece; completion of a restructuring deal that wrote down the value of Greek government debt held by private sector firms and individuals; an increase to the

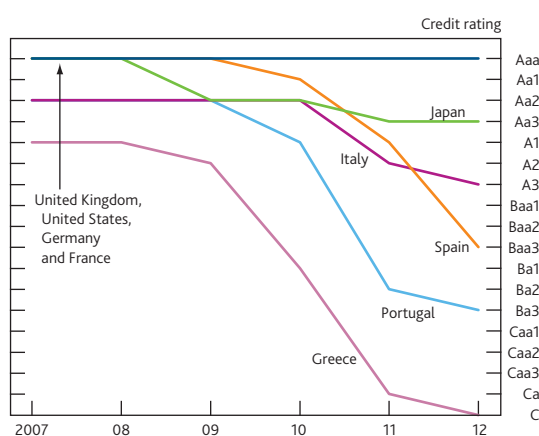
Chart 1.3 Trade-weighted indices of selected currencies^(a)



Sources: Bank of England and Bank calculations.

(a) Change since December 2011 Report.

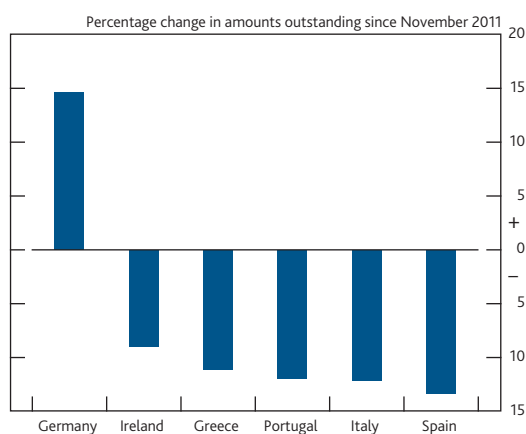
Chart 1.4 Credit ratings of selected sovereigns^(a)



Source: Moody's.

(a) All data points are at year-end, except for 2012 which is at 21 June 2012.

Chart 1.5 Foreign deposits with monetary financial institutions in selected euro-area countries^(a)



Sources: Banca d'Italia, Banco de España, Banco de Portugal, Bank of Greece, Central Bank of Ireland, Deutsche Bundesbank and Bank calculations.

(a) Data to April 2012.

combined lending ceiling of the European Financial Stability Facility (EFSF)/European Stability Mechanism (ESM) from €500 billion to €700 billion; and an agreement by a number of countries to provide the IMF with more than US\$450 billion in bilateral commitments to increase its capacity to provide crisis-resolution funds.

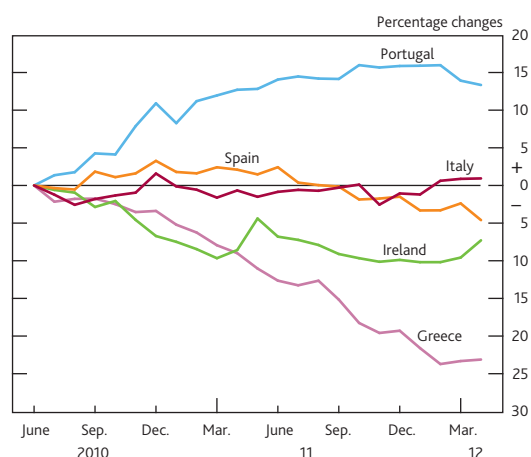
...as market concerns weighed on sentiment...

The cost of default protection on many euro-area sovereign bonds decreased sharply following the ECB's LTROs. But these falls proved temporary and sentiment towards some euro-area sovereigns deteriorated rapidly again in 2012 Q2. With Spain announcing that it had missed its 2011 deficit target by a revised 2.9 percentage points, concerns increased about the ability of some vulnerable countries to achieve the speed and size of targeted fiscal adjustments, against a background of weak growth in the euro area. The much larger-than-expected size of the recapitalisation of Bankia, one of Spain's largest banks, increased investor concerns about the valuation of Spanish banks' assets and, more generally, the potential burden of weak euro-area banking systems on sovereigns. These developments led the Spanish authorities to seek financial assistance from the EFSF/ESM to help recapitalise its banking sector. In addition, there was market speculation about further measures by European policymakers, including the possibility of a mutualised bank deposit guarantee scheme across euro-area countries and associated changes to supervisory and resolution arrangements.

Political uncertainty in a number of euro-area countries also weighed heavily on sentiment. In particular, support in the Greek elections on 6 May for parties opposed to previously agreed bailout terms, and the inability of elected parties to form a coalition government, led to growing market concerns that the country might require further debt restructuring and/or choose to leave the euro. These concerns continued despite the formation of a coalition government following a second round of Greek elections on 17 June.

The deteriorating fiscal position of some euro-area sovereigns was reflected in credit rating downgrades during the period (Chart 1.4). The Spanish sovereign rating was downgraded a total of five notches to Baa3 by Moody's, while Italy and Portugal were downgraded by one notch (to A3 and Ba3 respectively). France and Austria both lost their AAA status from Standard & Poor's. Some of the sovereign downgrades, in turn, led to banks being downgraded. In addition, a significant number of other European banks and global large complex financial institutions (LCFIs) were downgraded, as part of two wider reviews of bank ratings by Moody's. The downgrades of some UK banks, while generally taking ratings closer to levels at which some investors might limit exposures (Section 2), had relatively little market impact.

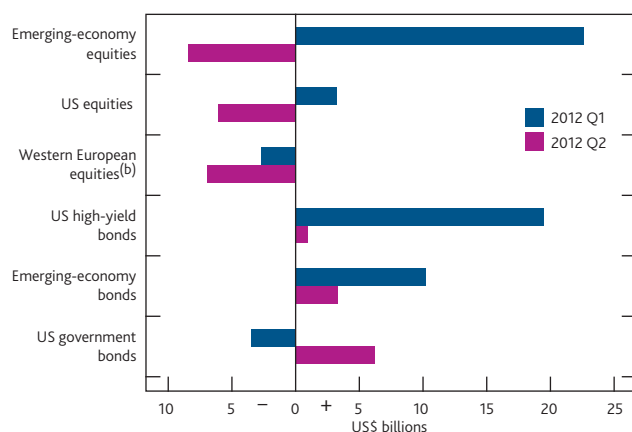
Chart 1.6 Domestic deposits with monetary financial institutions in selected euro-area countries^{(a)(b)}



Sources: Banca d'Italia, Banco de España, Banco de Portugal, Bank of Greece, Central Bank of Ireland and Bank calculations.

- (a) Cumulative percentage changes in amounts outstanding since June 2010.
(b) Excludes government and monetary financial institution deposits.

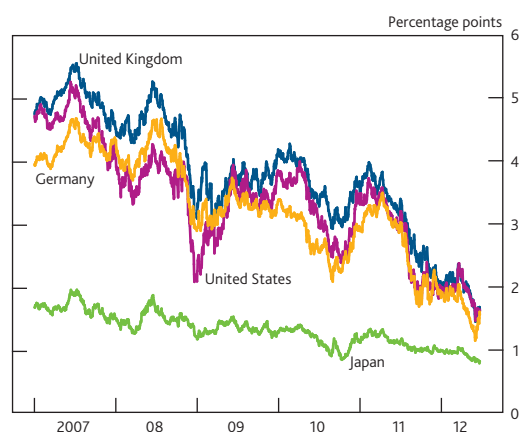
Chart 1.7 Net investment flows into selected equity and bond funds^(a)



Sources: Emerging Portfolio Research and Bank calculations.

- (a) Data capture within-country flows (eg investments by US-domiciled mutual funds in US equities) as well as cross-border flows.
(b) Regional funds dedicated to Western European equities.

Chart 1.8 International ten-year spot government bond yields^(a)



Source: Thomson Reuters Datastream.

- (a) Yields to maturity.

...and global growth prospects weakened.

Euro-area developments occurred against a backdrop of deteriorating global growth prospects and weaker economic data. Although the IMF revised up slightly its forecast for 2012 world GDP growth to 3.5% in April 2012, later survey indicators pointed to a weaker outlook. US growth prospects softened towards the end of 2012 H1, although they remained stronger than in Europe. Growth prospects also weakened in some major emerging economies, such as Brazil, China and India. Risks related to emerging-economy developments are discussed in Section 3.

UK GDP was weaker than expected in 2012 Q1, contracting by 0.3%. The United Kingdom's sovereign credit rating was also put on 'negative outlook' by Moody's and Fitch Ratings, indicating an increased risk of a rating downgrade in the next two years. The agencies cited increased uncertainty regarding the likely negative impact of growth on fiscal consolidation and the risks of adverse shocks from the euro area. But the cost of default protection on UK sovereign debt fell over the period and gilt yields decreased, suggesting little impact on market participants' perceptions of UK sovereign risk.

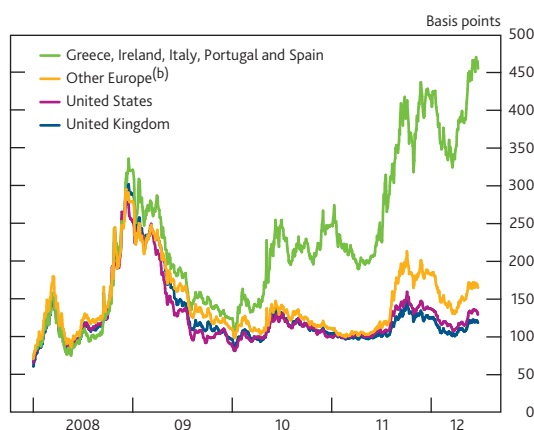
Global capital flowed away from the vulnerable euro area...

With sovereign risks elevated, there appeared to be a sustained redistribution of international capital away from vulnerable euro-area countries, with growing evidence of capital flight from some euro-area banks and capital markets. While banks in Germany experienced a large net increase in foreign deposits in the period since the December 2011 *Report*, foreigners' exposures to banks in a number of vulnerable euro-area countries fell by around 10% (Chart 1.5), contributing to the increasing accumulation of net liabilities in the Target system by some euro-area national central banks. Domestic depositors also withdrew funds from some vulnerable euro-area countries — including Greece, where domestic private sector deposits have fallen by nearly 25% over the past two years (Chart 1.6).

There were significant falls in foreign holdings of vulnerable euro-area government debt. For example, holdings of Spanish debt by non-residents fell from 37% of the outstanding stock in November 2011 to 31% in April 2012 having been over 45% at end-2010. And portfolio funds specialising in Western European equities experienced net outflows in both 2012 Q1 and Q2 (Chart 1.7).

More generally, market contacts highlighted an increased reluctance among investors to hold some euro-area assets. Institutional investors, particularly in Asia, were said to be increasingly demanding mandates specifically excluding some European sovereign and bank assets. Euro-area investors were also reported to have reduced exposures to other euro-area countries in favour of local assets.

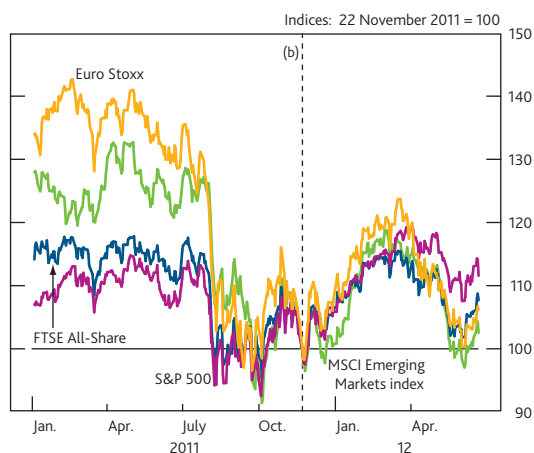
Chart 1.9 Cost of default protection for non-financial corporates^(a)



Sources: Thomson Reuters Datastream and Bank calculations.

(a) Calculated using the geometric mean of five-year CDS premia of non-financial corporates.
(b) Consists of Austria, Belgium, Finland, France, Germany and the Netherlands.

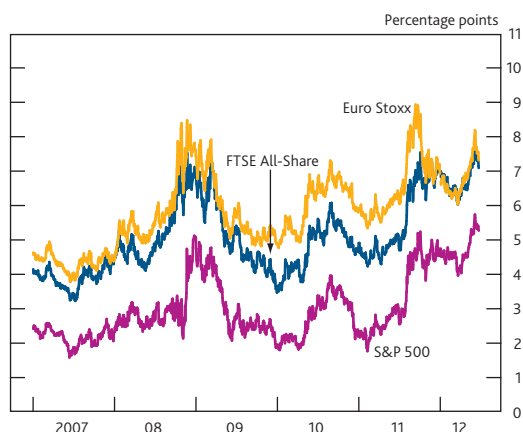
Chart 1.10 International equity indices^(a)



Sources: Bloomberg, Thomson Reuters Datastream and Bank calculations.

(a) Denominated in units of local currency except for MSCI Emerging Markets index, which is denominated in US dollars.
(b) December 2011 Report.

Chart 1.11 Estimates of the premia required by investors to hold equities^(a)



Sources: Bloomberg, Thomson Reuters Datastream and Bank calculations.

(a) As implied by a multi-stage dividend discount model.

...as inflows to risky assets proved temporary...

Elsewhere, the allocation of capital across global financial markets appeared to track sovereign risk developments, with an increase in appetite for risky assets following the ECB's LTROs providing only a temporary respite from a broader retreat from cross-border risk. For example, private capital flows to some risky assets initially increased during 2012 Q1, with portfolio funds specialising in US high-yield debt, emerging-economy equities and emerging-economy bonds experiencing strong inflows. But these flows weakened, or in some cases partly reversed, in 2012 Q2 (Chart 1.7). Meanwhile, declines in global syndicated loan issuance and trade-finance related lending, associated with deleveraging by European banks, suggested further retrenchment in international cross-border bank lending.

...and measures of risk appetite remained weak.

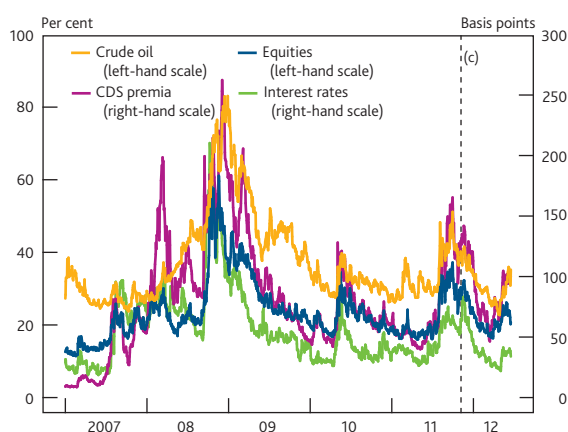
There was further evidence of sustained high risk aversion in the global financial system. Yields on US, UK and German government bonds fell sharply to historically low levels (Chart 1.8). Demand for safe assets in the global financial system has increased for both cyclical and structural reasons since the onset of the crisis. At the same time, the supply of liquid and low credit risk assets has fallen. According to IMF estimates, the share of advanced-economy sovereign debt rated AAA fell to 52% in January 2012 from 68% in 2007.

In corporate debt markets, spreads generally remained high, although the regional pattern was differentiated. In US dollar-denominated markets, spreads on higher-yield debt fell by more than those for investment-grade bonds. But, in euro markets, spreads on some lower-rated corporates rose, suggesting a flight to quality within the euro-area corporate sector. The cost of default protection for companies in vulnerable euro-area countries also rose to record levels in June 2012 and remained high elsewhere in Europe and in the United States (Chart 1.9).

Equity markets followed a broadly similar pattern, with falls in 2012 Q2 reversing gains experienced in 2012 Q1. Overall, euro-area equity markets rose by 6% over the period, less than in the United States (12%) and United Kingdom (8%) (Chart 1.10). Within the euro area there were significant national differences, however, with German equity markets rising by 15% and Spanish equity markets falling by 14%.

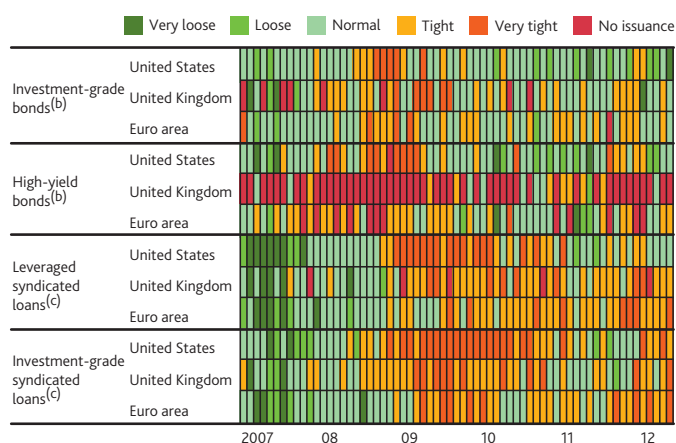
Despite rises since the December 2011 Report, equity prices remained well below 2007 peaks. That reflects, in part, high implied risk premia, which were at, or above, their highest levels since the crisis began for US and European equity markets (Chart 1.11). Combined with high debt spreads, this is likely to have kept private companies' weighted average cost of capital high, reducing incentives to invest.⁽¹⁾

(1) See 'Costly capital and the risk of rare disasters', speech at Bloomberg, London by Ben Broadbent, 28 May 2012, available at www.bankofengland.co.uk/publications/Documents/speeches/2012/speech581.pdf.

Chart 1.12 Financial market uncertainty^{(a)(b)}

Sources: Bloomberg, Chicago Mercantile Exchange, JPMorgan Chase & Co., NYSE Euronext and Bank calculations.

- (a) Three-month option-implied volatilities.
 (b) Average of FTSE 100, S&P 500 and Euro Stoxx 50 for equities. West Texas Intermediate for crude oil. Average of three-month short sterling, eurodollar and Euribor for interest rates. Average of five-year on-the-run iTraxx Europe main and CDX North America investment-grade for CDS premia.
 (c) December 2011 Report.

Chart 1.13 Primary corporate debt market conditions^(a)

Sources: Dealogic and Bank calculations.

- (a) Shading is based on a score that reflects gross issuance (relative to nominal GDP) and spreads in primary markets, expressed as a number of standard deviations from its historical average, using available data from January 1998. Where spreads are not available, indicators are based solely on issuance. Latest data point is end-May 2012 (using most recent GDP data).
 (b) Gross issuance of bonds, excluding issuance by corporates where parent is a financial entity.
 (c) Gross issuance of syndicated loans, excluding cancelled or withdrawn facilities.

Table 1.A Selected payment systems^(a)

		CHAPS	Bacs	FPS	CREST	CLS
Average daily values (£ billions)	Nov. 2011-May 2012	277	16.9	1.99	427	2,913 ^(b)
	Nov. 2010-Oct. 2011	249	17.2	0.84	475	2,938
Operational availability of core infrastructure (per cent)	Nov. 2011-May 2012	100	100	100 ^(c)	99.31	99.93
	Nov. 2010-Oct. 2011	100	100	100	99.87	99.95

Sources: Bank of England, CLS Bank International, Euroclear UK & Ireland, UK Payments Administration and Bank calculations.

- (a) CLS data show the value of obligations as submitted to CLS for settlement (effectively double the value of the underlying transactions). CREST values are for sterling only and exclude flows generated by the self-collateralising repo or auto-collateralising mechanisms.
 (b) CLS average daily values to 18 May 2012.
 (c) FPS operational availability to 30 April 2012.

Conditions in financial markets were mixed...

The functioning of some financial markets was strained during the period. For example, market contacts reported that a reduction in banks' market-making capacity, following large losses on inventory holdings in late 2011, had impaired liquidity in selected secondary markets, such as those in corporate bonds. This has meant firms quoting wider bid-ask spreads and prices moving more erratically than usual, making trading conditions more difficult. Meanwhile, a Bank of England survey found that credit conditions in over-the-counter derivatives and securities financing markets were tight during 2012 H1, particularly in euro-denominated markets, and were expected to tighten further in 2012 Q3.

Overall, however, market contacts reported that conditions in many financial markets were less strained than in late 2011. Measures of financial market uncertainty declined for much of the period, before rising sharply again in May 2012 (Chart 1.12), while perceptions of market liquidity improved overall. Some companies were able to take advantage of the better market conditions, particularly at the start of 2012, to issue new debt (Chart 1.13). Global gross issuance of high-yield corporate debt was US\$190 billion in 2012 H1, more than double that in 2011 H2, but weaker than in the first half of 2011. Gross global issuance of leveraged loans followed a similar pattern, increasing by around 15% in 2012 H1 to over US\$460 billion, but remaining lower than in 2011 H1.

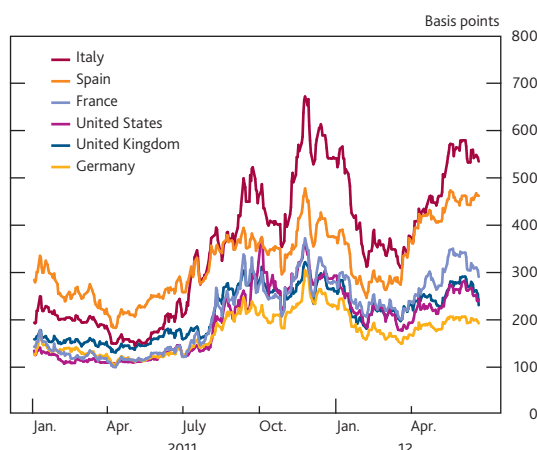
UK insurance markets functioned effectively in 2012 H1, despite the difficult financial environment. But the ratings of several large European life insurers (some of which have UK subsidiaries) were downgraded or placed on negative outlook.

...while payment and settlement services functioned effectively.

In response to increased market volatility in euro-area sovereign bond markets, LCH.Clearnet Ltd collected additional margin against cleared repo positions for some bonds, including under new arrangements for managing concentration risk. LCH.Clearnet Ltd also clarified that a yield spread of 450 basis points between the relevant sovereign bonds and a AAA-rated basket was not an automatic trigger for additional margin calls — for example, where margin already collected under other policies satisfied LCH.Clearnet Ltd's risk controls. Falling Irish government bond yields allowed LCH.Clearnet Ltd to reduce additional margin requirements on Irish repo transactions from 45% to 15% during 2012 Q1.

Other central financial infrastructure in the United Kingdom also functioned effectively during the period. Traffic across the main payment systems over the past six months was broadly unchanged on the previous year (Table 1.A). The timing of payment submissions by CHAPS members was also

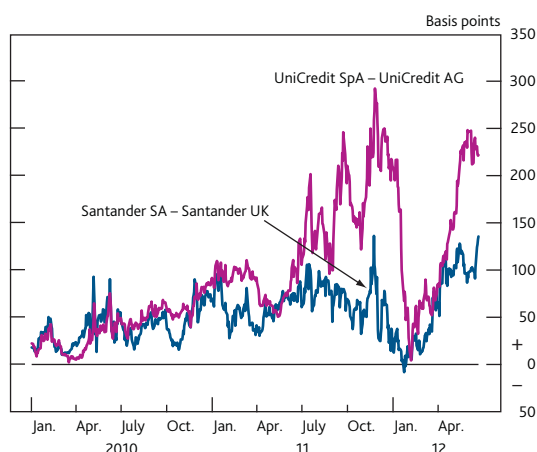
Chart 1.14 Cost of default protection for selected banking systems^(a)



Sources: Capital IQ, Markit Group Limited, Thomson Reuters Datastream and Bank calculations.

(a) Aggregated five-year CDS premia from selected banks and LCFIs, weighted by assets as at 2011 Q4.

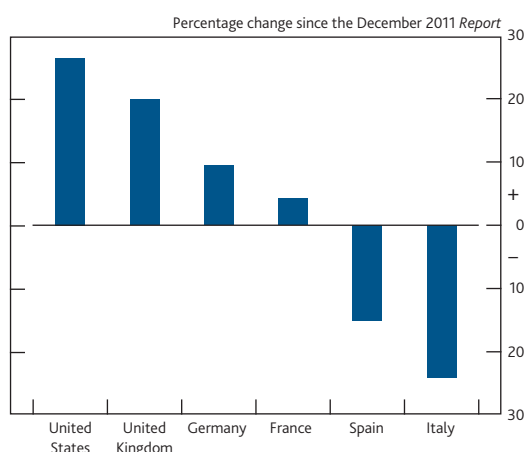
Chart 1.15 Difference in the cost of default protection between group and subsidiary for selected European banks^(a)



Sources: Bloomberg and Bank calculations.

(a) Difference between five-year senior unsecured euro-denominated CDS premia for group and subsidiary entities of selected cross-border European banking entities.

Chart 1.16 Bank equity prices^(a)



Sources: Thomson Reuters Datastream and Bank calculations.

(a) Indices used are FTSE French banks, FTSE German banks, FTSE Italian banks, FTSE Spanish banks, FTSE UK banks and FTSE US banks. All indices denominated in US dollars.

unchanged, in contrast to Autumn 2008 when there was evidence of slowing throughput because of counterparty concerns.

Concerns about banks remained elevated...

Euro-area sovereign risk developments and elevated risk aversion were important drivers of sentiment towards banks over the period since the December 2011 *Report*. Having initially fallen by up to 30% following the ECB's LTROs, the cost of default protection on many banks' unsecured bonds rose sharply in 2012 Q2, close to levels experienced in late 2011 (**Chart 1.14**). The differential between CDS prices for bank groups from vulnerable euro-area countries and their subsidiaries in other European countries also re-emerged, rising to over 130 basis points for Santander Group relative to Santander UK, and 220 basis points for UniCredit Group relative to UniCredit AG (**Chart 1.15**). Meanwhile, bank equity prices varied considerably between countries, rising by 26% in the United States and 20% in the United Kingdom, but falling by 15% in Spain and 24% in Italy (**Chart 1.16**).

...reflecting links between banks and sovereigns...

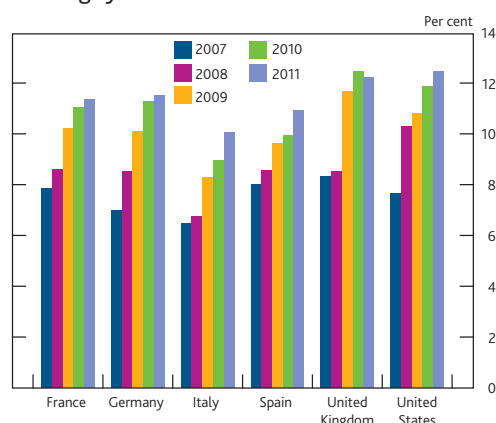
Links between banks and sovereigns in some euro-area countries were reinforced by a rise in some banks' domestic sovereign risk exposures. Domestic government debt as a share of capital and reserves increased from 72% to 90% and from 129% to 154% for the Spanish and Italian banking systems respectively between November 2011 and April 2012. Perceived sovereign and bank links were further reinforced by the efforts of the Spanish authorities to recapitalise the Spanish banking sector, culminating in the request for financial assistance from the EFSF/ESM.

Perceptions of UK bank risk were also affected by links to the euro area, though average UK bank CDS premia generally remained below those of most euro-area banks. Major UK-owned banks' direct exposures to vulnerable euro-area sovereign debt fell from £15 billion at end-2011 Q3 to £12 billion at end-2011 Q4. But exposures to the private sectors in Ireland, Italy and Spain remained substantial (Section 2). US banks, benefited from having relatively modest direct lending exposures to vulnerable euro-area sovereigns and banks, though their counterparty exposures through derivatives were greater.

...and weak profitability.

Headline profitability among the major US, UK and euro-area banks was generally weak in 2011 and partial data suggested that this continued into 2012 Q1. Full-year pre-tax profits for the US and European LCFIs fell by 17% year on year in 2011, due to mark-to-market losses on equity investments and sovereign bonds, lower investment banking revenue, impairment charges on Greek debt and costs associated with restructuring and deleveraging. Partly reflecting weak profitability, regulatory capital ratios rose only modestly for

Chart 1.17 Tier 1 capital ratios for selected international banking systems^{(a)(b)(c)(d)}



Sources: SNL Financial, published accounts and Bank calculations.

- (a) Includes banks with total assets of more than US\$100 billion at end-2010.
 (b) Aggregated Tier 1 capital divided by aggregated (risk-weighted) assets. All figures are under local accounting conventions.
 (c) Data exclude 100% government-owned banks.
 (d) Tier 1 ratios are used because of difficulties comparing core Tier 1 ratios across countries.

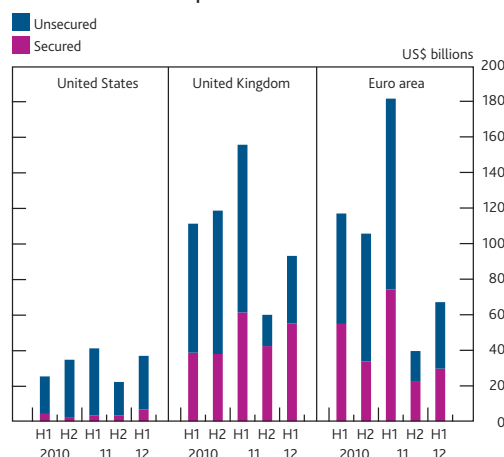
Table 1.B Stress-test assumptions

	EBA (July 2011) ^(a)	Federal Reserve (March 2012) ^(a)
Per cent		
US GDP growth ^(b)	0.1	-4
Euro-area GDP growth ^(b)	-0.5	-5
Equity prices ^(c)	-15	-55
House prices ^(d)	-10	-23
Yields on sovereign debt ^(e) (basis points)	+75	-241

Sources: European Banking Authority, Federal Reserve and Bank calculations.

- (a) Date of publication.
 (b) Rate of output growth in first year of stress period.
 (c) Maximum fall in domestic stock market indices relative to scenario baseline during the period covered by the stress test.
 (d) Maximum fall in domestic housing indices relative to scenario baseline during the period covered by the stress test.
 (e) Maximum change in domestic sovereign debt yields relative to scenario baseline during the period covered by the stress test.

Chart 1.18 Issuance of term bank senior secured and unsecured debt in public markets^{(a)(b)}



Sources: Dealogic and Bank calculations.

- (a) Unguaranteed securities with an original contractual maturity or earliest call date of at least 18 months. 2012 H1 data are up to and including 21 June 2012.
 (b) US banks include Bank of America, Citigroup, JPMorgan and Wells Fargo. UK banks refer to the major UK banks peer group. Euro-area banks include BBVA, BNP Paribas, BPCE, Commerzbank, Crédit Agricole, Deutsche Bank, ING, Intesa, Société Générale and UniCredit.

the US and most major European banking systems in 2011 (**Chart 1.17**). And weakness in market-based measures of bank solvency suggested doubts about current balance sheet asset valuations and profit prospects. For example, market prices remained well below book values for the US and European LCFIs (Box 2).

To help improve confidence, the European Banking Authority (EBA) carried out a review of European banks' capitalisation needs in late 2011. The review, published in December 2011, found that European banks needed to raise a total of €115 billion to reach a core Tier 1 capital ratio of 9% by June 2012. A few banks, such as UniCredit and Banco Espírito Santo, subsequently issued new external equity. Most, though, expected to meet their targets through liability management exercises or by retaining earnings.

The results of the latest US bank stress tests, published by the Federal Reserve in March 2012, found that aggregate levels of capital among the major US banks were sufficient to withstand a macroeconomic and sovereign stress scenario.⁽¹⁾ The assumptions used for the US tests were generally more severe than those used for the most recent stress tests for European banks published by the EBA in July 2011 (**Table 1.B**).

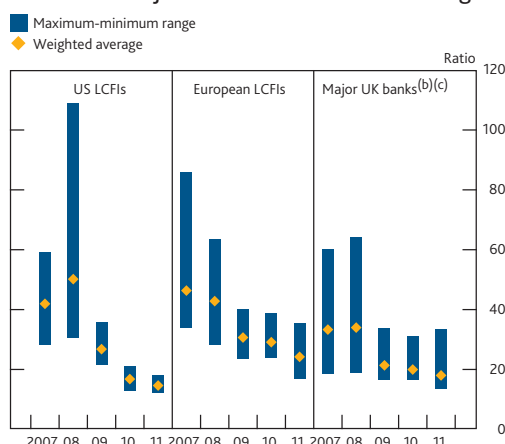
Tensions in wholesale bank funding markets remained...

In short-term interbank funding markets, three-month euro Libor spreads over overnight index swap (OIS) rates narrowed, partly reflecting the impact of the ECB's LTROs. But some investors remained reluctant to lend to European banks, particularly in the light of actual and expected downgrades to some banks' short-term ratings. Contacts reported that US money market funds limited their exposures to euro-area banks, while maintaining increased exposures to banks in Australia, Canada and Japan. And demand for euro commercial paper issued by French, Italian and Spanish banks remained subdued in 2012 H1, with amounts outstanding less than a half those of a year before.

In June 2012, the Bank of England announced that it would commence operations under its Extended Collateral Term Repo Facility to ensure that UK banks had sufficient liquidity to mitigate risks arising from unexpected shocks. That led to a modest fall in sterling Libor spreads over OIS in the week following the announcement.

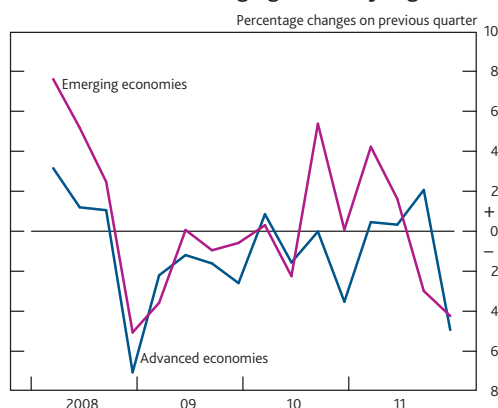
Funding pressures moderated for non-US banks in US dollars following a 50 basis point reduction in the price on the special US dollar swap arrangements introduced by several central banks, including the Bank of England, in 2011. The outstanding value of swaps settled by banks under the three-month US dollar tenders rose to over US\$100 billion in early 2012 before falling to US\$22 billion in June. The one-year

(1) Four of the 19 bank holding companies had projected regulatory capital ratios that fell below regulatory minimum levels at some point over the stress-scenario horizon.

Chart 1.19 Major UK banks' and LCFIs' leverage ratios^(a)

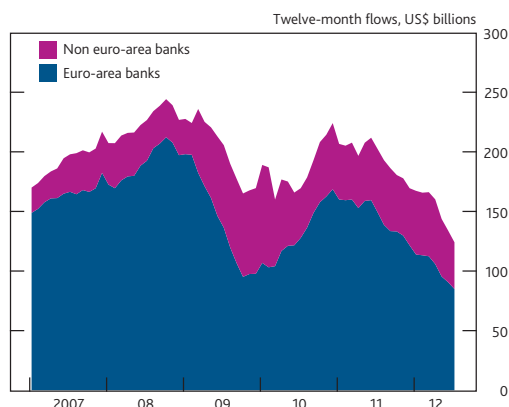
Sources: Bank of England, published accounts and Bank calculations.

- (a) Leverage ratio is defined as assets divided by capital. Assets are adjusted for cash items, tax assets, goodwill and intangibles. Capital includes total shareholders' equity adjusted for minority interests, preferred shares, goodwill and intangibles. Assets are also adjusted on a best-efforts basis to achieve comparability between US GAAP and IFRS with respect to derivatives and off balance sheet vehicles.
- (b) Pro-forma data are used for RBS from 2007 to 2009.
- (c) End-2011 for major UK banks except for National Australia Bank (31 March 2012) and Nationwide (4 April 2012).

Chart 1.20 Cross-border claims by banks in the euro area on advanced and emerging-economy regions^{(a)(b)(c)}

Source: Bank for International Settlements (BIS).

- (a) Change in BIS-resident banks' aggregate cross-border claims vis-à-vis all sectors by region. Calculated as the exchange rate and break-adjusted flow during a quarter as a percentage of the stock of outstanding loans at the end of the previous quarter.
- (b) Reporting countries include all euro-area countries except Estonia, Malta, Slovakia and Slovenia.
- (c) Includes cross-border claims by euro-area resident banks on residents in other euro-area countries.

Chart 1.21 Selected trade finance flows^{(a)(b)(c)}

Sources: Dealogic and Bank calculations.

- (a) Flows include loans to shipping and aircraft.
- (b) Split by nationality of deal originator.
- (c) 2012 data are up to and including 21 June 2012.

euro-dollar basis swap spread narrowed by 36 basis points during the period to 50 basis points, consistent with a reduced, but elevated, premium for euro-area banks acquiring US dollars.

With unsecured funding markets having been effectively closed to all but the highest-rated banks in the latter part of 2011, the major US and European banks publicly issued a total of US\$105 billion of senior unsecured term debt in 2012 H1. That was around double the issuance in 2011 H2 (**Chart 1.18**), albeit at spreads generally wider than in the same period of 2011. Public issuance of term secured funding also rose during the period, with UK banks in particular issuing a high proportion of secured term debt (see Box 6 on asset encumbrance).

...as banks continued to deleverage...

Since the escalation of euro-area concerns in mid-2011, funding constraints and a desire to strengthen resilience have led European banks to accelerate deleveraging. During 2011 H2, the average leverage ratio for European LCFIs fell from 29 to 24, though this remained higher than for US LCFIs (**Chart 1.19**).

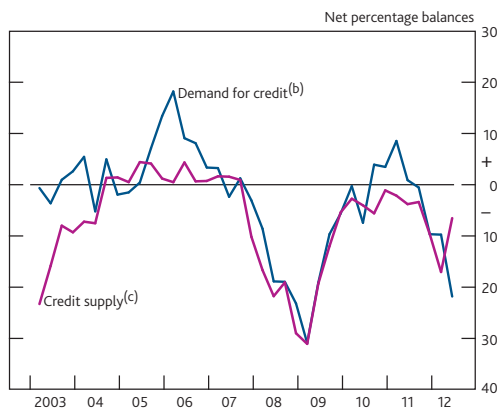
Banks were reported to have shed US dollar and non-domestic assets during this period, retreating to core markets as part of a general retrenchment of cross-border lending. According to the latest data from the Bank for International Settlements, banks in euro-area countries reduced their claims on emerging and advanced economies by 4% and 5% respectively in 2011 Q4, a similar margin to that seen in the aftermath of the Lehman Brothers' default in 2008 (**Chart 1.20**). In 2011 Q4, banks in Germany, Luxembourg and the Netherlands sharply reduced their cross-border exposures not only to vulnerable euro-area countries, which they had been doing consistently since 2008, but also to other euro-area countries, most notably France. US and UK banks withdrew interbank assets from the euro area as a whole during the same period, while euro-area owned banks reduced their claims on UK banks and the UK non-bank private sector.

There was further evidence of deleveraging in 2012 H1. Contacts reported that euro-area banks reduced their participation in syndicated loans, reflected in the share of new issuance of syndicated loans to emerging economies originated by euro-area banks falling to 13% in 2012 Q1 from an average of 20% in 2011. Euro-area banks also reduced their provision of trade finance by just under a half in the year to May 2012, compared with a year earlier (**Chart 1.21**). International trade finance markets tend to be carried out in US dollars and were previously dominated by European banks.

...exacerbating tight corporate credit conditions in Europe...

Credit conditions in Europe continued to tighten as a result of bank deleveraging and pass-through of high funding costs

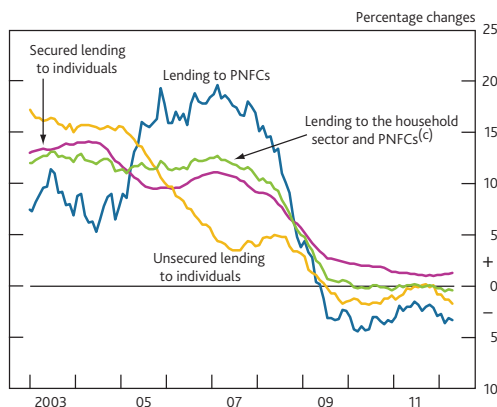
Chart 1.22 ECB Bank Lending Survey: credit demand and supply^(a)



Sources: ECB and Bank calculations.

- (a) Weighted diffusion index of responses for mortgage lending, consumer credit and lending to enterprises. Weighted by stock of lending to each sector for the respective regions.
 (b) Balance of respondents reporting an increase (positive number) or decrease (negative number) in loan demand.
 (c) Balance of respondents reporting a tightening (negative number) or loosening (positive number) of credit standards.

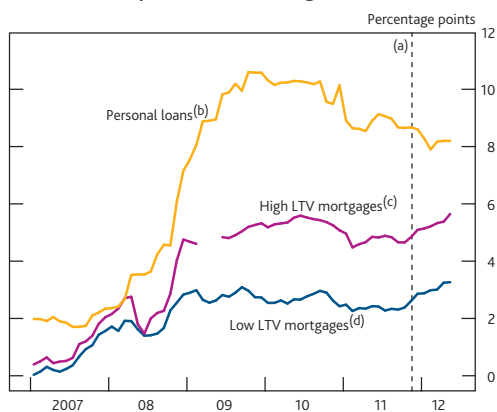
Chart 1.23 Sterling lending to UK private non-financial corporations and individuals^{(a)(b)}



Source: Bank of England.

- (a) Twelve-month growth rate.
 (b) Sterling lending by UK-resident monetary financial institutions.
 (c) Includes lending to private non-financial corporations (PNFCs) and the household sector (non-profit institutions serving households, individuals and unincorporated businesses).

Chart 1.24 Spreads on lending to UK households



Sources: Bank of England and Bank calculations.

- (a) December 2011 Report.
 (b) Spread between average quoted rates on £10,000 personal loans and Bank Rate.
 (c) Spread between average quoted rates on two-year fixed-rate mortgages with a 90%–95% loan to value (LTV) ratio and two-year UK government bond yields. Gap in 2009 data due to small sample of reporting institutions.
 (d) Spread between average quoted rates on two-year fixed-rate mortgages with a 75% LTV ratio and two-year UK government bond yields.

from 2011. In the euro area, a net balance of respondents to the ECB's April 2012 *Bank Lending Survey* reported that bank lending standards for non-financial companies had tightened over the previous quarter, though this balance was smaller than in 2011 Q4. Demand for loans by euro-area companies contracted even more sharply than in 2011 Q4 (**Chart 1.22**). By contrast, US corporate credit conditions eased during the period, particularly for lending to commercial real estate, and to a lesser extent other companies. But the Federal Reserve's *Survey of Senior Loan Officers* suggested that foreign banks, particularly those from Europe, had tightened lending standards on US commercial and industrial loans, while US banks had tightened standards on lending to firms with significant European exposures.

The Bank of England's *Credit Conditions Survey* found that the availability of credit to small, medium and large UK companies tightened slightly in 2012 Q1 and remained broadly unchanged in Q2. Spreads on lending to companies were reported to have widened, however, particularly for medium-sized companies. They were expected to increase further in 2012 Q3. Net sterling lending to the UK corporate sector has fallen by 2% during the period since the December 2011 *Report*, having contracted steadily since the start of 2009 (**Chart 1.23**). Part of the weakness in lending to UK companies may reflect deleveraging by euro-area banks. For example, gross syndicated lending by euro-area banks to UK corporates, weakened in 2012 Q1 to its lowest level in two years.

...and increasing the cost of UK household borrowing.

Growth in bank lending to UK households remained sluggish in the first half of 2012. Evidence from the *Credit Conditions Survey* suggested that, while the demand for prime lending for house purchase increased significantly in 2012 Q2, the supply of secured lending remained unchanged. Spreads on household mortgage lending over official rates have widened by around 0.7 percentage points during the period since the December 2011 *Report*, as banks passed on higher funding costs experienced since late 2011 to borrowers, amid concerns that heightened uncertainty in the euro area could lead to further increases in bank funding costs (**Chart 1.24**). Spreads for both high and low loan to value mortgages rose to their highest level since the crisis began, while spreads on unsecured loans generally fell as supply increased slightly and demand fell.

While non-banks may provide an important alternative source of funding for UK households and corporates (Box 1), the weakness in bank lending could limit the ability of companies to invest and hire, and the capacity of households to smooth spending, with adverse implications for financial stability (Section 2). Against that backdrop, the Bank of England and HM Treasury announced a new 'funding for lending' scheme to support the flow of credit to the UK economy.

Box 1

New sources of non-bank finance

A key function of the financial system is to intermediate funds between savers and borrowers. Banks play an important role in providing this function. But non-bank financial institutions, such as finance companies, also engage in intermediation. And a number of new non-bank sources of finance to individuals and companies have also emerged recently. This box outlines some of these new sources of non-bank finance and their possible implications for financial stability.

Examples of new sources of non-bank finance

Asset managers (loan funds)

A number of asset managers, including some private equity companies, have recently set up loan funds to lend to European corporates. These lend mainly to large corporates who are often seeking to diversify their lending sources. But a handful of funds also lend to small and medium-sized enterprises (SMEs). Loans generally vary from under £10 million up to £100 million, with maturities of three to ten years. According to contacts, European loan funds have a current lending capacity of at least £5 billion. Loan funds are already a key source of lending in the United States.

Lending by insurance companies

Like asset managers, UK insurers usually invest in marketable securities, such as equities and bonds. But they have recently increased their direct lending. According to ONS data, insurers' loans to UK borrowers have increased by two thirds from £16 billion at end-2007 to around £27 billion at end-2011. Further growth is expected, particularly in lending to commercial property companies, as insurers develop their lending platforms and strategies.

Peer to peer lending

Peer to peer lending companies provide an electronic marketplace that matches borrowers and lenders directly. Typically, non-professional lenders choose the quantity, interest rate and maturity of their lending. Loans are usually spread across borrowers, which diversifies risk. There are around £150 million of outstanding loans across the largest UK peer to peer lenders. While this amount is small compared with bank loans, UK peer to peer lenders are in their early stages and are growing fast; three of the largest were founded less than three years ago (Table 1).⁽¹⁾

Crowdfunding

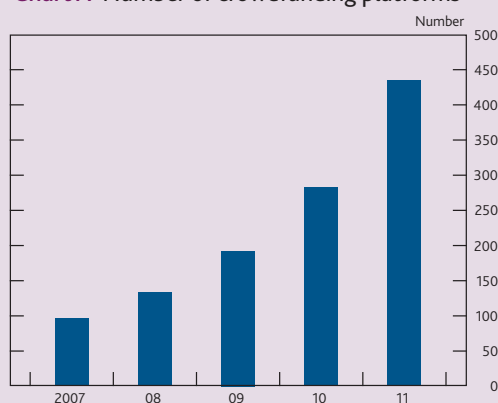
As with peer to peer lending, crowdfunding involves investors or donors pooling funds. A fast-growing branch of crowdfunding is the provision of loan and equity financing to companies. This growth has been fuelled by crowdfunding websites that match borrowers with pools of investors. The number of crowdfunding platforms worldwide is growing rapidly (Chart A). In 2011, crowdfunding platforms raised

Table 1 Largest UK peer to peer lending companies

	Zopa	RateSetter	Funding Circle	Thincats
Founded	2005	2010	2010	2011
Primary market	Personal loans	Personal loans	SME loans	SME loans
Outstanding loans (£ millions)	96	18	29	4.5
Average borrower loan size (£ thousands)	5	4	45	130
Loan maturities	Up to 5 years	0.5–5 years	1, 3 or 5 years	0.5–5 years

Sources: Company websites, Funding Circle, RateSetter, Thincats and Zopa.

Chart A Number of crowdfunding platforms



Source: Massolution.

around US\$1.5 billion in investments and donations for over one million projects, according to Massolution. Crowdfunding has been used mainly by creative industries, such as film and music, but the range of industries is expanding.

Possible implications for financial stability

The sources of finance outlined in this box are small compared with the stock of bank lending (which is, for example, over £160 billion for UK SME lending). But they are growing quickly. In the near term, growth in non-bank finance could be indicative of unfulfilled credit demand by banks. This is consistent with weak bank lending growth (Section 1). Non-bank finance could help meet this demand by mobilising funds that may not otherwise be productively invested.

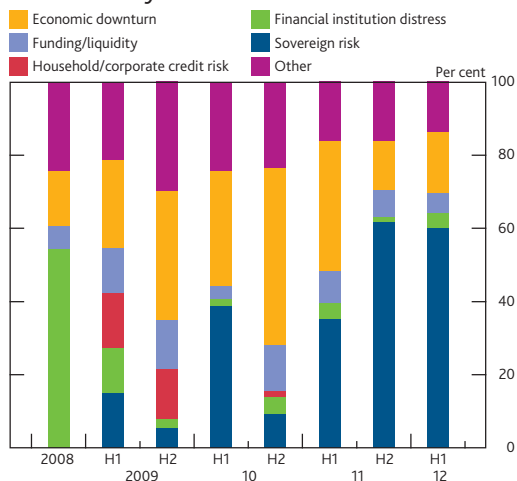
In the longer term, technological developments, such as improvements in electronic marketplaces, may lead to more intermediation outside of the banking sector (as well as increased competition and efficiency within the banking system). This will be positive for financial stability if it leads to a smoother provision of finance to the real economy from a more diversified range of institutions and investors. In addition, if it becomes a material source of intermediation, it may need to be monitored. Broader work — including on shadow banking by the Financial Stability Board and the European Commission — is under way to assess risks to financial stability from beyond the regulatory perimeter.

(1) In the 2012 *Budget*, HM Treasury announced that £100 million will be made available to the Department for Business, Innovation and Skills to invest in smaller businesses via non-traditional lending channels, such as peer to peer platforms.

2 Short-term risks to financial stability

Short-term risks to financial stability remain elevated. Despite progress in building resilience through higher capital levels and stronger funding structures, market indicators continue to suggest a lack of confidence in banking systems. There is a risk of banks taking defensive actions which in aggregate might put further pressure on credit conditions, weigh on economic growth and threaten the health of the financial system as a whole.

Chart 2.1 Systemic Risk Survey: key risks to the UK financial system^(a)



Sources: Bank of England Systemic Risk Surveys and Bank calculations.

(a) Chart figures are the percentages of respondents to the Bank of England Systemic Risk Survey citing a given risk as their number one key risk, among respondents citing at least one key risk. For further details see Chart 7 in the 2012 H1 Survey.

Table 2.A UK banks' exposures to selected euro-area countries^{(a)(b)(c)}

£ billions (as at 2011 Q4)						Per cent of core Tier 1
	Sovereigns ^(d)	Banks	Non-bank private sector	Total	Provisions ^(e)	Total less provisions
Greece	0.7	0.8	3.6	5.1	0.3	2.3
Ireland	2.1	9.7	65.7	77.5	15.8	29.9
Italy	5.3	5.6	26.4	37.3	0.5	17.8
Portugal	1.0	1.4	10.4	12.9	0.5	6.0
Spain	3.0	12.4	39.7	55.1	2.0	25.7
Total vulnerable Europe	12.1	29.9	145.9	187.9	19.1	81.7
£ billions (as at 2012 Q1)						
Belgium	5.2	5.5	2.1	12.8		
France	29.9	61.3	53.7	144.9		
Germany	130.1	29.7	41.1	200.9		
Netherlands	69.7	6.6	41.4	117.7		
Total	247.0	133.0	284.2	664.1		

Sources: Bank of England, published accounts and Bank calculations.

(a) Banks included: Barclays, HSBC, LBG and RBS.

(b) Data for Greece, Ireland, Italy, Portugal and Spain are from published accounts at end-December 2011. Data for Belgium, France, Germany and the Netherlands are from Bank of England at end-March 2012.

(c) For Greece, Ireland, Italy, Portugal and Spain trading assets are included net of short positions and derivative assets net of liabilities, where enforceable netting arrangements exist. Derivatives are also included net of collateral where this is disclosed by banks.

(d) Includes balances placed with central banks. For Germany, this includes the ECB.

(e) Not available in aggregate for Belgium, France, Germany or the Netherlands.

The possibility of substantial economic and financial disruption in the euro area poses a significant threat to financial stability. This section discusses short-term risks to the banking system as a whole in the face of these and other concerns. It focuses in particular on the banks that are the principal providers of credit and deposit services to the UK economy.⁽¹⁾

2.1 Euro-area risks

Respondents to the Bank's 2012 H1 *Systemic Risk Survey* judged sovereign risk the key short-term threat to UK financial stability (Chart 2.1). These concerns reflect the medium-term structural adjustment challenges faced by some euro-area countries (Section 3).

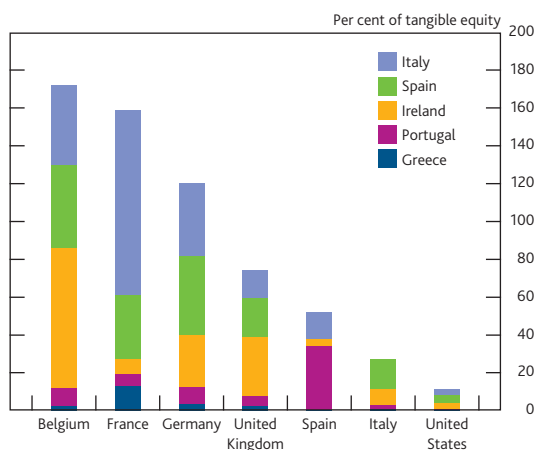
UK banks are exposed to vulnerable euro-area countries...

UK bank gross exposures to sovereigns and banks in vulnerable euro-area countries, including Greece, Ireland, Italy, Spain and Portugal, are low. They total around £12 billion and £30 billion respectively (Table 2.A). But, in aggregate, UK banks have significant gross exposures to private sector borrowers in these countries of around £145 billion, or 70% of their core Tier 1 capital. Although some banks have made large provisions, the risk of further losses persists while the macroeconomic and financial backdrop remains depressed.

UK banks are also indirectly exposed to vulnerable euro-area countries through their lending to other banks that have significant exposures to these countries. For example, UK banks have exposures of around £30 billion and £60 billion respectively to the German and French banking sectors, both of which have gross exposures to vulnerable euro-area countries that are greater than their aggregate tangible equity (Chart 2.2).

(1) Unless otherwise noted, 'major UK banks' refers to: Banco Santander, Bank of Ireland, Barclays, Co-operative Banking Group, HSBC, Lloyds Banking Group (LBG), National Australia Bank, Nationwide, Royal Bank of Scotland (RBS) and Virgin Money.

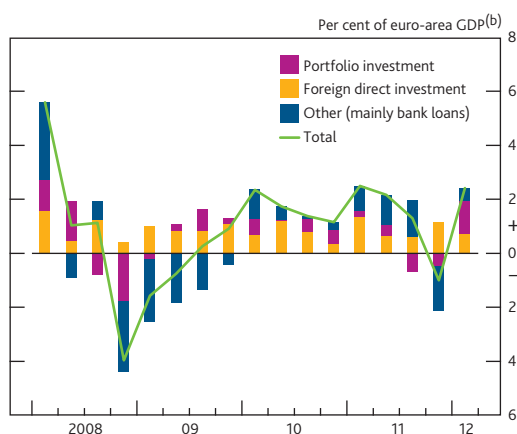
Chart 2.2 Selected banking systems' claims on vulnerable euro-area countries^{(a)(b)}



Sources: BIS consolidated banking statistics, ECB, SNL Financial and Bank calculations.

- (a) Ultimate risk basis at end-2011.
(b) Own-country exposures are excluded.

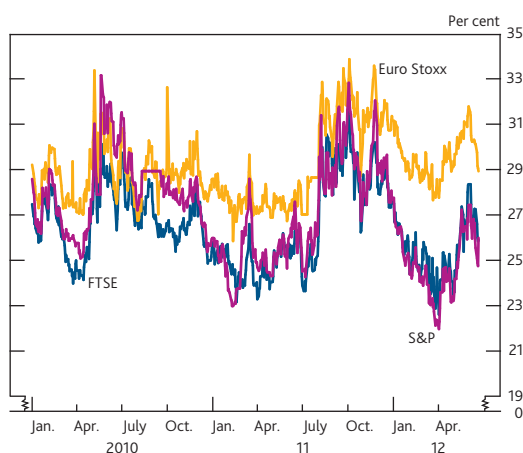
Chart 2.3 Flow of euro-area residents' holdings of non euro-area assets^(a)



Sources: ECB, Eurostat, Thomson Reuters Datastream and Bank calculations.

- (a) The chart includes data for all 17 euro-area member countries for the whole period.
(b) Annual GDP calculated as the rolling four-quarter sum of quarterly GDP.

Chart 2.4 Option-implied probability of a 10% decline in equity prices^(a)



Sources: Chicago Mercantile Exchange and Bank calculations.

- (a) One year ahead probability densities calculated using options data and assuming that investors are risk-neutral. For more details see Clews, R, Panigirtzoglou, N and Proudman, J (2000), 'Recent developments in extracting information from options markets', *Bank of England Quarterly Bulletin*, February, pages 50–60.

...indirectly exposed through the impact of European bank deleveraging on global growth...

Funding constraints and a desire to strengthen balance sheets led European banks to accelerate deleveraging in 2011 (Section 1). In particular, there was significant retrenchment in cross-border lending. Euro-area residents' holdings of assets in the rest of the world decreased by 1% as a proportion of annual euro-area GDP during the final quarter of 2011 (Chart 2.3). Although flows initially reversed in early 2012, there has been further evidence of deleveraging in recent months and the risk of further retrenchment in cross-border lending remains high (Section 1).

Bank deleveraging has the potential to dampen global growth prospects if other firms are not willing or able to fill the gap in credit supply to households and companies. Market contacts suggest that, in some markets, other firms are stepping in to replace lending by European banks. For example, local banks are reported to be willing to purchase assets sold by European banks in Asia and Latin America. But such activity may not entirely offset the retrenchment by European banks in the short term.

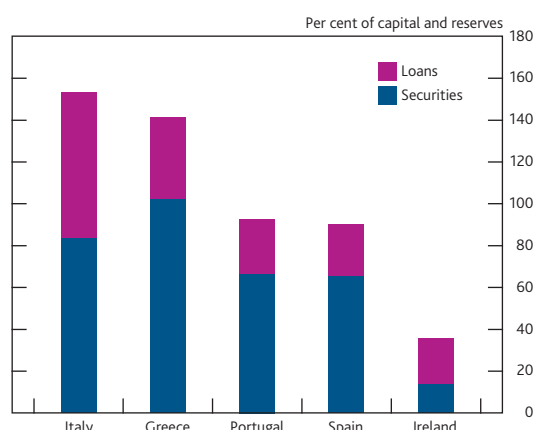
...and through the potential for trading book losses in fragile markets.

The combination of uncertainty, heightened risk aversion and efforts by some firms to unwind positions, raises the potential for volatile asset price movements that could lead to trading losses for some institutions. For example, although market participants appear to have reduced materially the weight they attach to extreme movements in UK or US equity prices over the next twelve months, they continue to place a relatively high weight on a significant fall in euro-area equity indices (Chart 2.4). This suggests perceptions of tail risk in the euro area are elevated above levels in the United States and United Kingdom.

Risks would be amplified if a country left the euro area...

The market-implied probability of default for some euro-area sovereigns increased to record highs during the first half of 2012 (Section 1). Alongside this, speculation has grown about a possible exit of Greece from the euro area.

The exit of any country from the euro area would carry significant financial stability risks. For example, loans made by overseas banks in the exiting country could be redenominated and become repayable in a new currency. To the extent that these loans are backed by liabilities which are not also subject to redenomination, overseas banks could be exposed to losses. The size of these losses would be dependent on whether, and by how much, the new currency depreciated following exit from the euro. Local deposit bases would provide a hedge against such redenomination risk. But, on the basis of available data, it appears that some European banks do not have material customer deposits in some of the vulnerable euro-area countries in which they have made loans.

Chart 2.5 Holdings of domestic government debt by domestic banking sectors^(a)

Sources: ECB, national central banks and Bank calculations.

(a) On a locational basis.

Table 2.B Selected central counterparties clearing over-the-counter derivatives

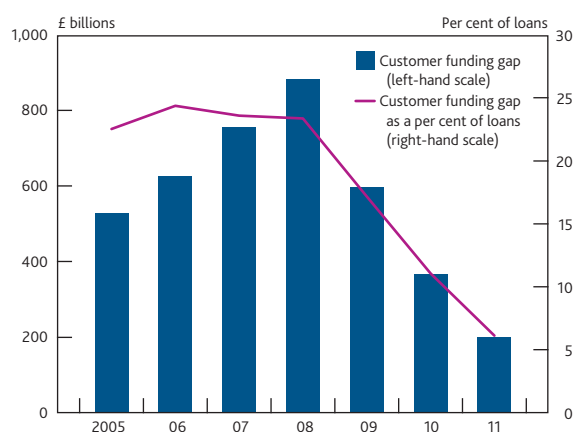
Central counterparty (domicile)	Over-the-counter derivatives					
	Interest rate swaps	Credit default swaps	Energy derivatives	Commodity derivatives	Equity derivatives	Foreign exchange derivatives
CME Clearing (United States)	✓	✓	✓	✓	✓	✓ ^(a)
CME Clearing Europe (United Kingdom)	◆		✓	✓		◆
EMCF (Netherlands)					✓	
Eurex Clearing (Germany)	◆	✓			◆	
ICE Clear Credit (United States)		✓				
ICE Clear Europe (United Kingdom)		✓	✓			◆
LCH.Clearnet Ltd (United Kingdom)	✓		✓	✓		✓ ^(a)
LCH.Clearnet SA (France)		✓				
NASDAQ OMX Stockholm AB (Sweden)			✓			
National Securities Clearing Corporation (United States)					✓	
NOS Clearing (Norway)			✓	✓		
Options Clearing Corporation (United States)					◆	
SGX AsiaClear (Singapore)	✓		✓	✓		✓ ^(a)

✓ Central counterparty is already clearing product

◆ Central counterparty has publicly announced plans to start clearing product

Sources: CME Clearing, CME Clearing Europe, EMCF, Eurex Clearing, ICE Clear Credit, ICE Clear Europe, LCH.Clearnet, NASDAQ OMX Stockholm AB, National Securities Clearing Corporation, NOS Clearing, Options Clearing Corporation and SGX AsiaClear.

(a) Non-deliverable forwards.

Chart 2.6 Major UK banks' customer funding gap^{(a)(b)}

Sources: Published accounts and Bank calculations.

(a) Shows the gap between customer lending and customer funding, where customer refers to all non-bank borrowers and depositors. Repurchase agreements are excluded from loans and deposits where disclosed.

(b) End-2011 data are not currently available for Virgin Money so 2011 H1 data are used instead.

Even where banks may appear to be hedged, it cannot be assumed that the claims of local depositors and other creditors would be redenominated at the same rate. For instance, in Argentina in 2002 the government applied different rates of redenomination to banks' foreign currency assets held with the private sector and their foreign currency liabilities. It is also difficult to assess the likelihood of credit losses on exposures following a euro-area exit, as the range of possible macroeconomic outturns is very wide. So the impact of redenomination on banks' balance sheets is highly uncertain.

The direct impact of a Greek exit and associated redenomination appear likely to be manageable. According to BIS data, the exposures of the UK banking system to Greece are less than 3% of tangible equity in aggregate. But some other banking sectors are more exposed. For example, the French banking system has exposures to Greece equivalent to 13% of its tangible equity. UK banks could therefore face disruption through secondary channels, including possible disruption to funding and wider financial markets. UK households and companies could also be affected directly through exposures to counterparties and indirectly through any associated deterioration in growth prospects.

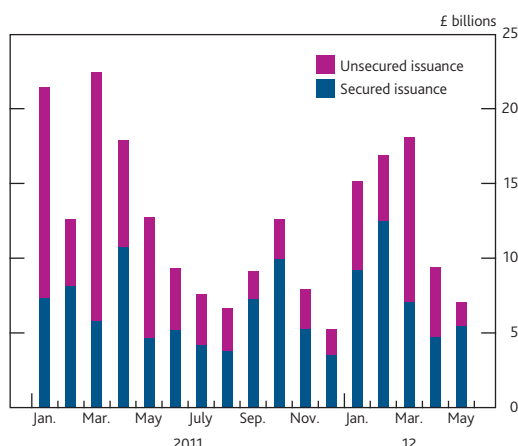
...with widespread disruption of markets likely...

An exit could also present some legal uncertainties, despite efforts made by market participants to review the documentation underlying trading contracts. There might be a need to renegotiate or close out contracts referencing the exiting country. This could leave firms with unhedged exposures at a time when volatility in the underlying assets is high. This disruption would increase uncertainty and reduce liquidity, increasing the risk of dislocation of the global financial system.

If contagion were to spread to other euro-area countries, the extent of financial market disruption, and the potential for UK bank losses, would be significantly greater. UK banks have aggregate gross exposures to Ireland, Italy, Portugal and Spain equivalent to around 90% of their core Tier 1 capital. Although the impact of any redenomination would be limited by local deposit bases, some banks have funding gaps that expose them to potential losses. Some banks have accessed the ECB's LTROs through local central banks, as an attempt to hedge this risk.

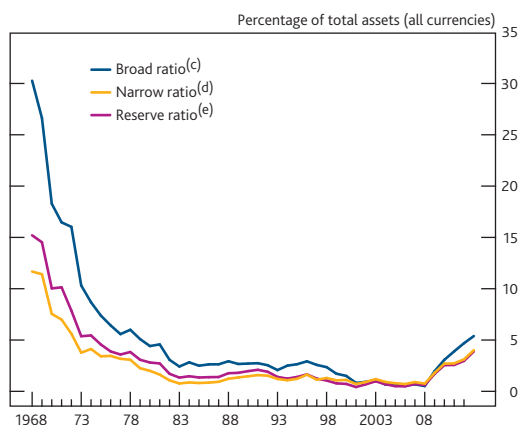
...increasing the risk of counterparty or infrastructure failure.

If a vulnerable euro-area country defaulted, or restructured its debt, banks could face losses on their holdings of sovereign debt, irrespective of whether this was accompanied by euro-area exit. Domestic banks in vulnerable euro-area countries hold significant amounts of domestic sovereign debt, ranging from 36% of capital and reserves in Ireland to 154% in Italy (Chart 2.5). Counterparty exposures to these banks, combined with the impact of any redenomination and funding market disruption, increase the risk of the failure of a large bank or other financial institution outside an exiting country.

Chart 2.7 UK banks' term issuance^{(a)(b)}

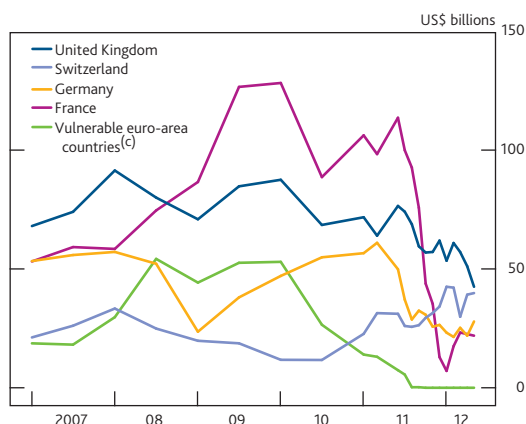
Sources: Group Treasurers' data and Bank calculations.

(a) Barclays, HSBC UK, LBG, Nationwide, RBS and Santander UK.
 (b) In public and private markets. LTRO usage is excluded.

Chart 2.8 Sterling liquid assets relative to total asset holdings of UK banking sector^{(a)(b)}

Sources: Bank of England and Bank calculations.

(a) Data for building societies are included from 2010 onwards. Prior to this, data are for UK banks only.
 (b) Data are end-year except for 2012 where end-April data are used.
 (c) Cash + Bank of England balances + money at call + eligible bills + UK gilts.
 (d) Cash + Bank of England balances + eligible bills.
 (e) Proxied by: Bank of England balances + money at call + eligible bills.

Chart 2.9 US prime money market funds' portfolio allocations to selected European countries^{(a)(b)}

Sources: Fitch Ratings and Bank calculations.

(a) Data are to end-April 2012.
 (b) Data are based on the ten largest US prime money market funds with total portfolio holdings of US\$648 billion at end-January 2012, representing 45% of total US prime money market fund assets.
 (c) Vulnerable euro-area countries refer to Ireland, Italy, Portugal and Spain. Data on Greece are not available.

Infrastructure providers could also be disrupted. Central counterparties (CCPs) can improve market confidence in times of stress as they promote greater transparency, centralise risk control and default management in a single entity and reduce overall exposures in a market by facilitating multilateral netting. But in common with banks and dealers, CCPs need to manage their counterparty credit exposures carefully, taking care not to precipitate perverse market reactions. This involves ensuring close dialogue with clearing members, alongside co-operation between home and host authorities.

The expansion of CCPs to new products and markets (Table 2.B) raises the risk that the failure of a CCP could be more disruptive than in the past. For example, CCPs could suffer significant losses in the event of defaults among clearing members, particularly where they face 'wrong-way risk'. Wrong-way risk can arise, for example, when the CCP clears bonds of a particular sovereign for a clearing participant whose own credit risk is positively correlated to that sovereign. Work is continuing to further strengthen these infrastructures. In particular, as discussed in Section 3, new international standards require CCPs to establish rules to allocate among participants losses that exceeded their normal default resources.

2.2 Banks' resilience to market strains

The major UK banks have made progress in strengthening their capital and funding resilience in recent years. Since the middle of last year, however, the risks they face have also increased significantly.

Banks continue to improve their funding resilience...

UK banks have further reduced their reliance on wholesale funding. All of the approximately £185 billion of Treasury bills advanced under the Bank's Special Liquidity Scheme (SLS) have been repaid. Government-guaranteed debt issued under the Credit Guarantee Scheme has fallen 95% from its peak of around £140 billion. Non-core asset reduction and customer deposit growth has meant that a large proportion of maturing funding has not needed to be replaced in wholesale markets. This is reflected in a further narrowing of the customer funding gap — the difference between customer deposits and loans — to under £200 billion. There has been a cumulative reduction in this funding gap of around £700 billion from its 2008 peak (Chart 2.6).

...have accelerated their issuance plans...

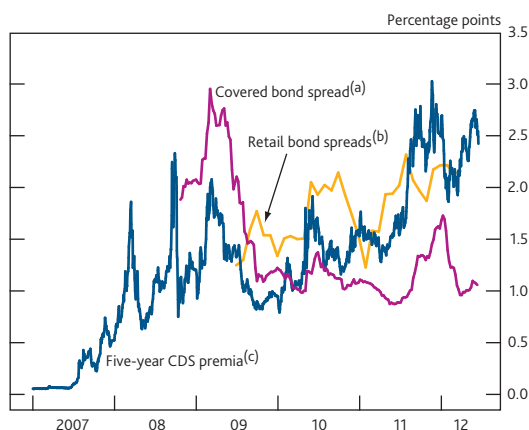
UK banks took advantage of the improved funding conditions created by the ECB's LTROs to front-load their 2012 term debt issuance plans (Chart 2.7). Some have stated that they have already issued as much term debt in public markets as they had planned for the whole of 2012. Published accounts, although not fully comparable across banks, also show a reduction in the volume of wholesale funding maturing within one year at some banks, including LBG and RBS.

Table 2.C UK banks' credit ratings^(a)

Long-term rating	Short-term rating	Barclays Bank plc	HSBC Bank plc	Lloyds TSB Bank plc	Royal Bank of Scotland plc
Aaa	P-1				
Aa1					
Aa2					
Aa3					
A1					
A2	P-2				
A3					
Baa1					

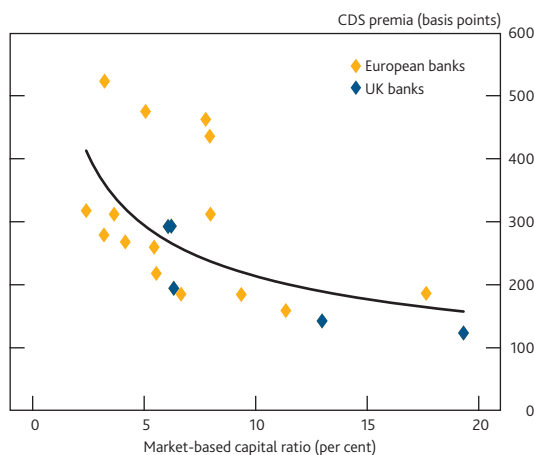
Sources: Fitch Ratings, Moody's Investors Service, Standard & Poor's and Bank calculations.

(a) Ratings are converted to the Moody's scale and the mapping from long-term to short-term ratings is based on the general approach taken for banks.

Chart 2.10 UK banks' indicative long-term funding spreads

Sources: Bank of England, JPMorgan Chase & Co., Markit Group Limited and Bank calculations.

- (a) From January 2012 onwards, the data show a weighted average of the spread between covered bonds of any maturity issued by UK banks and equivalent-maturity swap rates, weighted by the outstanding value of each bond. Before January 2012, the data show a simple average and include bonds with a maturity of between three and five years only.
- (b) Sterling only. Spread over the three-year swap rate. The three-year retail bond rate is a weighted average of rates from banks and building societies within the Bank of England's normal quoted rate sample with products meeting the specific criteria (see www.bankofengland.co.uk/statistics/Pages/iadb/notesiadb/household_int.aspx).
- (c) The data show a simple average of the five-year CDS premia of Barclays, HSBC, LBG, Nationwide, RBS and Santander UK.

Chart 2.11 Market-based capital ratios and funding costs^{(a)(b)(c)}

Sources: Capital IQ, Markit Group Limited, published accounts and Bank calculations.

- (a) Market-based capital ratios are banks' market capitalisation as a percentage of published risk-weighted assets.
- (b) The sample shown is the largest 20 European banks by assets.
- (c) Funding costs are proxied by five-year senior CDS premia. The 'line of best fit' shown above illustrates their relationship with market-based capital ratios.

...and continue to hold sizable liquid asset buffers.

UK banks' holdings of highly liquid assets have tripled since the end of 2008. Excluding derivatives, they account for 15% of total assets, and provide a significant buffer against rollover risk in financial markets. Despite difficult funding market conditions, these holdings have been maintained in recent months. A broad measure of sterling liquid assets, for which data are available over a longer period, has increased tenfold as a share of total assets from its crisis low in 2007 to over 5% in April 2012 (**Chart 2.8**).

UK banks are also able to access liquidity facilities, such as the Bank's Discount Window Facility (DWF) against which they had pre-positioned over £265 billion of collateral by end-March 2012. After applying haircuts, this means the Bank could lend around £160 billion through this facility, or around 10% of annual nominal UK GDP. Pre-positioned assets may also be used to obtain liquidity in the Bank's Extended Collateral Term Repo (ECTR) Facility.

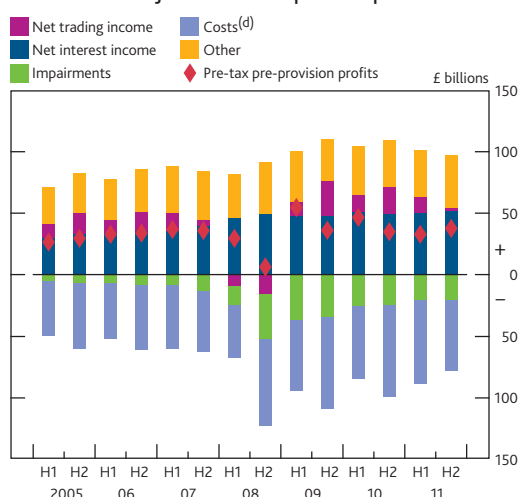
The ECTR is a contingency liquidity facility for use in the event of actual or prospective system-wide stress. The announcement of its activation earlier this month was intended to mitigate risks to financial stability arising from a prospective market-wide shortage of liquidity, by lending to the banking system against a wide range of collateral. The Bank and HM Treasury have also announced that they are working together on a 'funding for lending' scheme that would provide funding to banks linked to their performance in sustaining or expanding their lending to the UK non-financial sector.

But vulnerabilities in funding structures remain...

Short-term funding markets, particularly those in foreign currency, can prove fragile in periods of market stress. Earlier this year, the European Systemic Risk Board (ESRB) highlighted maturity mismatches between US dollar assets and liabilities, and the risk aversion of some US-based investors, as key risks facing some European banks. UK banks raise a significant amount of funding in short-term US dollar markets, including over US\$40 billion from the ten largest US prime money market funds (MMFs) (**Chart 2.9**). But the importance of this source of funding to some UK banks has fallen significantly in recent years, with total funding from these MMFs around half of its level in 2008.

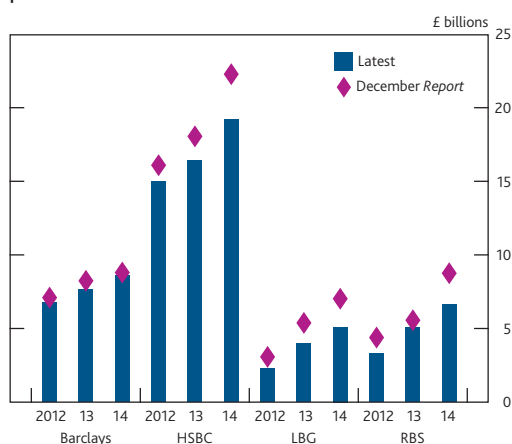
...including hard-wired contractual triggers...

Moody's has recently announced the results of a review of the ratings of a large number of European banks and banks with global capital market operations. The majority of the banks covered by the reviews, including the four largest UK banks (**Table 2.C**), had their long-term ratings downgraded by at least one notch. A number of firms, including Bank of America Merrill Lynch, Citigroup, Morgan Stanley and RBS, also had their short-term ratings lowered. The reviews highlighted that

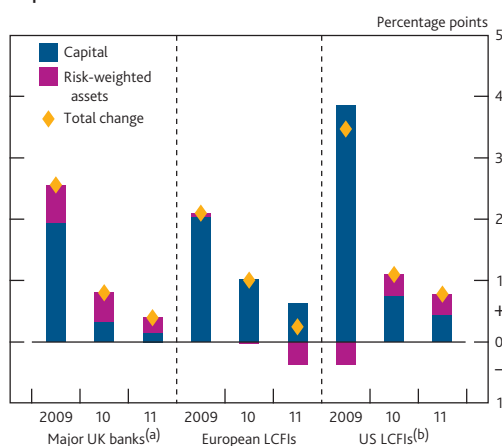
Chart 2.12 Major UK banks' pre-tax profits^{(a)(b)(c)}

Sources: Bank of England, published accounts and Bank calculations.

- (a) As National Australia Bank has a March year-end, results for end-March 2012 have been used for 2011 H2.
 (b) As Virgin Money has not yet reported its end-2011 results, its 2011 reported half-year figures have been annualised.
 (c) As Co-operative Banking Group's results do not include disclosure on staff costs and other costs, its 2011 H1 figures have been taken for 2011.
 (d) Costs related to the mis-selling of PPI are included within costs.

Chart 2.13 Market consensus UK bank annual pre-tax profit forecasts

Source: Bloomberg.

Chart 2.14 Contributions to the change in core Tier 1 capital ratios

Sources: Bank of England, published accounts and Bank calculations.

- (a) Virgin Money's 2011 period change is calculated between end-2010 and 2011 H1 because end-2011 data are not available.
 (b) Morgan Stanley's 2009 period change is calculated between 2009 Q1 and end-2009 because end-2008 data are not available.

despite initiatives to reduce reliance on credit ratings, rating-based triggers, particularly those referenced to short-term ratings, remain hard-wired into the system. The G20 has recently called for accelerated progress by national authorities and standard-setting bodies in ending the mechanistic reliance on credit ratings.

...and continued reliance on rating-sensitive investors...

Ratings can have a strong influence on counterparty behaviour. Market contacts suggest that a number of money market counterparties reduced the term and amount of their funding to some European banks following the announcement of Moody's review. In part, this behaviour reflected investor mandates which limit exposures to lower-rated institutions.

Institutional investors, such as pension funds and asset managers, also incorporate bank credit ratings in their investment mandates and trading agreements with banks. Ratings-based termination triggers are often written into OTC derivatives documentation between banks and institutional investors. Breaching a trigger typically allows a client to terminate transactions or request additional collateral and, in most cases, charge the downgraded bank the cost of reassigning them to an alternative counterparty. The wholesale liquidation of positions could be costly to an individual bank and prove a logistical challenge for the institutional investor.

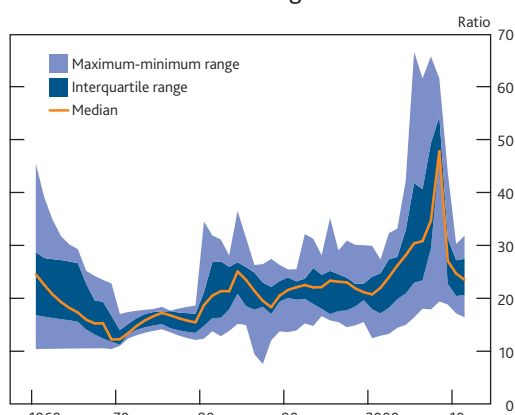
...reflected in continued elevated funding costs...

UK banks' funding costs generally remain high relative to historical norms, although covered bond spreads have fallen back since the December 2011 Report (Chart 2.10). In part, high funding costs are likely to reflect the exposure of UK banks to the euro area. Arguably there is no amount of capital that could fully reassure financial markets that banks could withstand the most extreme euro-area scenarios. But holding additional capital can help to allay these concerns, by providing greater loss-absorbing capacity, and may therefore lower funding costs. This might be apparent for market-based measures of bank solvency, as they better capture uncertainty about asset valuations and expected but unrealised losses.

Chart 2.11 provides some evidence that European banks with higher market-based capital ratios have lower funding costs. The five European banks with the highest market-based capital ratios all have CDS premia below 190 basis points. This suggests that banks with lower market-based capital ratios may be able to reduce their CDS by raising capital levels. No bank in the sample has a CDS premia below 120 basis points, perhaps reflecting the risk of an extreme euro-area outcome.

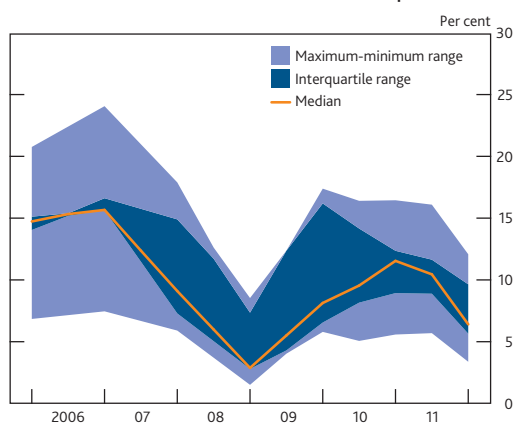
...which limit banks' ability to increase profits...

Major UK banks' pre-tax pre-provision profits fell 13% in 2011 (Chart 2.12), largely reflecting costs related to the mis-selling of payment protection insurance (PPI). Profits remained

Chart 2.15 UK banks' leverage^{(a)(b)}

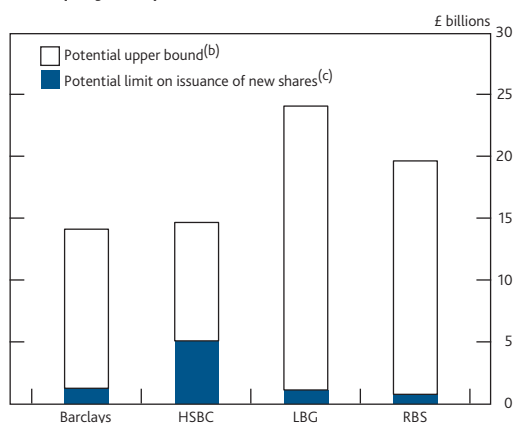
Sources: Published accounts and Bank calculations.

- (a) Ratio of total assets to shareholders' claims.
 (b) The data are a backwardly consistent sample of institutions providing banking services in the United Kingdom in 2011. The sample includes the following financial groups: Barclays, HSBC, LBG, National Australia Bank, Nationwide, RBS and Santander UK. Where data are consistently available for the UK component of the banking group, these have been used. Northern Rock and Bradford & Bingley are included in the chart up to 2007 and 2008 respectively.

Chart 2.16 UK banks' market-based capital ratios^{(a)(b)}

Sources: Thomson Reuters Datastream, published accounts and Bank calculations.

- (a) Barclays, HSBC, LBG, RBS and Santander.
 (b) Calculated as average market capitalisation over the period divided by end-period risk-weighted assets.

Chart 2.17 Potential core Tier 1 capital created by debt for equity swaps^(a)

Sources: Thomson Reuters Datastream, UBS Delta, published accounts and Bank calculations.

- (a) Assumes existing debt is swapped at par into new ordinary shares and excludes any potential gains or losses from the unwinding of swaps.
 (b) Equal to the stock of subordinated and preferred securities trading below par that mature after June 2013. Instruments that were issued or subject to liability management exercises after 2010 are excluded.
 (c) In the United Kingdom, non-binding investor guidelines limit offers of shares to new investors to 5% of issued ordinary share capital in any one year without prior consultation of existing shareholders.

subdued in 2012 Q1 despite further falls in impairments. Banks' ability to increase their net interest margins continues to be limited by high funding costs which push down on liability margins. There is also evidence that some banks are reducing funded balance sheets and replacing relatively cheap short-term wholesale funding with more expensive retail deposits or term wholesale funding. Changes in the culture of conduct regulation could also affect earnings while legacy issues are resolved.

Reflecting these pressures, market analysts have downgraded their profit forecasts for UK banks. In aggregate, UK banks' pre-tax profits in 2012 are expected to be over 10% lower than they were at the publication of the December 2011 *Report* (Chart 2.13). Divergence between banks' profit performance is expected to persist. In particular, analysts expect profits to remain weak at LBG and RBS. The low price to book ratios of UK, and other banks, is also consistent with low profit expectations (Box 2).

...and have contributed to a slowing in capital building...

Following significant advances between 2008 and 2010, progress by UK banks in building capital levels slowed in 2011. Although the major UK banks' aggregate core Tier 1 ratio increased by 40 basis points to 10.4% during 2011, this was largely due to risk-weighted asset (RWA) reduction (Chart 2.14). UK banks' median leverage decreased slightly in 2011 to 23 times capital (Chart 2.15). In contrast, increases in capital levels made a larger contribution to higher capital ratios and reduced leverage at European and US LCFIs.

In aggregate, major UK banks did not generate a significant amount of capital organically during 2011 — although capital levels have increased slightly since the December 2011 *Report* (Section 4). This reflected weak profitability and broadly flat staff costs and dividends. External issuance also had a limited impact on capital levels with no major UK bank issuing new equity, other than to staff or to pay dividends. Some European banks did issue equity. For example, UniCredit raised €7.5 billion through a rights issue. While this issuance was initially viewed negatively by the market, Moody's recently cited the increased resilience it provided as a reason for only downgrading UniCredit's long-term rating by one notch.

Despite the small increase in regulatory measures, market-based measures of bank solvency have fallen. Chart 2.16 shows a simple measure that uses UK banks' market capitalisation to produce a market-based capital ratio. This measure decreased significantly during 2011 to 6.4%, but remains above its 2008 low of 2.9%. The recent decrease in this measure seems likely to reflect poor future profit prospects as well as concerns about expected but not yet realised losses.

Box 2

Price to book ratios

Price to book ratios are often used by market participants — for example, to assess banks' incentives to issue new capital and as an indicator of expected returns on bank equity. This box considers the information contained in the ratio and what this may tell us about future prospects for banks.

Price to book ratio: definition

The price to book ratio compares the market value of shareholders' equity in a company to its book value. The market value is the price at which shareholders' equity can, in principle, be sold in a secondary market. This is, in theory, equal to the sum of the value of existing investments (net assets), plus the present value of future investment opportunities. Expected returns from future investments are discounted back to the present using investors' required returns — the minimum rate of return investors must earn to be willing to invest in a company given its level of risk.

The book value is an estimate of the value of the company's net assets (assets minus liabilities) at a point in time. It is calculated with reference to accounting standards. If the company were to cease trading and repay its liabilities today, this would be the value left over for shareholders assuming net assets are correctly valued and excluding liquidation costs. So when the accounting and market values of existing net assets are equal, companies will trade at price to book ratios above one if expected returns exceed investors' required returns (Figure 1).

Figure 1 Definition of price to book ratio

$$\begin{aligned} \text{Price to book} &= \frac{\text{Market value of shareholders' equity}}{\text{Book value of shareholders' equity}} \\ &= \frac{\text{Market value of net assets} + \text{Present value of future investments}}{\text{Accounting value of net assets}} \end{aligned}$$

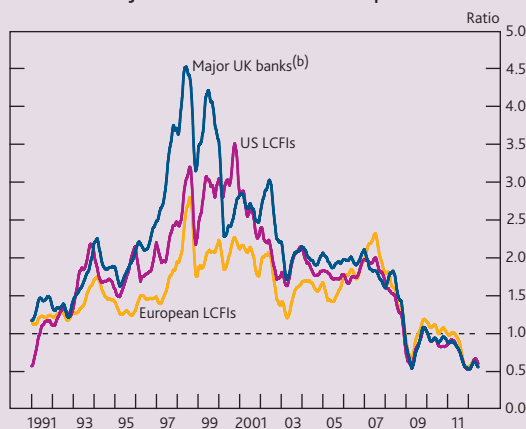
In theory, therefore, there are at least two reasons why companies could have a low price to book ratio: investors are unsure that a company's net assets are valued correctly in published accounts, or it has poor or highly uncertain future profit prospects.

Current price to book ratios

These two reasons can plausibly explain why global banks are currently trading at ratios close to historic lows (Chart A), typically below one. First, investors may be concerned that accounting book values are not a fair representation of banks' true net assets. This could be because of accounting practices, such as the requirement to recognise losses on some assets when they are incurred rather than expected. A loss of

confidence in financial statements may also result from their focus on point estimates of asset valuation. In reality, there is often a range within which a bank could plausibly choose to value a position.

Chart A Major UK banks' and LCFIs' price to book ratios^(a)



Sources: Bloomberg, Thomson Reuters Datastream and Bank calculations.

(a) Simple averages of the ratios in each peer group are used. The chart plots the three-month rolling average.

(b) Excludes Britannia, Nationwide and Northern Rock.

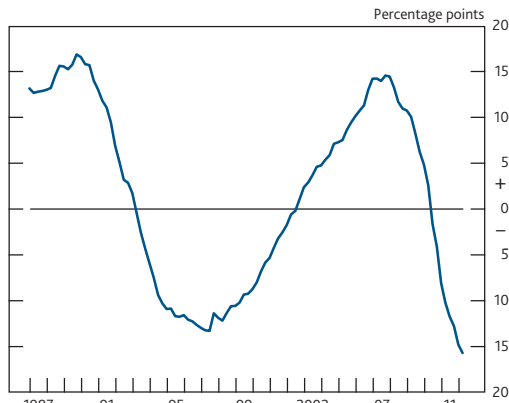
Second, banks may be unable to generate earnings sufficient to exceed investors' required returns. This is consistent with profit expectations of the major UK banks having been revised sharply downwards. Market expectations of profits over the next three years have fallen by over 10% since the December 2011 Report (Chart 2.13). And investors' required returns may be heightened because of deteriorating conditions in the global financial environment.

Future prospects

Market participants have pointed to the difficulty in valuing banks and the uncertainty over future returns as reasons why banks may find it difficult to issue new capital in the current environment. The FPC has continued to stress the importance of effective disclosure in bolstering financial stability through market discipline (Box 7). The FSA and Bank have been tackling the issue through their work on prudent valuation.⁽¹⁾ This sets out a standardised format for reporting the uncertainty around banks' asset valuations.

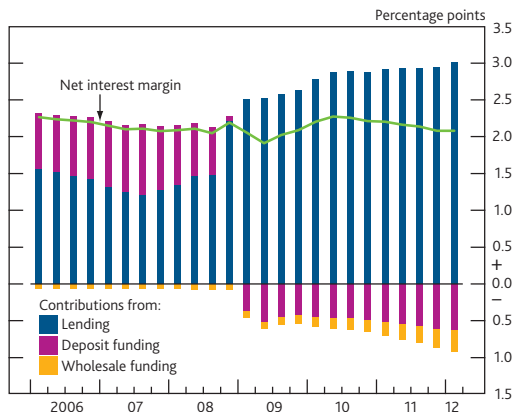
Over time, investors' required returns would be expected to fall as banks become safer and the expected volatility of their returns falls. This would lower the return on equity required by investors and allow banks to make risk-adjusted returns. Raising levels of bank capital is one way of expediting the process of improving banks' safety and lowering required investor returns. This may explain why, despite market participants' concerns about banks' ability to issue equity at price to book ratios below one, those banks that have tried have generally been able to do so.

(1) See FSA (2012), 'Regulatory prudent valuation return', Policy Statement PS12/7, April.

Chart 2.18 UK credit to GDP gap^(a)

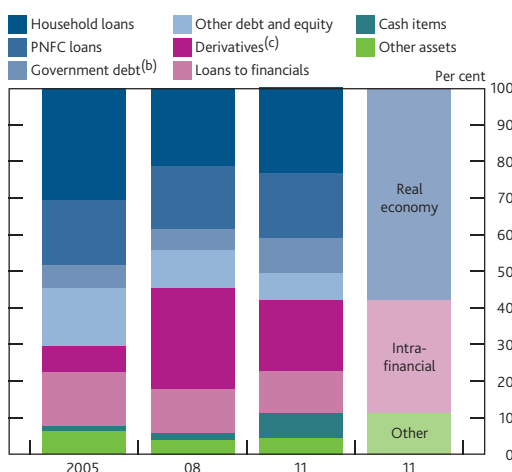
Sources: Bank of England, ONS and Bank calculations.

(a) Credit is defined as claims on the UK private non-financial sector. This includes UK-resident banks' claims and, for the household sector only, claims of foreign banks and non-banks as well. The credit to GDP gap is calculated as the percentage point difference between the credit to GDP ratio and its long-term trend, where the trend is based on a one-sided HP filter with a smoothing parameter of 400,000.

Chart 2.19 Breakdown of estimated net interest margins earned on UK household and corporate lending^{(a)(b)}

Sources: Bank of England, Dealogic, JPMorgan Chase & Co., Markit Group Limited and Bank calculations.

(a) The net interest margin is calculated as interest spread earnings (relative to a matched-maturity risk-free rate) on the stock of household and corporate lending minus interest spread payments on the funding side. That method attempts to abstract from any margins earned from taking interest rate risk.
(b) For details of the methodology underlying the contributions from wholesale and deposit funding see the footnotes to Chart 3.12 in the December 2011 Report.

Chart 2.20 Major UK banks' asset composition^(a)

Sources: Bank of England, published accounts and Bank calculations.

(a) Chart takes September data as end-year for National Australia Bank.
(b) Includes loans to governments. Where government debt securities are not disclosed all debt securities are allocated to 'other debt and equity'.
(c) The large increase in derivatives between 2005 and 2008 in part reflects the impact of increased volatility, which drives an increase in the market value of open derivative positions even if the notional value of activity is unchanged.

...though some major UK banks have raised capital through liability management exercises.

Liability management exercises (LMEs) are ways of retiring debt below its par value, with the discount to par booked as an upfront accounting profit and increase in core capital. The profit generated, and capital raised, is greater for swaps to equity than for swaps to debt or cash. Three major UK banks have conducted LMEs in recent months, raising £3 billion of core Tier 1 capital before tax.

UK banks have an estimated stock of around £70 billion of securities that are potentially eligible for LMEs (Chart 2.17). This provides scope for further increases in core Tier 1 capital. As an example, if all these investors participated in a debt for equity swap at par, this would be equivalent to an increase of over 350 basis points in their aggregate core Tier 1 ratio. In practice, banks' ability to raise capital through LMEs may be limited to a degree by legal restrictions or a lack of investor appetite.

Chart 2.17 shows capping LMEs at 5% of listed shares, in line with pre-emption guidelines, would increase core Tier 1 capital by £8 billion.

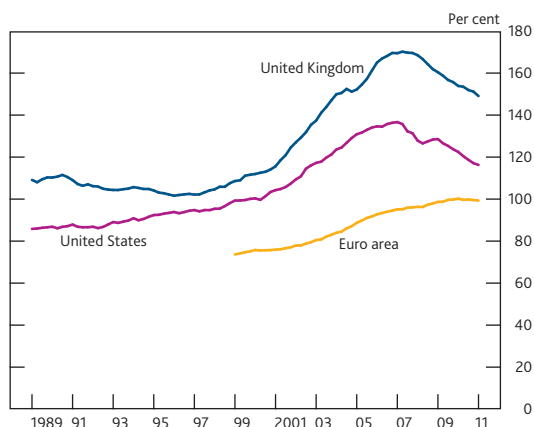
2.3 Banks' responses to market stress

Against this backdrop of continuing bank balance sheet strains, credit supply appears to have tightened further in recent months (Box 3). This is reflected in a further widening in an estimate of the gap between credit supplied to the UK real economy and its underlying trend (Chart 2.18). Looking ahead, there is a risk of banks taking defensive actions which in aggregate might put further pressure on credit supply, weigh on economic growth, increase the risks to bank balance sheets and prompt another round of credit tightening, in an adverse feedback loop.

Banks could take defensive actions which put pressure on credit conditions...

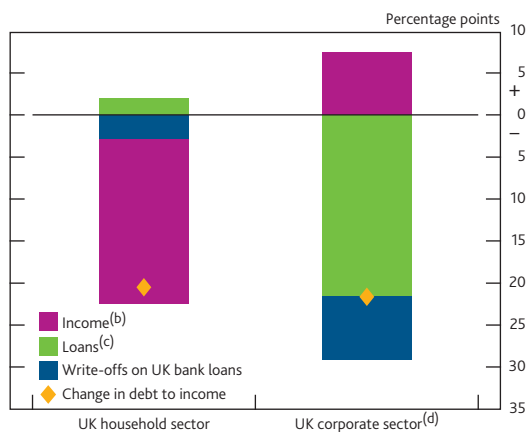
Since the reductions in Bank Rate in 2008 and 2009, the average rate paid on deposits has exceeded Bank Rate. This has squeezed banks' margins on deposit funding (Chart 2.19). That squeeze has intensified in recent months, with the drag on margins from higher retail and wholesale funding costs increasing by around 20 basis points over the past year. This reflects competition for retail deposits and the repricing of the stock of wholesale funding as cheap funding obtained pre-crisis is replaced by relatively expensive new issuance.

In aggregate, net interest margins have remained broadly stable as the squeeze on deposit margins has been offset by an increase in margins on lending. The spread on the stock of UK banks' lending to UK households and corporates has increased by 10 basis points during the past year, suggesting that around 50% of the increase in funding costs has been passed through to customers. If banks choose to pass on all of the past increase in funding costs, or any further increase in funding costs, this would lead to an increase in the price of new lending and a further tightening in credit supply.

Chart 2.21 Household debt relative to income^(a)

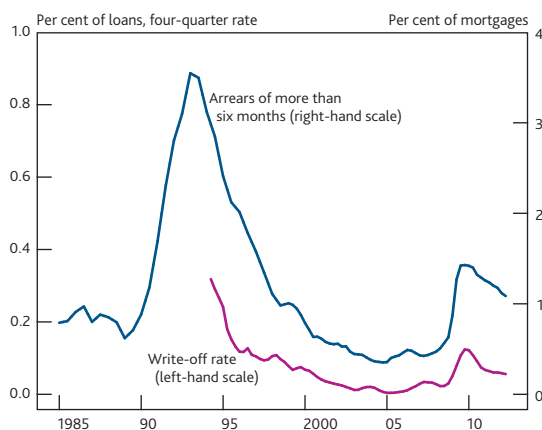
Sources: ECB, ONS, Thomson Reuters Datastream and Bank calculations.

(a) Households' gross debt as a percentage of a four-quarter moving sum of their disposable income.

Chart 2.22 Contributions to change in debt to income ratios since 2008 Q3^(a)

Sources: Bank of England, ONS and Bank calculations.

(a) Contributions are approximated so may not sum to totals.
 (b) Income is gross disposable income for households, gross operating surplus for corporates; both adjusted for Financial Intermediation Services Indirectly Measured (FISIM).
 (c) Includes UK banks loans and, for the household sector only, loans by non-banks.
 (d) Corporate sector refers to private non-financial companies as defined in *Bankstats*.

Chart 2.23 UK mortgage arrears and write-offs^(a)

Sources: Bank of England, Council of Mortgage Lenders and Bank calculations.

(a) Write-off rate on sterling mortgage lending by UK monetary financial institutions to households. The series has been calculated as annualised quarterly write-offs divided by the corresponding loans outstanding at the end of the previous quarter, and is expressed as a four-quarter moving average. Non seasonally adjusted.

Banks may also choose to reduce funding requirements by reducing their funded balance sheets. If banks follow this path it could further tighten credit supply. An acceleration of the disposal of intra-financial sector assets would be least harmful to the UK real economy. The December 2011 *Report* showed that intra-financial sector assets have been less profitable than lending to UK households in recent years. They continue to account for over a quarter of total assets, suggesting there may be scope for further reduction without disturbing credit supply (Chart 2.20).

...potentially exposing underlying weaknesses in the UK household sector...

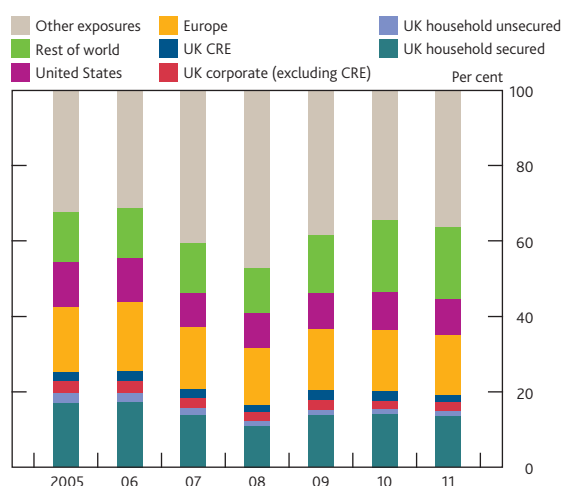
Household debt levels increased significantly in the run-up to the financial crisis. Since its peak in 2008, lending to UK households as a share of annual income has fallen from 170% to 149% (Chart 2.21). But the household debt to income ratio remains high relative to the United States and euro area and the stock of UK household debt has remained around £1.5 trillion since 2008. Chart 2.22 shows the contributions to changes in debt to income ratios since the third quarter of 2008. In aggregate, households have largely reduced debt burdens through nominal income growth, rather than actively paying down debt.

These aggregate data may, however, mask important distributional changes. For example, the 2011 NMG survey reported that since 2007 the proportion of borrowers reporting difficulties in keeping up with housing payments increased from 7.5% to 10% and the proportion finding unsecured debt a 'heavy burden' or 'somewhat of a burden' increased from 38% to 46%. This reflects a squeeze on real incomes and tighter credit supply. Despite evidence of repayment difficulties, however, write-offs on mortgage lending remain low (Chart 2.23), possibly reflecting forbearance by banks. The FSA's recent review found that 5% to 8% of UK mortgages are subject to forbearance (Section 3).

The major UK banks have exposures of £1.1 trillion to UK households, around 15% of total assets (Chart 2.24). Around 90% of these exposures are secured against residential property. The scale of these exposures means that even a small change in write-off rates could have a significant impact on profitability. One plausible trigger could be a tightening in credit supply, leading to an increase in arrears and downward pressure on house prices. There is some evidence that in recent months a tightening in credit supply has been under way (Box 3). But house prices have remained broadly flat in nominal terms over the past year.

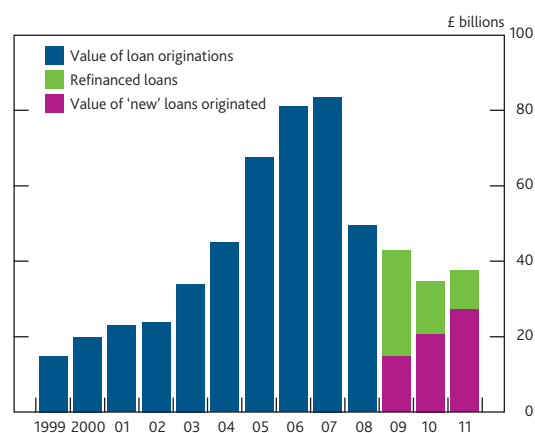
...and the UK corporate sector...

Deleveraging has been more evident in the corporate sector. Its stock of bank debt has declined by 16% since 2008 Q3. A further tightening in credit conditions could accelerate this process and lead to deterioration in the more vulnerable parts of UK banks' lending books, including commercial real estate

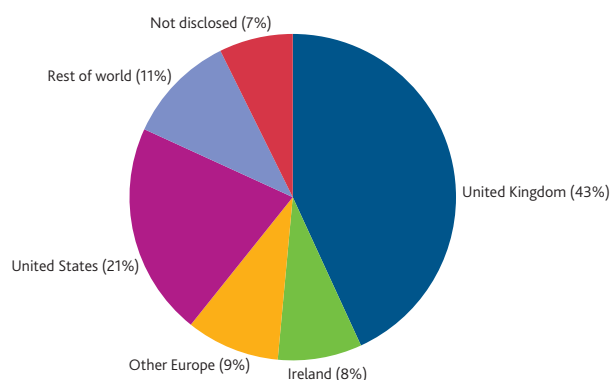
Chart 2.24 Major UK banks' exposures^(a)

Sources: Bank of England, published accounts and Bank calculations.

(a) As Virgin Money has not yet reported its end-2011 results, its 2011 reported half-year figures have been annualised.

Chart 2.25 Gross commercial real estate lending

Source: De Montfort University.

Chart 2.26 UK banks' banking book impairments by region (2008–11)^{(a)(b)(c)(d)}

Sources: Published accounts and Bank calculations.

(a) Barclays, HSBC, LBG and RBS.
 (b) Provisions related to the mis-selling of PPI are not included.
 (c) Data are estimated based on published accounts disclosures.
 (d) The percentages do not sum to 100% due to rounding.

(CRE). Almost half of major UK banks' UK corporate exposures relate to CRE. Although only representing 2% of major UK banks' total assets, these loans have accounted for a large proportion of UK banks' losses on UK lending during the crisis.

Deleveraging in this sector has progressed more slowly than elsewhere, partly reflecting widespread forbearance. Gross lending rose for the first time since 2007, increasing 9% during 2011 (**Chart 2.25**), and the extension of loans at non-market terms decreased. That may indicate a reduction in forbearance on legacy loans. But the 2011 *De Montfort Survey* reported that the proportion of institutions intending to increase the size of their loan book decreased further from 46% at end-2010 to 41% at end-2011, suggesting that new lending conditions remain weak. In addition, interest rate margins are at their highest since the survey began in 1999 and offered loan to value (LTV) ratios are at their lowest.

The CRE sector faces a refinancing challenge, with around £50 billion of debt maturing in 2012. A large proportion of the outstanding stock of loans have LTVs that are higher than the average LTV currently offered on new lending. It is not clear if it will be possible to refinance these loans on current market terms. If not, this could lead to an increase in defaults and reduce the willingness of banks to exercise forbearance. Deterioration in the euro area could add to these pressures, if it adds to corporate stress and puts pressure on commercial property companies' rental incomes.

...and overseas.

Around half of UK banks' banking book impairments since 2008 relate to assets outside the United Kingdom (**Chart 2.26**). European (non-UK) exposures have generated 15%–20% of losses over the period, with Ireland contributing around half of these losses. The proportion of losses on these exposures increased to around one third in 2011. Although exposures outside Europe are more isolated from euro-area risks, the potential for further losses remains.

Near-term risks in the United States appear to have fallen as the economy has recovered. This is reflected in a decline in UK banks' losses in the United States from £12 billion in 2008 to £5 billion in 2011. But the stock of non-performing loans remains high and there is a risk that deterioration in the euro area could lead to a worsening in the US macroeconomic outlook and/or a tightening in credit supply. This could crystallise loan losses, particularly in banks' household exposures, where forbearance remains widespread. In addition, as discussed in the December 2011 *Report*, litigation risks relating to US mortgages remain heightened. Some progress has been made in reaching settlements, but many outstanding lawsuits remain.

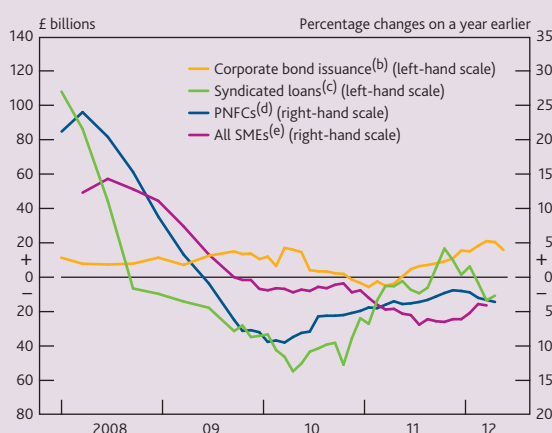
Section 3 discusses the risks posed by UK banks' exposures in Asia and the rest of the world.

Box 3

Credit conditions

The renewed tensions in bank funding markets since mid-2011 have led to increasing concerns over bank credit supply. Two major UK banks have announced their intention to slow UK mortgage lending⁽¹⁾ this year and there are signs that lending to private non-financial corporations (PNFCs) has already slowed (Chart A). This box examines the extent to which the weakness in credit since the start of the crisis has been driven by supply or demand and considers drivers of bank lending supply in the current environment.

Chart A Net lending to corporates and bond issuance^(a)



Sources: Bank of England, monthly BIS survey, Dealogic and Bank calculations.

- (a) Data cover lending and issuance in all currencies.
- (b) PNFC net issuance of bonds and commercial paper over past twelve months.
- (c) Syndicated loan facilities granted to UK businesses over past twelve months. Net lending flows are estimated as gross facilities granted minus scheduled maturities, accounting for cancelled or withdrawn facilities.
- (d) UK-resident monetary financial institutions' lending to PNFCs.
- (e) Lending by four UK lenders to enterprises with annual bank account debit turnover less than £25 million.

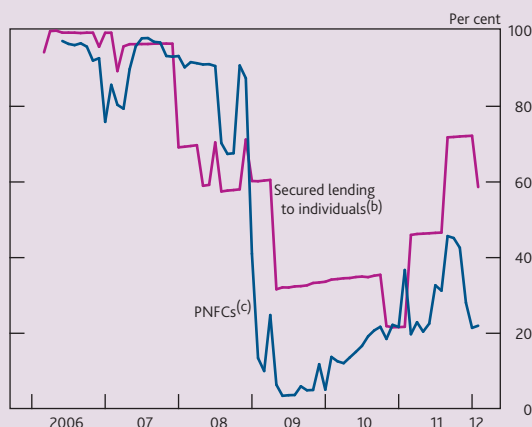
Credit weakness: supply or demand?

Previous work undertaken by the Bank⁽²⁾ concluded that the sharp slowing of credit growth in 2008 and 2009 reflected a combination of weaker demand and tighter supply, but that supply was likely to have had the dominant influence. This could be seen in interest rates, with a sharp rise in spreads on lending to households (Chart 1.24). It was corroborated by survey evidence from the Bank's *Credit Conditions Survey* (CCS) which suggested that credit conditions were rapidly tightened and evidence that companies, in aggregate, had replaced bank loans with bond issuance.

As credit growth stabilised towards the end of 2009, the evidence on the effects of supply and demand became less clear. The stabilisation in household mortgage lending growth in 2010 and 2011 (Chart 1.23) appeared to occur alongside competition returning to mortgage markets, as more banks expanded their lending (Chart B) and spreads drifted lower. The market share of banks expanding lending to companies also increased markedly and spreads on lending to large

companies, as measured in syndicated loan markets, fell (Chart C). This picture of easing bank credit conditions for large companies was corroborated by the CCS, with the availability of credit to large companies improving. It was supported by a pickup in foreign banks' syndicated loan issuance to UK companies and ongoing access to healthy bond markets (Chart A). Overall, the loosening in credit supply, alongside subdued credit growth, suggests that demand factors started to play a bigger role in explaining weak lending during 2010 and the first half of 2011.

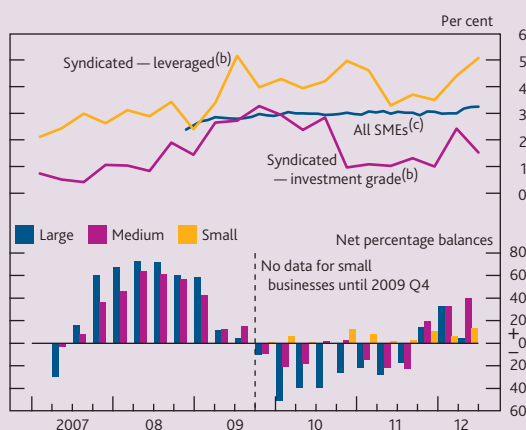
Chart B Market share of lenders with positive net lending^(a)



Sources: Bank of England and Bank calculations.

- (a) Share of the stock of loans accounted for by lenders with positive net lending.
- (b) Sample includes 17 banks accounting for on average 72% of the stock of loans. The flow and market share of the remaining banks are aggregated and treated as a single unit. Net flow is measured using a three-month average, to smooth the data and meet disclosure requirements.
- (c) Sample includes 28 banks accounting for on average 79% of the stock of loans. The flow and market share of the remaining banks are aggregated and treated as a single unit. Net flow is measured using a six-month average, to smooth the data and meet disclosure requirements.

Chart C Corporate loan borrowing spreads^(a)



Sources: Bank of England, monthly BIS survey, Dealogic and Bank calculations.

- (a) Top panel shows data on spreads over benchmark rates; bottom panel shows CCS data on the balance of lenders for whom spreads were increasing.
- (b) Dealogic data on syndicated loan facilities granted to UK businesses. Average disclosed spreads over reference rates, weighted by tranche size.
- (c) Median by value of new facilities granted by four major lenders to enterprises with annual bank account debit turnover less than £25 million. Spread over Bank Rate.

For small and medium-sized enterprises (SMEs), the CCS shows a similar picture of improving availability of credit in

2010 and early 2011. But spreads on SME lending stayed high and credit growth did not pick up. In commercial real estate (CRE) lending, the CCS suggested no notable easing in credit conditions and spreads reported in the *De Montfort Survey* did not narrow throughout 2010 and 2011. This seems consistent with supply continuing to play a dominant role in these sectors.

Bank wholesale funding markets have deteriorated again since the summer of 2011 and the cost of retail funding has risen as banks continue to compete to replace wholesale funding with deposits. In response, lending rates to companies and households have risen (**Chart C** and **Chart 1.24**). While the latest CCS does not suggest the same scale of tightening in credit conditions seen in 2008, the direction of travel has been towards a tightening across all lending types. Overall, weak credit growth has increasingly reflected reduced credit supply.

A tightening in domestic bank credit supply may in general be less important for large companies than SMEs, as they can access bond markets and international loan markets. However, gross syndicated loan issuance to UK PNFCs by European banks has fallen back to 2009 levels, reflecting stresses in the European banking system (**Chart A**).

Current drivers of credit supply

In a normal environment, in which banks have adequate capital and easy access to stable funding, it may be reasonable to think of the banking sector in aggregate supplying credit at a mark-up over the marginal cost of funding, with the mark-up covering their costs and the risks the sector bears. In the current environment, the strategic decisions facing individual banks when supplying credit are somewhat different.

Funding and capital

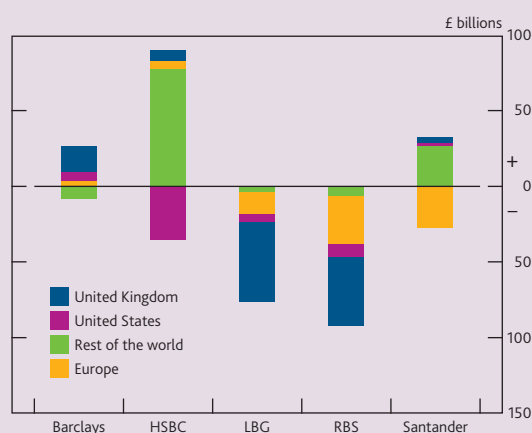
As explained in previous *Reports*, the major UK banks entered the crisis with a heavy reliance on wholesale sources of funding and inadequate capital. They have been working to remedy this over the past few years. While progress has been made, Section 2.2 explains that the risks to funding positions have increased, with renewed fears over developments in Europe and significant declines in market-based measures of capital. For the weaker banks, the process of improving resilience has been a direct drag on lending growth as they have sought to reduce reliance on flighty funding by shrinking their balance sheets. This has been more important for credit supply in SME and CRE markets, and to a lesser extent household mortgage lending, due to the large pre-crisis market share of the most severely affected banks and the lack of alternative sources of finance.

Capital allocation

Banks may also face a strategic decision about whether to lend in the United Kingdom. Expected future profitability —

reflecting market growth, the impact of future regulation and the cost involved in scaling up their UK operations — is likely to be a key consideration. **Chart D** suggests that the major UK banks that have grown their UK lending have also expanded more rapidly abroad. SME, non-prime CRE and household lending are all likely to be more costly to scale up than lending to large companies, making it difficult for healthy banks to offset the drag from weaker banks.

Chart D Change in loans by region, 2010 and 2011^(a)



Sources: Published accounts and Bank calculations.

(a) Chart shows the change in lending to households and PNFCs between end-2009 and end-2011. Note that changes include write-offs, impairments, loan sales and acquisitions and the effect of exchange rate movements and so are not directly comparable to net lending data.

Pricing

In a competitive environment, the price of bank lending should be driven by the strongest bank's marginal cost of funding. In the current environment, further increases in funding costs, both wholesale and retail, are likely to be passed on when the banks experiencing the increased funding costs have large market share and where competition from other sources of funding is weak. PNFC lending rates provide some evidence on this. The fall in bank funding costs in 2010 was reflected in lending rates to large corporates, but not to SMEs or CRE firms. More recently, banks have been passing through higher funding costs (**Chart 2.10**) to corporate and household lending rates.

Conclusion

Since the summer of 2011, bank funding costs have risen and risks to bank funding have increased. This has led to a tightening in credit conditions. Looking ahead, restrictions on credit supply seem unlikely to ease substantially until bank funding costs decrease or new competitors enter UK lending markets.

(1) See the 2012 Q1 trading statements of Santander UK and the investor call transcript of LBG.

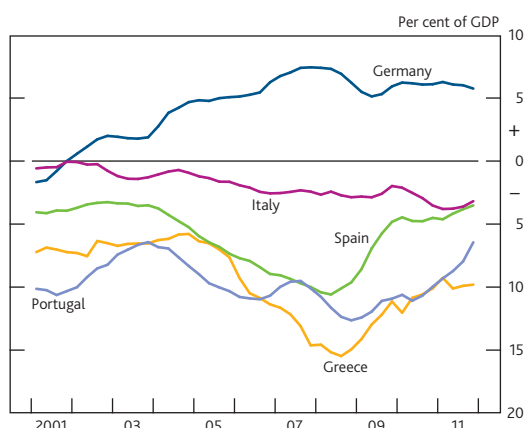
(2) See Bell, V and Young, G (2010), 'Understanding the weakness of bank lending', *Bank of England Quarterly Bulletin*, Vol. 50, No. 4, pages 311–20.

3 Medium-term risks to financial stability

The challenging financial environment poses risks to banking systems in the medium term. Risk aversion and high levels of debt in the real economy could weigh on growth. A reversal of long-term interest rates could cause disruption to financial stability. And capital inflows could potentially contribute to overheating in emerging markets, exposing UK banks to losses on their global operations.

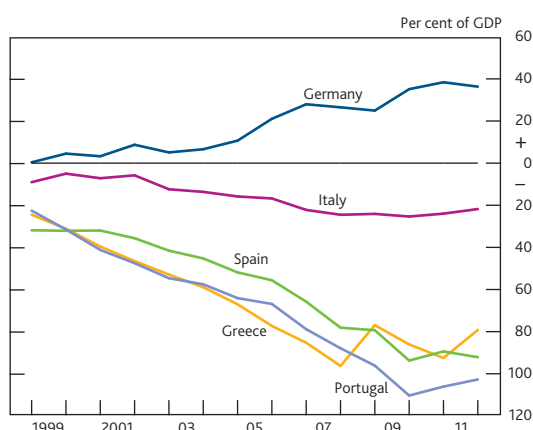
Structural vulnerabilities pose additional medium-term risks to the UK financial system. Against a backdrop of growing demand for high-quality collateral, opaque funding structures such as collateral swaps have the potential to amplify funding and liquidity stresses. And the continued use of non risk-adjusted performance metrics generates incentives for banks to take excessive risk.

Chart 3.1 Current account balances of selected euro-area countries



Sources: Eurostat and Bank calculations.

Chart 3.2 Net international investment position of selected euro-area countries



Sources: Eurostat and Bank calculations.

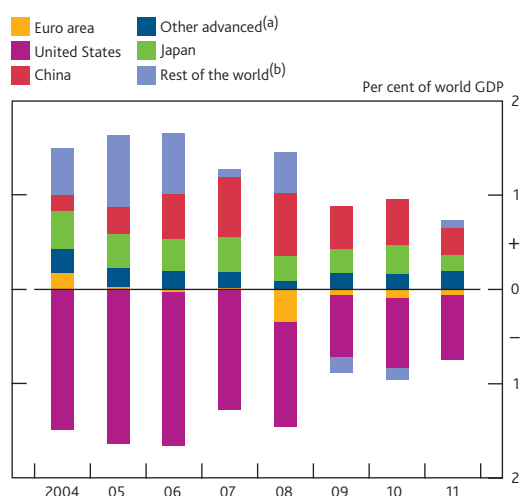
3.1 Medium-term risks from global financial developments

As set out in the previous sections, euro-area concerns have intensified significantly. Underlying these concerns is the scale of the loss of competitiveness experienced by some countries over the past decade, which contributed to substantial current account deficits (Chart 3.1) and the accumulation of large external debt positions (Chart 3.2). This reflects a broader global pattern. Globally, some countries have run large and persistent current account surpluses, while others have run correspondingly large deficits (Chart 3.3).

Several vulnerable euro-area countries remain some distance from achieving the primary surpluses necessary to restore public debt to GDP ratios to a sustainable path (Chart 3.4). This has amplified fears that certain euro-area countries may be unable to achieve the size and speed of required adjustment in the face of a weakening economic environment. Even where underlying competitiveness and fiscal sustainability issues are being tackled, banking systems remain troubled. Banking system resilience has been undermined by sovereign concerns in some countries. In other cases, underlying competitiveness problems translated into overstretched banking sector balance sheets which then led to sovereign debt concerns.

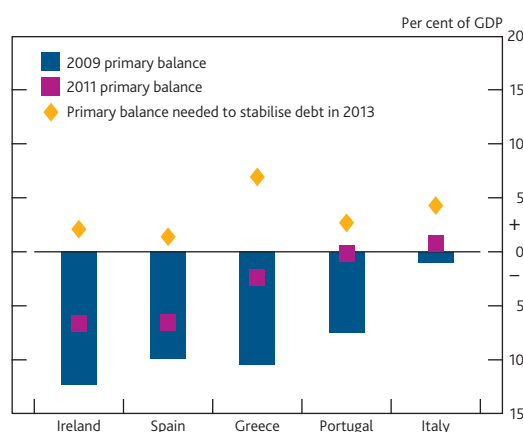
Risk aversion and high debt levels in the real economy could weigh on growth...

Against a backdrop of continued high risk, global risk appetite has remained weak and expectations of economic growth subdued. Together with investors' low expectations of inflation and substitution away from the debt of peripheral European countries, this has led long-term government bond

Chart 3.3 Global current account balances

Sources: IMF *World Economic Outlook* (April 2012) and Bank calculations.

- (a) Australia, Canada, Czech Republic, Denmark, Hong Kong, Iceland, Israel, New Zealand, Singapore, South Korea, Sweden, Switzerland, Taiwan and the United Kingdom.
 (b) Rest of the world includes statistical discrepancy.

Chart 3.4 Sovereign primary budget balances^(a)

Sources: IMF *World Economic Outlook* (April 2012) and Bank calculations.

- (a) Debt stabilising primary balances calculated using April 2012 IMF *World Economic Outlook* figures for general government primary net lending/borrowing, general government net lending/borrowing, growth and debt.

Chart 3.5 Real yields on UK and US government bonds^(a)

Sources: Bloomberg and Bank calculations.

- (a) Five-year real interest rates five years forward; derived from index-linked government liabilities.

yields in major advanced countries to fall to exceptionally low levels (Chart 3.5).

In a low interest rate environment, households and businesses may have little incentive to deleverage.⁽¹⁾ That is illustrated by recent behaviour: as noted in Section 2, in aggregate, households have largely reduced debt burdens through nominal income growth rather than actively paying down debt. It may be the case that debt to income ratios will settle at a higher equilibrium than in the past. But it is also possible that debt levels are unsustainably high. In this case, while the avoidance of rapid deleveraging would support bank profitability in the near term, it would also delay the return of sectoral balance sheets to a sustainable equilibrium. In addition, low interest rates can incentivise households to increase their exposure to interest rate movements — for example, the share of new mortgage lending at variable rates is at its highest level since these data were first reported in 2007.⁽²⁾

A low interest rate environment can also affect banks' incentives to forbear on non-performing loans. Forbearance can support balance sheets, by helping banks reduce losses and customers avoid default. But where it adversely affects banks' capital and funding positions — for example, tying up existing funding, generating uncertainty over capital positions or limiting banks' ability to attract new funding — it might limit their capacity to engage in new lending.⁽³⁾ The FSA's recent forbearance review found that around a third of UK commercial real estate loans and 5% to 8% of UK mortgages are subject to forbearance. The latter figure exceeds total net new mortgage lending to UK households over the past three years. In 2011, the UK banks with the highest levels of forbearance extended significantly less new mortgage lending than those banks with low levels of forbearance.

A combination of low real interest rates and high debt raises the possibility of a scenario in which unprofitable banks burdened with legacy assets might continue to forbear on loans to businesses and households, perpetuating high debt levels and low growth. An example of this effect was witnessed in Japan in the 1990s, when banks continued lending to borrowers at or near insolvency, hindering restructuring and weighing on growth over a protracted period.

...while the policy response could prompt a search for yield...

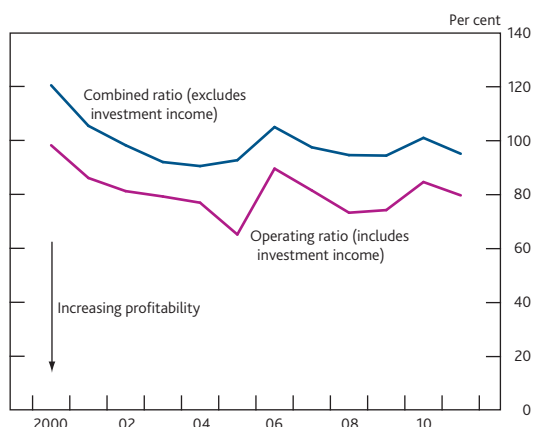
In response to current risk aversion and subdued demand growth, stimulus from monetary policy internationally is

(1) This illustrates a paradox of policy: measures that are necessary in the short term to stimulate demand run in the opposite direction to the long-term need to rebalance demand and reduce indebtedness. See the Governor's speech to the CBI dinner, 20 January 2009, available at www.bankofengland.co.uk/publications/Documents/speeches/2009/speech372.pdf.

(2) Council of Mortgage Lenders, table MM19. Data collection began at the start of 2007.

(3) See Box 2 of the June 2011 *Report*.

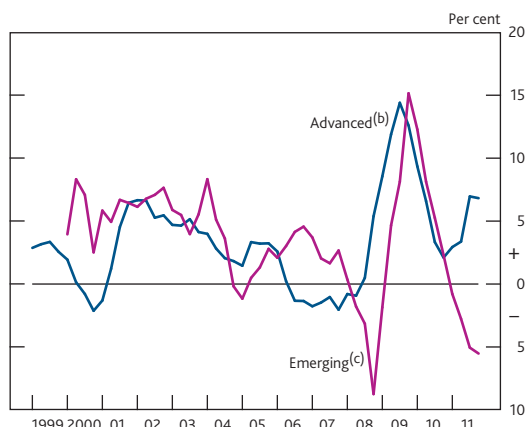
Chart 3.6 Profitability and investment income of UK general insurers^(a)



Source: FSA returns.

(a) Includes all general insurance products. The ratios represent 'net costs', so the lower the value, the greater the profitability for the insurer. The combined ratio excludes investment income, while the operating ratio includes it. 100% is the breakeven point: above 100%, losses exceed returns.

Chart 3.7 Excess narrow money growth^(a)



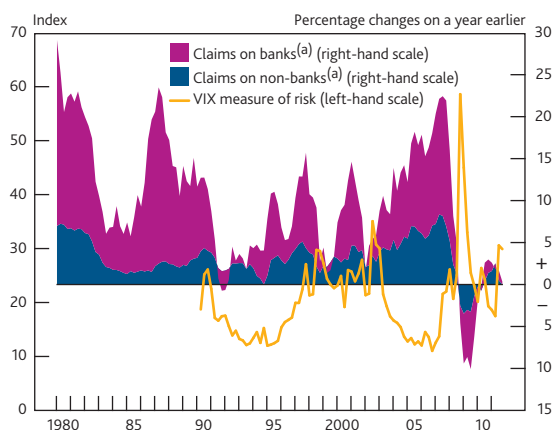
Sources: IMF World Economic Outlook (April 2012), OECD Main Economic Indicators, Thomson Reuters Datastream and Bank calculations.

(a) Difference between the annual growth rate of narrow money supply (M1) and the annual growth rate of nominal GDP, weighted using PPP-based GDP weights.

(b) Advanced economies included are: Australia, Canada, Denmark, euro area, Japan, Sweden, Switzerland, the United Kingdom and the United States.

(c) Emerging economies included are: Brazil, Chile, China, Czech Republic, Hungary, India, Indonesia, Mexico, Poland, Russia, South Africa, South Korea and Turkey.

Chart 3.8 Cross-border claims and risk



Sources: Bank for International Settlements and Bloomberg.

(a) Estimated exchange rate adjusted changes over four quarters divided by the stock of total (bank plus non-bank) cross-border claims in the preceding quarter.

supporting demand. In the medium term, if risk appetites recover more quickly than expected, this could lead to a search for yield in some pockets of the financial system. For example, during 2009 measures of risk appetite swung from record lows to near highs in only nine months following the US Federal Reserve's launch of quantitative easing.⁽¹⁾

A search for yield could occur independently of changes in risk appetite if some institutional investors face 'sticky' return targets that reflect the previous higher interest rate environment. Targets may be sticky if fund manager compensation schemes are linked to returns or if investors extrapolate past returns into future return targets. Such sticky return targets may also arise because of contractual obligations or business models entered into at a time when returns were higher. For example, UK general insurance products have often been priced on the assumption that investment returns will compensate for underwriting losses.⁽²⁾ In the event that investment returns fall significantly, the insurer could face losses on these contracts (Chart 3.6). Another example is US pension funds, which market contacts report have increased their holdings of corporate bonds in search of higher yields. This may have contributed to a rally in corporate bond markets in early 2012, particularly in US high-yield bond markets.

...and contribute to abundant global liquidity and rapid emerging market credit growth...

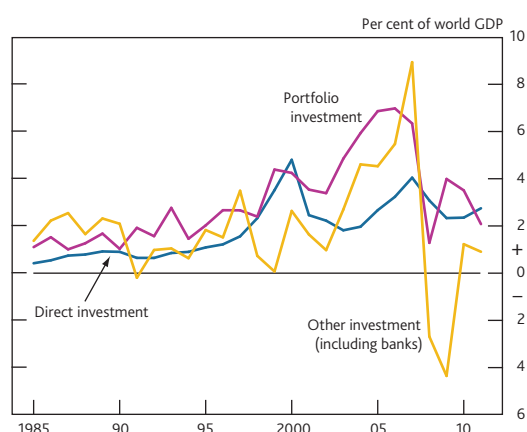
Monetary stimulus in advanced economies could create conditions for an expansion of global liquidity,⁽³⁾ as low short-term interest rates and growth in narrow money supply (Chart 3.7) support bank credit growth. During recent decades, cross-border bank credit — an indicator of global liquidity — has been highly cyclical and strongly correlated with measures of risk (Chart 3.8). It has also been more volatile than other types of cross-border capital flows (Chart 3.9). During booms, an increasing share of credit provided by domestic banks to the domestic economy is typically financed from external borrowing rather than domestic deposits, while in downturns external borrowing often falls more steeply than domestic deposits (Chart 3.10). Domestic measures of money supply may therefore not reflect the true cyclical of credit and liquidity that affects the domestic real economy.

In the years leading up to 2008, European banks raised dollar finance through their US branches and subsidiaries, in particular from US money market funds, and lent it on to

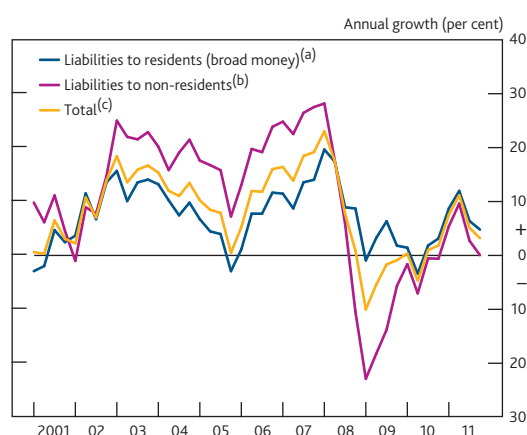
(1) See Chart 1.11 in the December 2011 Report.

(2) This is particularly common in motor insurance, as the longer time period for resolving claims allows insurers to make higher income from their investments.

(3) Liquidity, broadly defined as 'the ease of financing', can be used in a variety of contexts. The phrase 'global liquidity' is used here to mean bank credit liquidity, that is, the stock of credit available to finance investments. Elsewhere in this Report, liquidity may also refer to market liquidity (the ability to trade an asset or financial instrument at short notice without affecting its price), or funding liquidity (the ability to raise cash either through the sale of an asset or by borrowing).

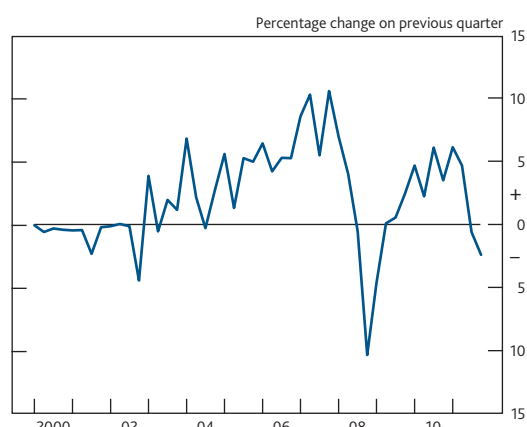
Chart 3.9 Global cross-border capital inflows by type

Sources: IMF *World Economic Outlook* (April 2012) and Bank calculations.

Chart 3.10 Advanced-economy banking systems' liabilities to residents and non-residents

Sources: Bank for International Settlements, IMF *International Financial Statistics*, Thomson Reuters Datastream and Bank calculations.

- (a) Advanced economies included are: Australia, Canada, Denmark, euro area, Japan, Sweden, the United Kingdom and the United States.
 (b) Advanced economies included are the same as in footnote (a), excluding countries for which data was unavailable: Estonia, Malta, Slovakia and Slovenia.
 (c) Equals broad money plus liabilities to non-residents, so it excludes domestic wholesale liabilities.

Chart 3.11 Cross-border banking claims on EMEs^(a)

Sources: Bank for International Settlements (BIS) and Bank calculations.

- (a) Change on previous quarter in BIS-resident banks' aggregate cross-border claims by region. Calculated as the exchange rate adjusted flow during a quarter as a percentage of the stock of outstanding claims at the end of the previous quarter. Emerging economies as defined by BIS in the locational international banking statistics by residence (code 4T).

non-banks in the United States and other countries, either directly or via local banks. Given that they typically lent these funds at a longer maturity than their dollar borrowings, they were vulnerable to the risk of withdrawal by money market funds.

Following the substantial easing of monetary policy in advanced economies since the onset of the crisis, there is some evidence that liquidity has continued to be transmitted in this way.⁽¹⁾ Capital flows to emerging market economies (EMEs) resumed after 2009 (**Chart 3.11**), although they have recently fallen back. These capital inflows risk causing credit booms in EMEs. Some larger emerging economies have experienced marked credit growth and their ratios of credit to GDP are well above their historical trends (**Chart 3.12**). Some advanced economies — such as Canada and Germany — have also experienced a pickup in property-related credit growth.

Rapid credit growth can result in unsustainably high asset prices. In some South East Asian property markets, there may already be some signs of overvaluation. For example, since 2009 property prices have increased by over 50% in real terms in China's two main cities (**Chart 3.13**). But property prices have recently registered declines in many Chinese cities, partly due to public sector initiatives to increase the supply of housing.

...which, if unwound, could result in UK bank losses.

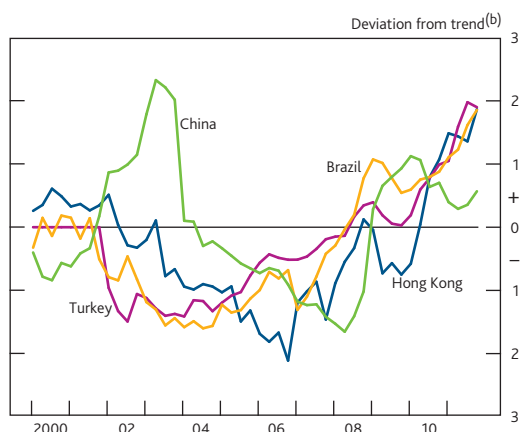
An unwinding of such asset price movements could pose risks to the financial system over the medium term. Disorderly unwinding of asset bubbles could result in direct losses for UK-owned banks. Total UK bank exposures to EMEs in Asia⁽²⁾ are approximately equal to their total core Tier 1 capital (**Chart 3.14**). UK financial institutions would also be affected by any related disruption to global financial markets.

Another trigger of distress could be a sudden rise in global long-term real interest rates.

With global long-term interest rates having been low for a lengthy period, there is a risk that any 'snap back' in yields could affect the global financial system. Depending on the source of the shock, the overall macroeconomic situation and the composition of their balance sheets, banks could be affected in a variety of ways. For example, in the medium term, banks could benefit from a steepening in the yield curve, where this makes maturity transformation more profitable. But they could face losses in the shorter term on unhedged carry trades, government debt and risky assets more generally.

(1) Bruno, V and Shin, H S (2012), 'Capital flows, cross-border banking and global liquidity'.

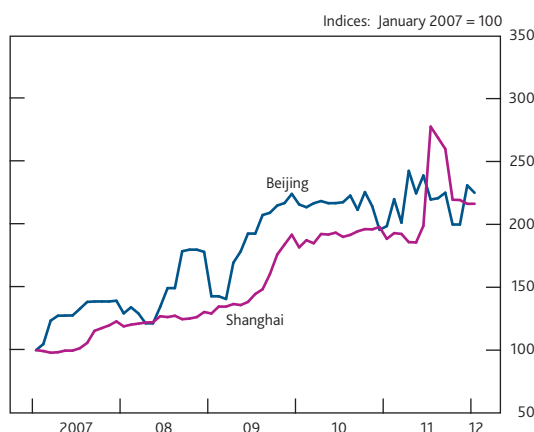
(2) Developing 'Asia and Pacific'. Excludes Hong Kong, Japan and Singapore.

Chart 3.12 Credit to GDP ratio gap in selected EMEs^(a)

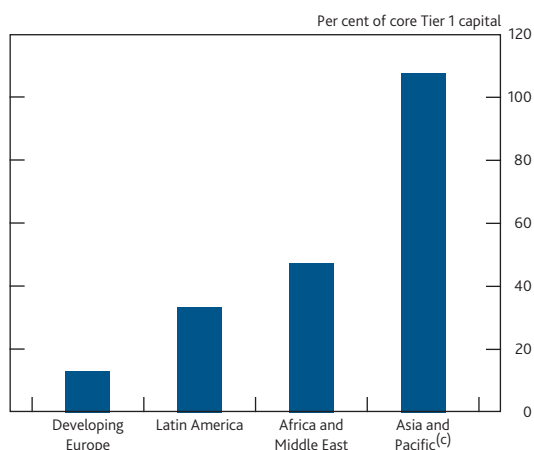
Sources: BIS, CEIC, IMF *International Financial Statistics*, Thomson Reuters Datastream, national sources and Bank calculations.

(a) Data up to 2011 Q4.

(b) Deviation from trend is calculated as the credit to GDP gap divided by its standard deviation.

Chart 3.13 Real residential property prices in China

Sources: CEIC, IMF *World Economic Outlook* (April 2012) and Bank calculations.

Chart 3.14 UK banks' exposure to EMEs as a percentage of core Tier 1 capital^{(a)(b)}

Sources: Bank of England, FSA regulatory returns and Bank calculations.

(a) Banks consist of Barclays, HSBC, LBG, RBS and Standard Chartered.

(b) Data as of end-2011.

(c) 'Asia and Pacific' does not include Hong Kong, Japan or Singapore.

At end-2011, major UK banks held £170 billion of equities and £380 billion of (non-government) debt securities. Falls in the value of these assets could generate potentially large losses. A 1 percentage point increase in long-term interest rates would mechanically reduce the market value of banks' debt exposures by around 6%.⁽¹⁾ Further, a dividend discount model suggests that a 1 percentage point rise in the yield curve for US Treasuries would equate to around a 25% fall in US equity prices, assuming investor risk preferences and expectations about earnings remain unchanged (**Chart 3.15**).⁽²⁾ This effect could be amplified in various ways, such as banks being highly leveraged or certain hedging strategies being prevalent.

A rise in long-term global rates could also affect bank profitability indirectly. By raising the cost of borrowing, higher long-term rates could discourage investment and weigh on economic growth. But where an increase in long-term yields is accompanied by an improvement in growth prospects, the impact of higher rates would be more benign.

3.2 Structural vulnerabilities

Structural vulnerabilities in the financial system, among both banks and non-banks, can amplify shocks stemming from the financial environment. An awareness of the interconnections within the system is necessary to understand how shocks might be transmitted across sectors (Box 4). The structure of the financial system is in turn influenced by regulatory initiatives, such as the drive to increase central clearing of derivatives.

Increased central clearing of derivatives will change the shape of the financial system...

As set out in Section 2, central clearing of derivatives enhances system resilience by centralising risk control and default management in a single entity. But the centralisation of risk makes the financial system dependent on the strength of the clearing infrastructure. The distress or failure of a central counterparty (CCP) could have significant adverse consequences for the financial system.⁽³⁾

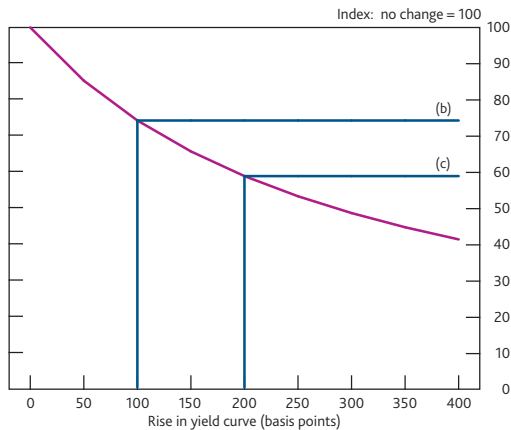
It is not practical for CCPs to hold sufficient financial resources to eliminate the possibility that they will be exhausted in a severe stress event. This means that, without formal arrangements for allocating losses that exceed their default resources, CCPs would face insolvent liquidation (**Chart 3.16**), with severe knock-on effects to the wider system. The updated international 'Principles for financial market infrastructures (FMIs)', produced by the Basel Committee on Payment and Settlement Systems (CPSS) and the International

(1) In the absence of interest rate hedging.

(2) Alternative scenarios, for example in which an increase in interest rates is accompanied by a fall in risk premia or increase in earnings expectations, would imply a more muted movement in equity prices.

(3) See Box 1 in the December 2011 *Report*.

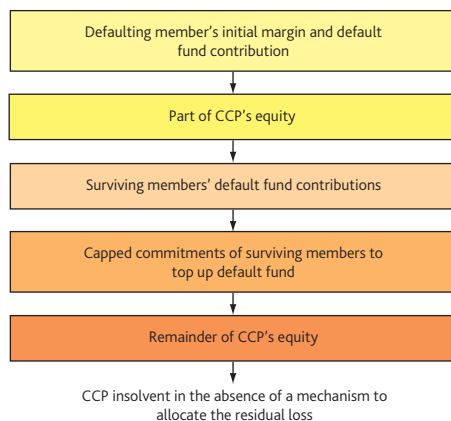
Chart 3.15 Illustrative estimates of the change in US equity prices associated with an increase in interest rates^(a)



Sources: Bloomberg, Thomson Reuters Datastream and Bank calculations.

- (a) Change in equity prices associated with an increase in yields on US government bonds of all maturities, as implied by a dividend discount model.
 (b) Implied change in the S&P 500 if the yield curve rises by 100 basis points.
 (c) Implied change in the S&P 500 if the yield curve rises by 200 basis points.

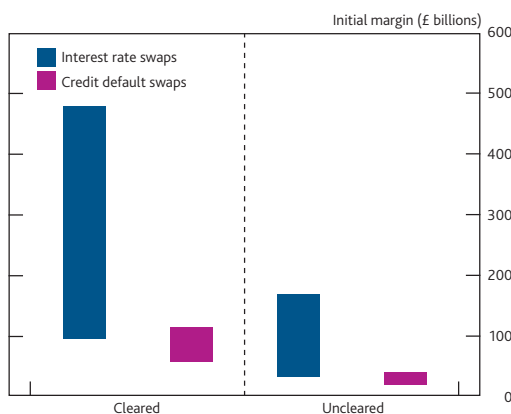
Chart 3.16 CCP default resources: stylised illustration^(a)



Source: Bank of England.

- (a) In practice the design of CCP default resources varies across CCPs, and may also differ across products within one CCP. Not all of the illustrated features may be present and there may be additional steps.

Chart 3.17 Estimated ranges of increase in margin requirements for centrally cleared and non-centrally cleared derivatives^{(a)(b)}



Sources: TriOptima and Bank calculations.

- (a) Estimated ranges of margin requirements for centrally cleared and non-centrally cleared interest rate swaps and credit default swaps.
 (b) It is assumed that 80% of each market is cleared. Netting range for interest rate swaps and credit default swaps is 95%–99% and 90%–95% respectively.

Organization of Securities Commissions (IOSCO), require CCPs to establish rules and procedures 'to address how potentially uncovered credit losses would be allocated ... so that [they] can continue to operate in a safe and sound manner'. CPSS and IOSCO are also due to publish a report on resolution arrangements for FMIs in light of the Financial Stability Board (FSB) report on the 'Key attributes of effective resolution regimes for financial institutions'.

...and raise the demand for collateral...

The regulatory drive to increase the proportion of derivatives that are centrally cleared is likely to increase the demand for high-quality collateral (Box 5), although central clearing does allow more netting than a complex network of bilateral transactions. Estimates indicate that the increase in collateral demand could be sizable given current notional volumes outstanding. Market participants will have incentives to manage collateral assets more actively, or to reduce its quality, with attendant risks to financial stability.

...which will be further increased by margin requirements for bilateral transactions...

Since many derivatives contracts are non-standardised, not all will be centrally cleared. If bilateral margin requirements are laxer than margin requirements for central clearing, there may be incentives to bypass central clearing requirements. Bilateral transactions also make for a complex web of interconnections between institutions. To overcome these risks, regulations are being developed to set margin requirements for non-cleared derivatives contracts. This is required by the recent EU regulation on OTC derivatives, central counterparties and trade repositories and the US Dodd-Frank Act. An international effort by the Basel Committee on Banking Supervision, Basel Committee on the Global Financial System, CPSS and IOSCO is helping to co-ordinate these regional initiatives. It is due to publish a consultative report in the near future. These new regulations for uncleared transactions will be a further source of demand for collateral. **Chart 3.17** shows estimated ranges for the expected increase in collateral following the introduction of both central clearing requirements and margin requirements for bilateral trades.

...and by increasing asset encumbrance.

Collateral demand is also likely to be boosted by a structural shift towards a greater proportion of bank wholesale funding being secured against collateral (**Chart 3.18**). This is driven by the uncertain financial environment and heightened awareness of risk, and in part by proposed regulatory changes — such as bail-in, depositor preference and liquidity regulation. The shift towards secured funding allows banks to fund at lower cost when overall conditions are tight. But it also increases asset encumbrance on banks' balance sheets. High levels of encumbrance increase the risk that adverse shocks could lead to downward funding spirals. The December 2011 *Report* noted the Financial Policy Committee's intention to consider

Box 4

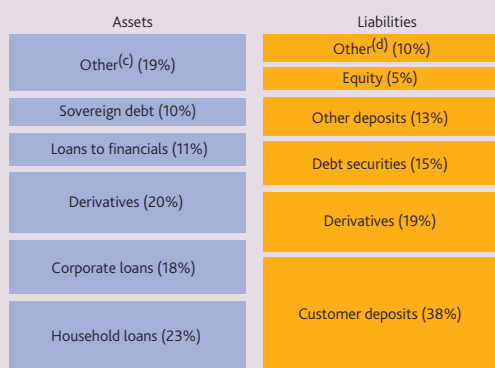
Mapping the UK financial system

A clear understanding of the inner workings of the UK financial system is important for effective implementation of macroprudential policy. The financial system provides key services to the UK real economy, including: bank accounts for use in settling transactions, short and long-term savings products, lending in the form of corporate debt and loans, capital provision in the form of equity, and insurance products, including for hedging risk. A myriad of firms have evolved to provide these services, and these are interconnected. This box focuses on three of the largest sectors — banks, insurers and pension funds — and highlights the linkages between them, before offering some brief thoughts on how the system might evolve in the light of prospective regulation.⁽¹⁾

Introducing the balance sheets

Total assets of the major UK banks amount to around £7.6 trillion. Around 40% of their assets represent lending to households and companies (**Chart A**). Around half of the banks' funding comes from customer deposits, while the rest is raised in wholesale markets.

Chart A Balance sheet composition for major UK banks^{(a)(b)}



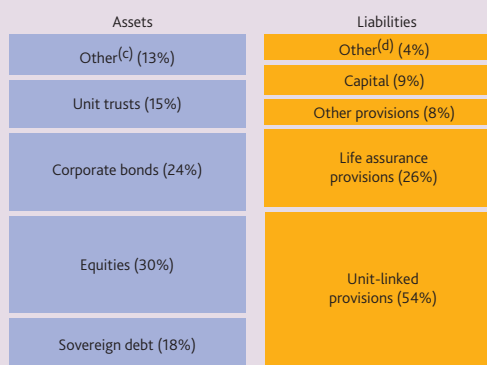
Sources: Bank of England, published accounts and Bank calculations.

- (a) Data as of end-2011.
- (b) Total assets £7.6 trillion.
- (c) Includes cash, equity securities and other debt securities.
- (d) Includes liabilities under insurance and investment contracts, settlement balances, accruals and short positions.

UK insurance companies have roughly £1.7 trillion of assets (**Chart B**). More than half of these assets are held on behalf of unit-linked policyholders, which include pension schemes. Insurers bear minimal risk on these assets, acting in effect as retail asset managers. A further 26% of insurance assets back liabilities arising from life insurance business (term and life assurances, annuities and with-profit policies). Less than 8% of liabilities are provisions against general insurance.

UK pension funds hold around £1.9 trillion of assets. Approximately £1 trillion of these assets support the liabilities

Chart B Balance sheet composition for UK insurers^{(a)(b)}

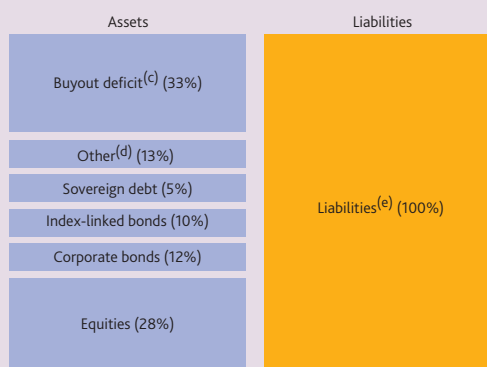


Sources: Association of British Insurers, calculations based on the EIOPA *Financial Stability Report 12/2011* and Bank calculations.

- (a) Data as of end-2010.
- (b) Total assets £1,719 billion.
- (c) Includes property, loans secured on property, cash and cash equivalents.
- (d) Includes subordinated debt, deposits received from reinsurers, creditors, accruals and deferred income.

of defined benefit occupational pension schemes (**Chart C**). Defined contribution occupational pension funds and personal pensions represent a further £950 billion of assets. Insurance companies often manage the defined contribution and defined benefit pension schemes for corporates, so some of the pension schemes assets will be captured as unit-linked liabilities for insurers.

Chart C Balance sheet composition for UK defined benefit pension schemes^{(a)(b)}



Sources: Pension Protection Fund, The Pensions Regulator and Bank calculations.

- (a) Data as of 31 March 2011.
- (b) Total assets £969 billion, excluding the scheme deficit.
- (c) The scheme deficit is the shortfall of assets required to meet the liabilities.
- (d) Includes cash and deposits, property, insurance policies, investments in hedge funds and other investments.
- (e) Liabilities are 'buyout liabilities'. This particular valuation of liabilities is based on the scheme actuary's estimate of the cost of securing scheme liabilities with annuities purchased from a regulated insurance company.

Each sector directly interacts with the real economy, both in terms of assets and liabilities, and each one takes on credit risk. But the distribution of risk and the flow of funds from the asset side of household and corporate sector balance sheets (comprising mainly short and long-term savings) back to the liability side (predominantly loans, corporate debt and equity) is complicated by interconnections between the three sectors. These take a variety of forms, including:

- Insurance companies and pension funds place deposits with banks, both for use in settling transactions and as an investment strategy. UK insurance companies and pension funds hold around 3% of their portfolios in deposits with UK-resident banks, accounting for 8% of UK banks' wholesale deposit liabilities.
- As part of their investment strategy, insurance companies and pension funds buy bank equity and debt, including covered bonds and securitisations. UK bank debt securities account for 3% of UK insurance company and pension fund assets and 11% of banks' debt liabilities. Assuming these institutions hold bank shares in similar proportion to banks' weight in broader UK equity indices, UK bank equity constitutes around 1.5% of insurance company and pension fund assets, accounting for around 16% of UK banks' equity.
- Banks provide products to hedge credit, interest rate and exchange rate risk. Insurance companies and pension funds prefer long-dated, fixed-rate sterling assets to match the majority of their liabilities, but these are not typically available. Banks can provide the requisite returns through derivatives such as swaps. By way of illustration, total derivative assets were valued at £140 billion for insurance companies and pension funds at end-2011.⁽²⁾
- Insurance companies and pension funds are key players in securities lending, which facilitates short-selling and supports market liquidity. Banks make use of this facility in their role as market makers and prime brokers to hedge funds. At end-2011, UK insurance companies and pension funds had lent out securities valued at £57 billion. Some insurance companies are also active in other collateral swap transactions with banks (Section 3).

A key difference between the three sectors is the extent to which they undertake maturity transformation. Banks tend to hold long-term assets against shorter-term liabilities, thereby taking on liquidity risk, while pension funds and insurers either match the maturity of assets and liabilities or tend to hold assets with shorter maturities than their liabilities, in the latter case taking on market or reinvestment risk.

Impact of regulation

The services financial institutions provide are shaped by regulation, which is designed with specific activities in mind. For example, Basel III regulation has been designed for banking, while Solvency II regulation has been designed for insurance. These new regulations are intended to make the institutions that undertake those activities more resilient. But regulations in one sector may have important implications for another and hence for the financial system as a whole.

For example, Basel III regulation aims to ensure that banks have sufficient capital and liquidity to insulate themselves

against unexpected losses and liquidity shocks. An intended effect is for banks to increase the proportion of funding made up by equity and longer-dated debt, the latter in preference to short-term wholesale funding, including that from insurance companies and pension funds. But there may also be unintended effects. For example, banks may seek to deter institutions from placing wholesale deposits, perhaps forcing cash into other assets, including those in the shadow banking sector. And banks may face difficulties raising sufficient equity and longer-dated debt to meet the demand for credit.

Demand for longer-dated bank debt may itself be affected by regulation. For example, it is expected that the standard formula for insurers' capital requirements under Solvency II could impose a significantly higher charge on securitised assets such as asset-backed securities (ABS) than on covered bonds of comparable duration and rating. This could affect incentives for some insurers not using internal models⁽³⁾ to support the ABS market, the recovery of which may be important to secure an adequate supply of bank lending in the future.

All else equal, marking-to-market of assets under Solvency II could provide a further deterrent to some insurance companies buying long-term and riskier assets such as bank debt, to the extent that these assets contribute to the volatility of insurers' capital by exhibiting larger price swings than shorter-term and less risky assets. In the United Kingdom, a marked-to-market regime for insurance companies, with risk-based capital requirements, has been in place for a number of years. Hence, Solvency II is likely to be less of a step change in this regard for UK insurers, and those other European insurers which use a similar approach.

In principle, insurance companies and pension funds could make up any shortfall in bank credit supply by engaging in more direct lending to UK households and companies. These institutions are naturally suited to extend long-term credit, such as infrastructure financing, given the long-dated nature of their liabilities. But this could raise questions as to the appropriateness of capital allocated against credit risk at the level of the financial system as a whole. The capital allocation framework for Solvency II, for example, differs from that for banking. Further analysis is needed to assess whether any migration of credit intermediation is appropriate and not simply directed towards regimes with the lightest capital treatment for similar risks. In doing so, it will be important to consider which sectors might be thought of as natural providers of credit. Better data on the flow of funds between financial institutions and between the financial system and the real economy may be needed to support this analysis.

(1) Mutual funds are another important sector but are not covered here.

(2) Courtesy of Data Explorers.

(3) Major insurers are expected to use internal models.

Box 5

OTC derivatives regulatory reform and collateral demand

In a bid to make the OTC derivatives market more robust, the G20 has mandated that all standardised contracts be cleared through central counterparties (CCPs) and that standards be developed for margining of non-centrally cleared trades. Central clearing is expected to bring greater transparency and more robust risk management to this market, simplifying the network of bilateral exposures by facilitating multilateral netting. Stricter margin requirements for bilaterally cleared trades will also improve risk management. However, mandating central clearing of OTC derivatives and other pending regulatory reforms, such as Basel III, is expected to increase demand for collateral overall. This growing demand, against a backdrop of a shrinking basket of assets that are perceived as safe, may have implications for global financial stability. This box provides a range of quantitative estimates of the total initial margin associated with both centrally cleared and non-cleared (bilateral) OTC derivatives transactions.

The increase in collateral demand

CCPs collect initial margin from counterparties to cover potential losses in the event of counterparty default. Mandating central clearing is widely expected to increase the demand for high-quality assets that CCPs will accept as initial margin. These margin requirements will also apply to a wider set of counterparties, including some which previously did not rely on central clearing. Higher margin requirements are likely to be imposed on non-centrally cleared trades, as well, to reduce the risk involved in bilateral clearing. They will also incentivise central clearing and product standardisation.

Several studies have attempted to estimate the impact of the new regulation of OTC derivatives markets on the demand for collateral. Those estimates vary significantly, reflecting differences in scope, data used and modelling assumptions. Any estimates are preliminary as some policy decisions that will affect the demand for collateral are yet to be made, including the timing and scope of the central clearing mandate and the degree of international consistency. There is also uncertainty about the margin requirements for non-cleared trades and the extent to which gross margining will be adopted for clients' positions at CCPs.

Existing quantitative studies assume that market participants will keep trading the same derivative instruments in the same quantities. It is hard to predict whether regulatory change will have a positive or negative impact on trading volumes, but it is possible that volumes may shrink. For instance, recent industry analysis shows that OTC volumes declined by 10% in the second half of 2011 partly as a result of compression

activity.⁽¹⁾ This reduces counterparty exposures by removing redundant transactions from firms' books. Additionally, market participants may invent new, but economically equivalent, products in an attempt to circumvent central clearing and margin requirements.

Alternative modelling approach

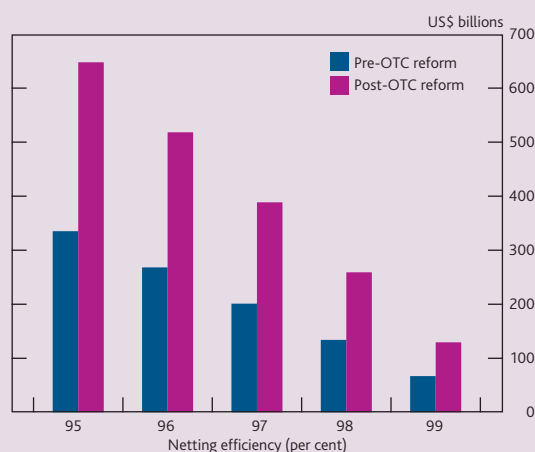
The model used in this box estimates the total initial margin required for centrally cleared and non-cleared trades. The product scope is limited to plain-vanilla interest rate swaps (IRS) and credit default swaps (CDS). Together, these account for over 80% of the OTC market and are particularly suitable for central clearing due to their standardisation.⁽²⁾

The estimates depend on a number of assumptions. The notional amount of OTC derivatives must be split between centrally cleared and bilateral trades, as initial margin rules will differ. Then the trades are split further between major dealers, other financial companies (eg asset managers) and non-financial firms, as some classes of counterparties are expected to benefit from margining exemptions. Different assumptions about netting, or positions with offsetting risks, and about market conditions are made, all of which affect the margin rates and haircuts applied to posted collateral. Finally, assumptions about rehypothecation, or reuse of assets (which is common in the bilateral market),⁽³⁾ could change the results from the model.

Charts A and B show the range of estimates of initial margin depending on the assumptions made about netting efficiency.⁽⁴⁾ The baseline estimates indicate that, under normal market conditions⁽⁵⁾ and holding the current gross notional amount of trades outstanding fixed, the incremental increase in initial margin for cleared and non-cleared trades would range between US\$130 billion and US\$450 billion, assuming 80% of trades were subject to central clearing.⁽⁶⁾ The wide interval reflects the sensitivity of the total initial margin to the assumed degree of netting. This would bring the total initial margin to between US\$200 billion and US\$800 billion, three quarters of which would be driven by central clearing activity.

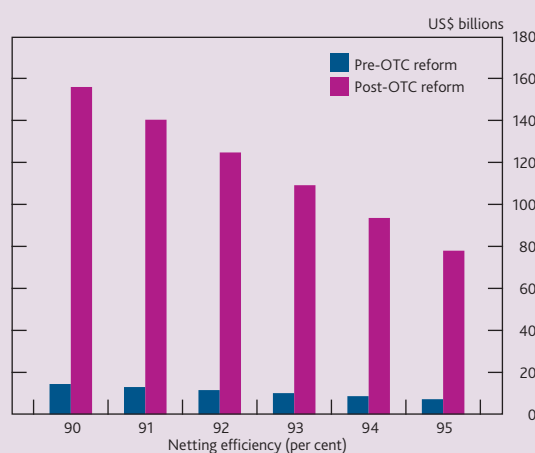
Assumptions about price volatility have a significant impact on the results as they affect the amount of initial margin that is collected. Under stressed market conditions, such as those experienced during the 2007–09 financial crisis, the maximum initial margin increases significantly. For example, for IRS it would rise to about US\$2.6 trillion from US\$650 billion, assuming 95% netting.

It is uncertain precisely how central clearing will affect netting. At present, around 50% of IRS contracts are centrally cleared compared with around 10% of CDS contracts. An increase in central clearing allows participants to face a single CCP rather

Chart A Interest rate swaps initial margin^(a)

Sources: TriOptima and Bank calculations.

(a) Normal market conditions. 'Pre-OTC reform' assumes 56% central clearing. 'Post-OTC reform' assumes 80% central clearing.

Chart B Credit default swaps initial margin^(a)

Sources: The Depository Trust & Clearing Corporation and Bank calculations.

(a) Normal market conditions. 'Pre-OTC reform' assumes 10% central clearing. 'Post-OTC reform' assumes 80% central clearing.

than many bilateral counterparties, increasing netting benefits. On the other hand, if there were a large number of CCPs, that could result in less netting and require more collateral to be posted. The effects of netting efficiencies on collateral provided are very significant. As an illustration, the model suggests that 98% netting leads to a total initial margin estimate of US\$260 billion for IRS, compared with US\$650 billion if netting efficiency is reduced to 95% (Charts A and B).

These total initial margin estimates appear to be relatively modest compared with the total pool of safe assets. For example, the IMF estimates the total amount of outstanding AAA/AA-rated OECD government securities at US\$33.2 trillion.⁽⁷⁾ Importantly though, a significant amount of these securities are held by central banks, long-term investors, or are already deployed in repo transactions. These securities cannot thus count towards the total pool of usable collateral.

Implications for financial stability

As a result of the increased demand for collateral, market participants will have incentives to manage collateral assets more actively. Collateral assets can be sourced in a variety of ways. That includes greater use of collateral upgrade trades in which high-quality securities are borrowed in return for less liquid securities. These transactions generate new financial stability risks — including lack of transparency and increasing asset encumbrance, valuation uncertainty, and system interconnectedness — as discussed in the December 2011 *Report*.

Since a wide range of institutions will be subject to the clearing mandate, the role of major dealers as providers of clearing services to their clients will expand. This not only creates new interdependencies, but also new risks. Clients will need to provide their clearing member with collateral and dealers may need to advance liquidity during the day to meet intraday margin calls on behalf of their clients. It is important that these risks are understood, and managed appropriately, by both parties.

Another set of potential risks arises from CCPs having incentives to lower their criteria and expand the pool of eligible collateral to less liquid assets in order to reduce collateral costs for their members, particularly in markets where CCPs face competition. Some CCPs have, or are exploring, arrangements to take account of correlations in the risk of different products in their margin models. While such 'portfolio margining' can reduce margin requirements, it may also introduce new risks. For example, the observed correlation may not be robust in periods of stress. And if carried out across products cleared at different CCPs ('cross-margining'), this activity may create exposures between the CCPs. Again, it is important CCPs and their supervisors are vigilant to the new risks these arrangements give rise to.

There are macroprudential dimensions to increased clearing, including the procyclical effect of margin practices. This issue was considered by the Committee on the Global Financial System.⁽⁸⁾ Procyclical margin requirements potentially have destabilising effects on the financial system by draining liquidity just when market participants need it the most. This, too, warrants further attention by CCP risk managers and among regulators.

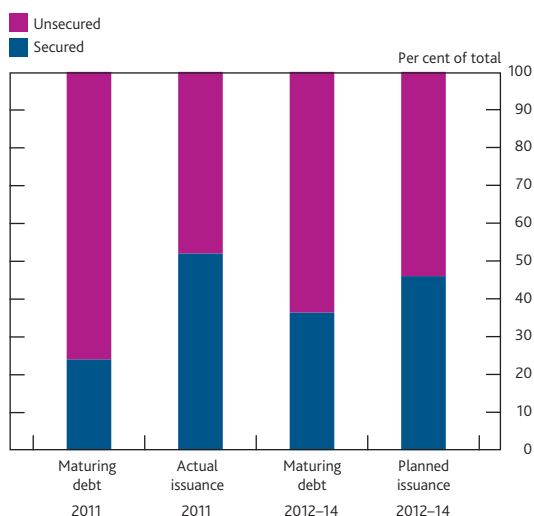
(1) ISDA (2012), *OTC derivatives market analysis*, June.(2) See Sidanius, C and Wetherilt, A (2012), 'Thoughts on determining central clearing eligibility of OTC derivatives', *Bank of England Financial Stability Paper No. 14*, March.(3) Over 80% according to the *ISDA Margin Survey 2012*.

(4) Netting is the process of calculating how much 'counterparty' credit exposures (ie exposures between parties to contracts) cancel each other out.

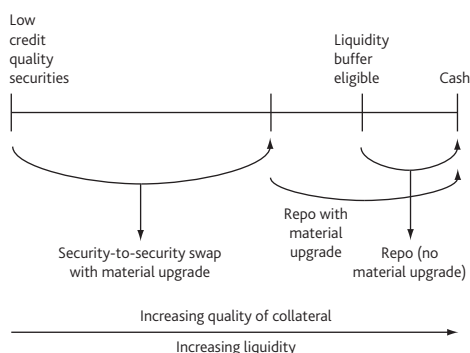
(5) 'Normal' market conditions corresponds to average volatility during 2006–11.

(6) This is the difference between the 'pre-OTC reform' and 'post-OTC reform'. Range of netting assumed to be between 95%–99% for IRS and 90%–95% for CDS.

(7) IMF (2012), 'Safe assets: financial system cornerstone?', *Global Financial Stability Report*, April.(8) BIS (2010), 'The role of margin requirements and haircuts in procyclicality', *CGFS Paper No. 36*, March.

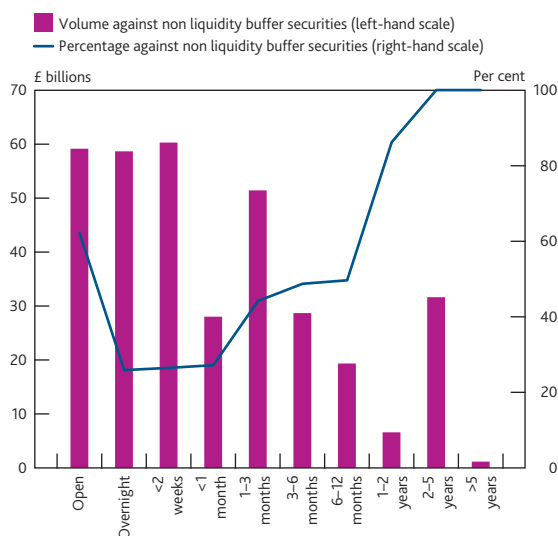
Chart 3.18 Composition of term funding

Sources: Group Treasurers and Bank calculations.

Chart 3.19 Examples of collateral swap structures^{(a)(b)}

Source: Bank of England.

- (a) The further along the spectrum the swaps extend (whether through one transaction or many), the greater the extent of the collateral upgrade.
 (b) Many security-to-security swaps take place without material collateral upgrades.

Chart 3.20 Repo against securities not eligible for liquidity buffer^{(a)(b)}

Sources: FSA regulatory returns and Bank calculations.

- (a) Banks include Barclays, HSBC, LBG, Nationwide, RBS and Santander UK.
 (b) Data as of 8 June 2012.

risks from encumbrance. Box 6 explains the issue and sets out the results of two FSA surveys on the topic.

Tighter management of collateral increases incentives to use innovative funding structures...

New financial stability risks may arise as market participants attempt to manage collateral more tightly — for example, by making greater use of innovative structures to save on their holdings of high-quality collateral. Collateral swaps, including securities lending and repo, are one means through which financial institutions can upgrade their collateral to meet collateral demands. They may allow banks temporarily to obtain liquid assets (such as gilts or cash) by swapping them for their own less liquid collateral (such as asset-backed securities). The transaction itself can take a variety of structures (Chart 3.19).

Collateral swaps can improve liquidity management and make better use of scarce collateral. But they also pose a number of risks, similar to other collateralised exposures and opaque funding structures. They create contingent liquidity and encumbrance risks, since margin calls require banks to top up the collateral backing these transactions should it fall in value. Collateral swaps could therefore have procyclical effects, similar to some other forms of funding. Because they are complex and increase interconnectedness, collateral swaps may also complicate risk and crisis management. And they present the recipients of less liquid assets with new risks as they may be unaccustomed to holding low-quality assets.

Given the paucity of data on these transactions, it is difficult to judge the true scale of collateral swaps and the risk that they may pose to the financial sector. But market contacts indicate that this type of activity is growing. And FSA data suggest that collateral swaps could be already sizable. The major UK banks have around £350 billion in repo transactions against assets not eligible for the FSA liquidity buffer. A survey by the International Capital Market Association found that in the European market, long-dated repo activity increased to almost 13% of transactions in December 2011, from just 1% a year earlier.⁽¹⁾ While most repos take place over short maturities, the proportion of repo that includes material collateral upgrades is greater for longer-maturity swaps (Chart 3.20).

...including use of client assets...

Aside from the funding risks caused by tight management of collateral, use of client assets to fund prime brokerage activities can lead to non-banks taking banking-type risks. For example, prime brokers often have a right to rehypothecate client securities in excess of amounts needed to secure loans to clients. This allows the prime broker to fund itself in a

(1) Although the survey did not break down the collateral provided, market intelligence and FSA regulatory data suggest such long-dated repos (greater than a year outstanding) generally involve a material collateral upgrade.

manner equivalent to taking deposits: the prime broker is borrowing from its client on an unsecured basis and can swap these securities for cash to fund its activities, leaving the client exposed to the credit risk of the broker. The client's right to ask for its securities back on demand exposes the firm to the risk of runs in the same way as a deposit-taker.

Though market contacts suggest the scale of this activity has been much reduced since 2008, risks remain. While investment firms and banks are generally subject to the same liquidity regulation in the United Kingdom, they are not covered by a deposit guarantee scheme or eligible for central bank liquidity. And these non-banks are also not currently within the scope of the United Kingdom's resolution regime. These risks are being considered in the FSB's work on shadow banking.

...and other funding structures that pose risks due to their opacity.

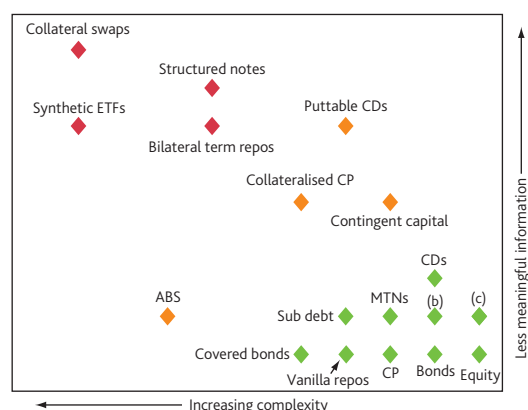
There is a wide range of opaque funding structures that complicate the monitoring and assessment of the risks that banks face. The risks due to opacity are higher for instruments that have complex structures and where little meaningful information is available (**Chart 3.21**). The most complex funding structures include those where credit risk assessment requires models and counterparty stress testing, liquidity risk assessment requires behavioural modelling and risk assessments are blurred by many layers of interconnections. The funding structures with the least meaningful information include those where disclosure is poor, third-party scrutiny is unavailable or partial and historical experience is limited.

A number of structures appear to be particularly opaque: collateral swaps, synthetic exchange-traded funds,⁽¹⁾ structured notes and bilateral term repos. These opaque instruments may amplify stress within the financial system, by acting as drains on collateral or liquidity.

Opacity can also result from transactions to reduce regulatory capital charges...

Complex intra-group booking practices are another factor increasing opacity in the financial system. It has been common practice for many international investment banks to transfer market risk to unregulated entities via intra-group transactions. The motivations can include tax efficiency, reduced regulatory capital charges, netting benefits, or centralisation of risk management expertise. Such practices raise concerns over whether sufficient capital is held against market risk. And the greater complexity and opacity in group structures can also complicate resolution in the event of failure.

Chart 3.21 Complexity and information availability for funding structures^(a)



Source: Bank of England.

(a) When assessed against the criteria outlined in the text, green diamonds represent funding structures that are relatively transparent, orange diamonds represent structures that are moderately opaque and red diamonds represent those that are highly opaque. Within each type of funding structure, it is recognised that some instruments are more opaque than others. This chart illustrates a conceptual ranking based on the most opaque instruments within each type of funding structure.

(b) Retail deposits.

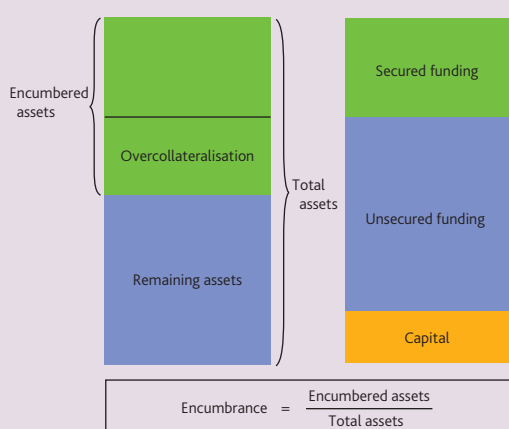
(c) Interbank and wholesale deposits.

(1) As noted in the June 2011 Report.

Box 6 Encumbrance

When a bank obtains secured funding, it pledges specific assets as collateral. Assets that are pledged or otherwise committed are referred to as encumbered assets. Secured creditors have prior claim on encumbered assets in the event of insolvency and, in some circumstances, any residual value from overcollateralisation may not be released to other creditors for a long time period. Encumbrance can be quantified as the ratio of encumbered assets to total assets (Figure 1). This box discusses encumbrance and the risks it poses to UK banks.

Figure 1 Encumbrance illustrated



Source: Bank of England.

What are the risks from encumbrance?

Secured funding increases banks' funding diversity and acts as a resilient source of financing in stressed market conditions when investors demand greater security. It has a key role to play in the sustainability of banks' funding. But there are also risks from high and rising levels of encumbrance.

Higher encumbrance levels may reduce the assets available to unsecured creditors in insolvency. Unsecured creditors may demand a higher spread in response to this increased subordination,⁽¹⁾ making such funding less desirable for banks to issue. The impact of encumbrance will depend on the quality of the encumbered assets and the degree of overcollateralisation — that is, the degree to which encumbered assets exceed their matching liabilities.

Higher encumbrance levels also reduce banks' headroom for additional secured funding by reducing the amount of unencumbered assets available as collateral. This, in turn, can increase investor concern about bank viability. High levels of encumbrance may therefore result in an adverse feedback loop that leads to higher encumbrance until there is no further capacity to issue secured funding.

The dynamics of secured financing terms, in particular overcollateralisation, can also amplify financial market procyclicality. For example, several rounds of increases in haircuts and margins have taken place during the crisis.⁽²⁾ This can amplify funding stresses and propagate them across a wide range of markets.

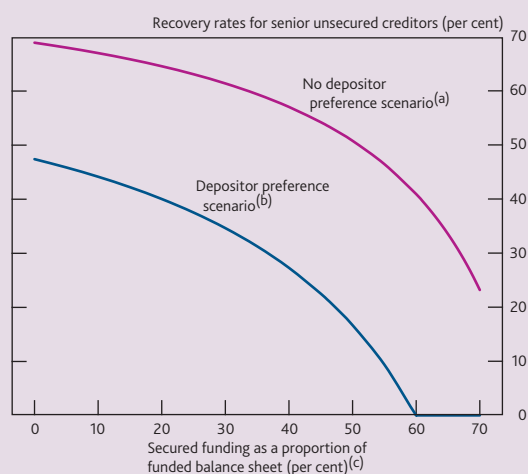
Risks from encumbrance may also be exacerbated by opacity. Increased unsecured creditor subordination may not be problematic if it is aligned with market expectations. But if it is challenging to obtain a full picture of the extent of encumbrance based on publicly disclosed information, investors will not be able to assess the risks involved and price them accordingly.

What factors influence encumbrance?

Encumbrance may increase during difficult points in the economic cycle. Banks may decide to increase encumbrance to help manage changing investor risk preferences and greater uncertainty over future solvency. There are also a number of regulatory initiatives in train that may exert upward pressure on encumbrance:

- Preferential regulatory treatment of covered bonds.** Covered bonds are subject to lower capital charges than unsecured debt with the same issuer under the Capital Requirements Directive. A similar approach is expected for insurers under Solvency II. Covered bonds are also included as Level II assets in the Liquidity Coverage Ratio of Basel III. The preferential regulatory treatment of covered bonds may incentivise banks to increase their use of this funding instrument, as has happened over recent years.
- Depositor preference.** UK bank depositors are currently *pari passu* with unsecured creditors in the creditor hierarchy. The UK Government, in its banking reform White Paper, has recently committed to introduce legislation that gives insured depositors preference above unsecured creditors in insolvency. Depositor preference would reduce recovery values for unsecured creditors (Chart A). Reduced recovery rates may make such funding more expensive and therefore less desirable for banks to issue. Correspondingly, secured funding may become comparatively more attractive to issue.
- Bail-in.** In line with the FSB 'Key attributes of effective resolution regimes', the European Commission has proposed a minimum resolution toolkit, which would include a statutory 'bail-in' tool. Bail-in would give resolution authorities the ability to write down unsecured debt or convert these instruments to equity, in part or in whole, at the point a failing bank enters resolution. Bail-in does not change the position of unsecured creditors in the creditor hierarchy. It makes it more likely, however, that unsecured creditors of the largest and most complex firms will bear losses should a firm fail.

Chart A Stylised illustration of recovery rates for senior unsecured creditors



Source: Bank calculations.

- (a) The no depositor preference scenario assumes: 25% overcollateralisation of secured funding; 30% write-down of assets in insolvency; all short-term unsecured creditors and 10% of customer depositors flee ahead of insolvency; and remaining customer depositors are *pari passu* with senior unsecured creditors. We also assume that secured creditors receive the exact value of their encumbered assets.
- (b) The depositor preference scenario assumes that 50% of the customer depositors are insured and they receive depositor preference to both uninsured depositors and senior unsecured creditors.
- (c) Stylised balance sheet is comprised of: assets (100), customer deposits (50), short-term unsecured debt (5), secured funding (30), senior unsecured debt (10) and equity (5). To create the curve, we maintain total liabilities at 95 but vary the amount of secured funding from 0 to 70.

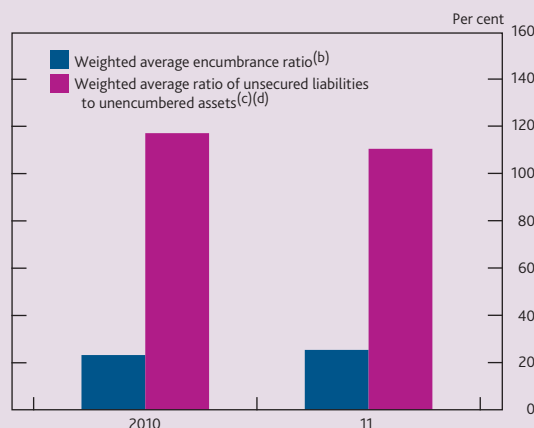
How encumbered are UK banks?

The previous *Report* explained that the FSA had conducted a survey of major UK banks' encumbrance levels. The FSA has subsequently completed a second survey for 2011 to add to the original 2010 results. Based on these survey data, **Chart B** illustrates average estimates for two funding metrics: an encumbrance ratio and the ratio of unsecured liabilities to unencumbered assets.

Chart B indicates that the weighted average encumbrance ratio for major UK banks remained broadly stable from 2010 to 2011. The strong covered bond issuance witnessed over the period had an increasing effect on reported encumbrance levels. But this was offset by other factors such as the winding down of the Bank's Special Liquidity Scheme. The ratio of unsecured liabilities to unencumbered assets decreased slightly. Assuming uniform asset quality, this indicates that banks' assets available in resolution have increased slightly.

There are, however, important caveats to the survey data. Providing survey data was challenging for banks and many returns were hard to validate. There were also inconsistencies in the reporting between the two surveys — for example, the 2011 survey included encumbrance arising from matched repo books that would tend to push up the encumbrance ratio. These caveats suggest that banks need to improve the timeliness and consistency of their data relating to encumbrance as a means of improving risk management of their balance sheets.

Chart B Funding metrics on encumbrance for major UK banks^(a)



Sources: FSA regulatory data, FSA survey data, published accounts and Bank calculations.

- (a) The weighted average encumbrance ratio is computed for major UK banks. The weighted average ratio of unsecured liabilities to unencumbered assets is computed for a subset of major UK banks.
- (b) Encumbrance ratio is the ratio of encumbered assets to total assets. There are differences between the 2010 and 2011 reported data. In particular, the 2011 survey included encumbrance arising from matched repo books.
- (c) Secured liabilities include repo, covered bonds and securitisations.
- (d) Both unsecured liabilities and unencumbered assets exclude derivatives.

There is a range of other encumbrance estimates provided by market intelligence and analysts. For the major UK banks, the average estimates are about 19%, below average levels from the FSA survey. The differences between these estimates exemplify the difficulties in assessing banks' true level of encumbrance. Outside estimates of encumbrance have sometimes focused on covered bonds, partly because information on them is more straightforward to obtain. But there are other types of bank activities, including derivatives, that encumber assets and covered bonds are not necessarily the most significant secured funding source for UK banks.

Banking system encumbrance levels also appear to vary widely across countries. Though definitions of encumbrance differ, estimates of banking sector encumbrance range from 3% in Finland to about 40% in Greece.⁽³⁾

Central bank funding measures in Europe, especially the LTRO, are likely to have increased encumbrance levels over the past year by increasing the proportion of banks' funding that is secured and overcollateralised. Similarly, banks that participate in the new 'funding for lending' scheme or the Extended Collateral Term Repo Facility may see their encumbrance levels increase. Going forward, uncertainties in the financial environment could lead banks to substitute additional secured for unsecured wholesale funding, thereby increasing overall encumbrance levels. But where encumbrance is driven by such cyclical phenomena, we may expect to see a corresponding decrease as the environment changes.

(1) This refers to subordination in an economic sense, not in legal terms.

(2) BIS (2010), 'The role of margin requirements and haircuts in procyclicality', *CGFS Paper No. 36*, March.

(3) Barclays Capital (2012), 'Over promising? Encumbrance at European banks', 8 March.

Regulatory initiatives are under way to tackle these concerns. Following its thematic review of booking practices in 2009–10, the FSA has moved to ensure that booking entities in the United Kingdom are fully capitalised. In the United States, reforms under Dodd-Frank will bring previously unregulated activity into the regulatory perimeter. Wider international reform efforts around recovery and resolution planning and OTC derivative markets will also shape intra-group booking practices.

A further source of opacity in the financial system is transactions that take place with a goal of reducing the amount of capital that a bank needs to hold given the assets on its balance sheet. One way in which this is carried out is through regulatory capital trades,⁽¹⁾ which seek to transfer the risk related to portfolios of assets from a bank to a third party, such as a hedge fund. If the structure of these transactions is not fully effective in transferring the risk, the bank may be undercapitalised as a result. Even if the risk is completely transferred, transactions of this type increase interconnectedness and reduce transparency about where risk sits in the financial system and how much capital is held against it.

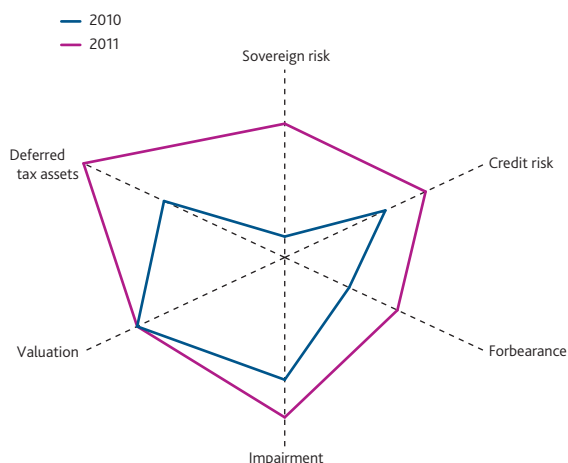
...reflecting an ongoing lack of transparency across many aspects of banking.

As discussed in the December 2011 *Report*, effective market discipline requires adequate disclosure by financial institutions to enable investors to understand the risks they face. To attain the benefits from market discipline, investors must be able to make use of the information provided and the information disclosed must not be destabilising to market functioning or hinder policy effectiveness. The 2011 annual accounts of the UK banks showed some progress over 2010 accounts in terms of conveying information on a variety of risks (**Chart 3.22**). But certain key gaps remained in areas where greater disclosure would be helpful, including on the maturity of sovereign debt holdings and the definition of forbearance. Progress against the FPC's previous recommendations on disclosure is summarised in Section 4. A box in Section 5 sets out the Committee's views on disclosure.

In addition, public information may not give an accurate picture of risk-adjusted performance.

Banks use a variety of metrics to convey to current and potential shareholders the benefits that they gain from ownership of the firm. These include direct measures such as the total revenues and profits that the bank has generated, as well as various metrics designed to enable shareholders to compare performance against other investment opportunities. These measures — such as return on equity, earnings per share and total shareholder returns — are often directly related to equity holdings. Other measures are also sometimes used,

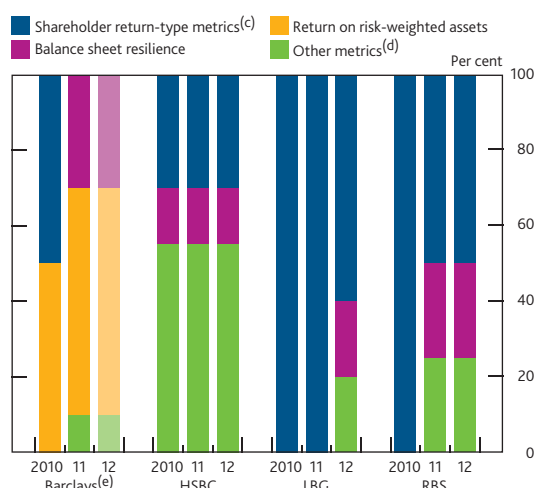
Chart 3.22 Disclosure in UK banks' 2010 and 2011 annual accounts^{(a)(b)(c)}



Sources: Published accounts and Bank calculations.

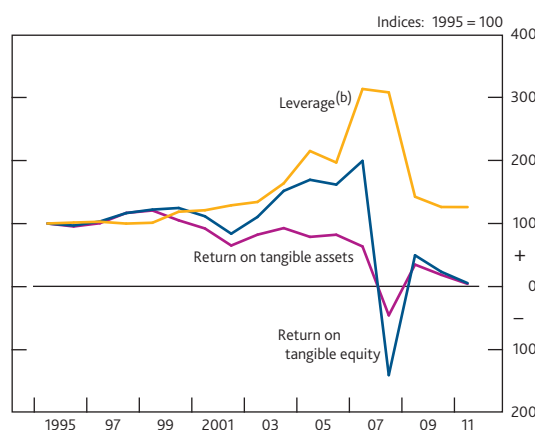
- (a) Sample includes Barclays, HSBC, LBG, RBS and Standard Chartered.
 (b) A position at the centre of the chart indicates none of the qualifying criteria have been met. A position at the outer edge of the chart signifies all of the criteria being met. Therefore a movement towards the outer parts of the chart indicates an improvement in disclosure.
 (c) This chart summarises an assessment of quantitative and qualitative information disclosed on fair-value methodologies (Valuation), direct and indirect sovereign risk exposures (Sovereign risk), lending activity (Credit risk), forbearance levels, strategy and definition (Forbearance), qualitative information about impairment (Impairment) and the treatment of deferred tax assets (Deferred tax assets).

(1) Also known as significant risk transfer transactions, or tranche protection trades.

Chart 3.23 Metrics used in long-term incentive plans^{(a)(b)}

Sources: Published accounts and Bank calculations.

- (a) Long-term incentive plans (LTIPs) paid to executive directors at the specified banks.
 (b) Year refers to the date the LTIP commences.
 (c) Includes metrics such as dividend payout, economic profit, earnings per share, return on equity and total shareholder return.
 (d) 'Other metrics' includes strategy, cost efficiency and metrics based on staff and customer satisfaction.
 (e) In its 2011 *Annual Report*, Barclays did not indicate any changes to the metrics it will use to determine LTIPs commencing in 2012. This chart assumes metrics used for Barclays' 2012 LTIP will be the same as metrics used for Barclays' 2011 LTIP.

Chart 3.24 Return on tangible equity, return on tangible assets and leverage for UK banks^(a)

Sources: Published accounts and Bank calculations.

- (a) The data are a backwardly consistent sample of institutions providing banking services in the United Kingdom in 2011. The sample includes the following financial groups: Barclays, HSBC, LBG, National Australia Bank, Nationwide, RBS and Santander UK. Where data are consistently available for the UK component of the banking group, these have been used. Northern Rock and Bradford & Bingley were included in the chart up to 2007 and 2008 respectively.
 (b) Leverage here is the ratio of tangible assets to tangible equity.

which are less closely tied to return on equity — such as return on assets, return on risk-weighted assets or risk-adjusted return on capital.

To align management incentives with shareholders, boards often use these same metrics to judge management performance. Thus CEO and senior executive remuneration has often been tied to quantitative criteria, such as return on equity in excess of a given target, or total shareholder returns in the top quartile relative to a peer group. **Chart 3.23** shows how the long-term incentive plans of major UK banks are weighted to reflect various types of performance metrics.

But non risk-adjusted metrics can provide a misleading guide to the performance of banks. In the short term, banks can achieve targets in ways that are not necessarily compatible with the long-term success of the business. For example, banks might pay dividends to shareholders to achieve a dividend payout target, without taking due account of the long-term risks they face. Banks may also increase leverage to generate higher returns for a given unit of equity, increasing risk to the business. In the decade leading up to 2007, return on assets fell for UK banks while return on equity rose — and leverage rose sharply (**Chart 3.24**). In addition, price to earnings ratios vary according to perceptions of risk, so a higher return on equity at a bank that has increased its risk-taking may not result in a proportionate rise in its share price.

In the very long term, return on equity may be an accurate measure of shareholder value. But the financial cycle over which these effects are likely to materialise is much longer than the one to three-year targets typically used to judge bank and management performance.⁽¹⁾

When management remuneration is directly tied to meeting targets, such as return on equity, the incentives of managers and long-term fortunes of the business may therefore not be well aligned. Given the disadvantages posed by non risk-adjusted remuneration targets, the FSA Remuneration Code requires that the performance measures used to calculate bonus pools should include adjustments for current and future risks. This has led to some changes in how UK banks remunerate their senior executives. While the range of measures varies across institutions, risk-adjusted metrics are now included within an overall basket of measures used to judge performance. In addition, the Code provides for deferred bonuses to be clawed back in the event of significant poor performance or a failure of risk management.

(1) Literature has estimated the length of the credit cycle to range from 8 to 20 or 30 years. See Aikman, D, Haldane, A and Nelson, B (2010), 'Curbing the credit cycle', Columbia University Center on Capitalism and Society Annual Conference 'Microfoundations for Modern Macroeconomics', New York and Drehmann, M, Borio, C and Tsatsaronis, K (2011), 'Characterising the financial cycle: don't lose sight of the medium term!', 14th Annual International Banking Conference, Federal Reserve Bank of Chicago.

Some banks are also extending the period over which awards are deferred or accrued in order to increase the alignment between management incentives and long-term performance. For example, HSBC has recently extended the vesting period of its long-term incentive plan from three years to five and has added the condition that shares received at the end of the vesting period must be retained until the participant retires or leaves the group. This creates incentives closer in spirit to a partnership model.

But shorter-term metrics of return on equity and similar measures remain prominent in investor communications and have not been eliminated from remuneration contracts. As such, shareholders and bank executives may be continuing to make decisions without considering the full implications for long-term business performance. For example, any management decision on the optimal amount of capital for a bank should take into account that the return on equity required by investors would be expected to fall if banks become safer and the expected volatility of their returns falls.

4 Macprudential policy since the December 2011 Report

The Committee has held two policy meetings since the December 2011 Report. Following its March meeting, the Committee sent advice on potential powers of Direction for the future statutory FPC to HM Treasury. During its June meeting, the Committee reviewed progress against its previous recommendations. One previous recommendation has now been fully implemented and progress to implement the other, remaining recommendations is largely on track.

This section describes the activity of the Committee and the progress made implementing its recommendations over the past six months. In this text, each recommendation has been given an identifier to ensure consistent referencing of recommendations within and between *Financial Stability Reports*. An identifier 11/Q2/1 refers to the first recommendation made following the 2011 Q2 FPC meetings, and so on.

4.1 Activity of the Committee

The Committee has held two policy meetings and issued five additional recommendations since the publication of the December 2011 Report. A full account of these meetings will be made available in the published Records. The latest recommendations and the conclusions of the Committee's June meeting are outlined in Section 5 of this Report.

In March, following HM Treasury's earlier request for the interim FPC to provide advice on potential powers of Direction for the statutory FPC, the Governor wrote to the Chancellor with the interim Committee's advice. This included that the FPC should initially seek powers of Direction over a countercyclical capital buffer, sectoral capital requirements and a leverage ratio. In addition to banks, the range of institutions to which these tools would apply could include building societies, investment firms, insurers and a variety of funds and investment vehicles.

The Committee also identified a number of other potential instruments that may also be desirable, but decided not to include them in its advice on initial powers of Direction.

4.2 Progress made in implementing recommendations

In November 2011, the Committee made three recommendations, as explained in the December 2011 Report.

Two of these recommendations superseded a number of earlier recommendations, as summarised in Table 4.A. At its June 2012 policy meeting, the Committee considered progress against the remaining recommendations. The rest of this section describes progress on each in more detail and the Committee's assessment, starting with the oldest.

Table 4.A Summary of recommendations

Id. ^(a)	Short title	Lead	Status ^(b)
11/Q2/1	Improved disclosure of exposures by major UK banks	FSA	Implemented
11/Q2/6	FSA monitoring of earnings retention of UK banks	FSA	Superseded by 11/Q4/1 and 11/Q4/2
11/Q3/1	Strengthened capital and liquidity without constraining lending	UK banks	Superseded by 11/Q4/1 and 11/Q4/2
11/Q3/2	Balance sheet management to limit fragility	FSA	Superseded by 11/Q4/1 and 11/Q4/2
11/Q3/3	Flexibility in EU legislation to enable national discretion	HMT	Action under way
11/Q4/1	Building capital by limiting distributions and raising external capital	UK banks	Superseded by 12/Q2/1
11/Q4/2	Strengthening balance sheet resilience without constraining lending	FSA	Superseded by 12/Q2/2 and 12/Q2/3
11/Q4/3	Disclosure of leverage ratios	FSA	Action under way
12/Q2/1	Build a sufficient cushion of loss-absorbing capital against current risks	FSA	New
12/Q2/2	Improve balance sheet resilience, including through prudent valuation	FSA	New
12/Q2/3	Manage and mitigate balance sheet risks from euro-area stress	UK banks	New
12/Q2/4	Clarify usability of regulatory liquid asset buffers in liquidity stress	FSA	New
12/Q2/5	Work towards consistent and comparable Pillar 3 disclosures	UK banks, FSA and BBA	New

(a) Identifiers, shown in this column, allow ongoing tracking of recommendations. An identifier 11/Q2/3 refers to the third recommendation made at the 2011 Q2 FPC meeting.

(b) The status of each recommendation is described as one of: 'New', 'Not implemented', 'Plan agreed', 'Action under way', 'Implemented' or 'Superseded'.

Recommendation 11/Q2/1

The Committee advised the Financial Services Authority (FSA) to ensure that improved disclosure of sovereign and banking sector exposures by major UK banks becomes a

permanent part of their reporting framework, and to work with the FPC to consider further extensions of disclosure in the future.

Following the FSA's work with banks and their auditors, there were several areas of enhanced disclosure in UK banks' 2011 interim and annual reports. These included disclosures of direct euro-area exposures; credit risks, impairment and loans subject to forbearance agreements; and deferred tax assets. These improvements have become a permanent feature of UK banks' disclosures, as part of the British Bankers' Association code for financial reporting disclosures.

The FSA has continued to work with the Bank, and observers from HM Treasury and the Financial Reporting Council, to develop proposals for further improvements to UK banks' disclosures in future reporting cycles.

Status: Implemented

The Committee has outlined their general approach to further disclosure initiatives in Box 7 in Section 5 of this *Report*. In line with this approach, the Committee has issued a new recommendation to improve Pillar 3 disclosures, described in Section 5 of this *Report*. The additional disclosures in UK banks' 2011 annual reports and the framework to deliver improvements to banks' disclosures on an ongoing basis conclude the recommendation from June 2011.

Recommendation 11/Q2/6

The Committee advised the FSA, as part of its regular supervisory dialogue with banks, to ensure that the proportion of earnings retained is consistent with the advice in Recommendation 11/Q2/5.⁽¹⁾

Status: Superseded

Recommendation 11/Q3/1

The Committee recommended that banks should take any opportunity they had to strengthen their levels of capital and liquidity so as to increase their capacity to absorb flexibly any future shocks, without constraining lending to the wider economy.

Status: Superseded

Recommendation 11/Q3/2

The Committee advised the FSA to encourage banks, via its supervisory dialogue, to manage their balance sheets in such a way that would not exacerbate market or economic fragility.

Status: Superseded

These three recommendations, made in June and September 2011, and all encouraging balance sheet management and capital building by banks, were superseded by the Committee's first and second recommendations in November 2011. Progress against these updated recommendations is discussed later in this section.

Recommendation 11/Q3/3

The Committee urged HM Treasury to continue its efforts to ensure that developments in European legislation did not provide an impediment to the ability of the Committee to use macroprudential policy instruments in the interests of financial stability in the United Kingdom, as envisaged in the consultation documents proposing the establishment of the Financial Policy Committee.

Since December, a number of important proposals have made progress through the EU legislative process. HM Treasury has continued to work with Member States and EU legislative bodies on the proposals to implement the Basel III agreement in a revised Capital Requirements Directive (CRD4/CRR) and the proposals for margining of OTC derivatives trades and the role of central counterparties in the European Market Infrastructure Regulation (EMIR).

On CRD4/CRR, the European Parliament, Commission and the Council have entered 'trilogue' to negotiate differences in their texts, a process which may be concluded over the summer. Text on EMIR has now been agreed by the three institutions and is being finalised.

Status: Action under way

There has been progress in ensuring national flexibility for macroprudential policies in the CRD4/CRR and EMIR draft texts. But the Committee remains concerned that this legislation, and potentially future legislation, might constrain the use of appropriate policy instruments by national macroprudential authorities, including the FPC. Similar concerns have also been raised by other bodies internationally. The European Systemic Risk Board's General Board sent a letter to EU legislators in March requesting improvements to the European Commission's draft text on CRD4/CRR. HM Treasury will continue its efforts as the EU legislative processes proceed.

Recommendation 11/Q4/1

Following its recommendation from September, and given the current exceptionally threatening environment, the Committee recommended that, if earnings are insufficient to build capital levels further, banks should limit distributions and give serious consideration to raising external capital in the coming months.

As explained in Sections 1 and 2 of this *Report*, economic and financial conditions are still exceptionally threatening. The FSA has worked with UK banks to pursue higher capital levels and, in aggregate, capital levels have increased slightly since the December 2011 *Report*.

(1) Recommendation 11/Q2/5, 'The Committee advised UK banks that, during the transition to the new Basel III capital requirements, they should take the opportunity of periods of strong earnings to build capital so that credit availability is not constrained in periods of stress', was closed in the December 2011 *Report*, as it was deemed to be superseded by the first recommendation made in 2011 Q3.

The FSA has discussed the current and prospective capital positions of UK banks with their senior management. These discussions have covered the importance of building capital levels and distribution strategy. In particular, the FSA has emphasised the need for UK banks to prioritise retentions over disbursements, and specifically to limit their bonus distributions and strengthen their capital positions through retained earnings.

The 2011/12 bonus round saw a fall in the size of bonus pools, improvements in the way firms adjust bonus pools for risk and changes to the way bonuses are funded. And since this recommendation was issued, the FSA has undertaken in-depth reviews of firms' compliance with the Remuneration Code. The Remuneration Code, which seeks to limit the award of guaranteed bonuses, came into effect on 1 January 2011. The FSA has since identified that the number of guarantees to Code staff at major UK firms has declined (15 in 2011 compared to 24 in 2010). In the near term, this should provide UK banks with more flexibility to use retained earnings to build their overall capital levels, though it is recognised that the scope to build capital through greater restraint of distributions is limited.

Status: Superseded

The Committee noted the steps taken to build capital through limiting distributions and through disposals. The weakened profitability of UK banks, in the current environment, however, had reduced the scope for further building of capital from internal sources. The Committee noted that UK banks had not used external issuance of equity or convertible instruments to bolster loss-absorbing capacity since this recommendation was made.

During its June meeting, the Committee updated its advice on the appropriate measures to mitigate the heightened risk to UK financial stability of a severe deterioration in conditions in the euro area. The latest recommendation is discussed in detail in Section 5 of this Report.

Recommendation 11/Q4/2

The Committee reiterated its advice to the FSA to encourage banks to improve the resilience of their balance sheets without exacerbating market fragility or reducing lending to the real economy.

As part of its supervisory dialogue, the FSA has been working with banks to bolster their resilience, while continuing to support their lending activities. This has included working with banks on their funding plans and their plans to run down non-core assets, given their individual balance sheets and business models. UK banks have made progress and are on track to meet their plans, as demonstrated in their 2012 Q1 results.

Alongside the Bank of England and the Government, the FSA continues to work closely on measures UK banks can take to mitigate the risks posed by events in the euro area, particularly those that could arise from a severe escalation of stress.

Status: Superseded

Progress has been made in implementing plans to bolster banks' resilience. These are long-term initiatives and the FSA work with UK banks continues.

In reviewing progress against this recommendation, the Committee updated its view on priorities for UK banks' balance sheet management. As a result it has updated this recommendation, as discussed in detail in Section 5 of this Report.

Recommendation 11/Q4/3

The Committee recommended that the FSA encourages banks to disclose their leverage ratios, as defined in the Basel III agreements, as part of their regular reporting not later than the beginning of 2013.

Following FSA discussions with chief financial officers earlier this year, the major UK banks and building societies are expected to disclose leverage ratios, calculated according to the fully implemented Basel III definitions, in their end-2012 annual reports. Thereafter, UK banks and building societies will report on both a half-year and end-year basis.

Status: Action under way

In the months ahead, the FSA will continue to work with individual UK banks and building societies on the details of disclosing leverage ratio data. The Committee emphasises that this recommendation only relates to disclosing leverage and does not seek compliance with any leverage ratio requirement by the beginning of 2013. They also encourage the FSA to work with banks to make sure that this disclosure improves clarity without affecting banks' abilities to execute their strategies to meet Basel III transition paths. Publication of these data in end-2012 annual reports should conclude this recommendation.

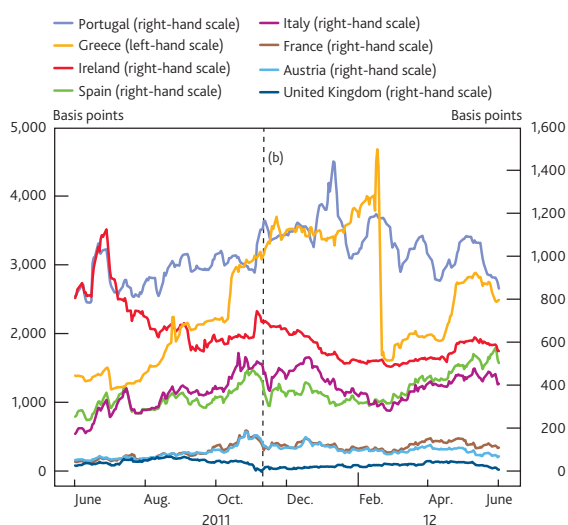
Other ongoing actions

Activity has also continued around some earlier recommendations. This work mainly relates to Committee recommendations highlighting the need for ongoing monitoring of activities that have the potential to create risks. These include forbearance and associated provisioning practices, and also banks' use of opaque funding structures. The FSA will report back to the Committee if this monitoring reveals any concerns or challenges earlier conclusions.

5 Prospects for financial stability

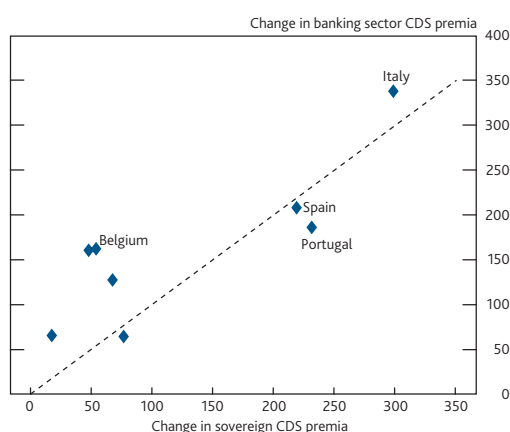
The outlook for financial stability has deteriorated. Stresses have persisted due to increasing concerns about sovereign debt sustainability, banking sector resilience and imbalances across the euro area. Past efforts by UK banks to build resilience through higher capital levels and stronger funding structures have provided some insulation from strains in the euro area. And higher liquid asset buffers provide significant protection against potential future funding strains. But progress in building capital has slowed recently and, despite a continuing reduction of structural funding vulnerabilities, UK banks' funding costs remain high, partly due to investors' concerns about potential future losses. The pass-through of higher funding costs to lending rates could lead to a further tightening of credit conditions, exacerbating a potential adverse feedback loop were the economy to weaken and the quality of bank assets to deteriorate. Various policy measures have been announced aimed at reversing this process, notably the 'funding for lending' scheme. In addition, the Bank of England has activated the Extended Collateral Term Repo Facility, thus providing additional liquidity insurance to guard against prospective market stress.

- The Committee recommends that, taking into account each institution's risk profile, the Financial Services Authority (FSA) works with banks to ensure they build a sufficient cushion of loss-absorbing capital in order to help to protect against the currently heightened risk of losses. That cushion may temporarily be above that implied by the official transition path to Basel III standards and would support additional lending to the real economy, including via the planned 'funding for lending' scheme. Banks should continue to restrain cash dividends and compensation in order to maximise the ability to build equity through retained earnings.
- In addition, the Committee reiterates its recommendation to the FSA to encourage banks to improve the resilience of their balance sheets, including through prudent valuations, without exacerbating market fragility or reducing lending to the real economy.
- The Committee recommends that banks work to assess, manage and mitigate specific risks to their balance sheets stemming from current and future potential stress in the euro area.
- The Committee recommends that the FSA makes clearer to banks that they are free to use their regulatory liquid asset buffers in the event of a liquidity stress. The ability to do so is enhanced by additional contingent liquidity made available to banks by the Bank. The Committee also recommends that the FSA considers whether adjustments to microprudential liquidity guidance are appropriate, taking some account of this additional liquidity insurance.
- The Committee recommends that UK banks work with the FSA and the British Bankers' Association (BBA) to ensure greater consistency and comparability of their Pillar 3 disclosures, including reconciliation of accounting and regulatory measures of capital, beginning with the accounts for the current year.

Chart 5.1 Selected European government bond spreads^(a)

Sources: Thomson Reuters Datastream and Bank calculations.

- (a) Yield to maturity of benchmark ten-year government bond less yield to maturity of benchmark ten-year German government bond.
 (b) December 2011 Report.

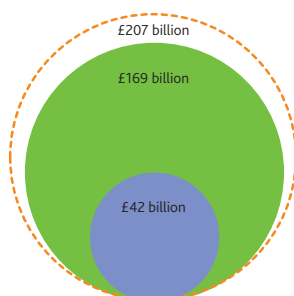
Chart 5.2 Changes in sovereign and banking sector CDS premia^{(a)(b)(c)(d)}

Sources: Capital IQ, Markit Group Limited, Thomson Reuters Datastream and Bank calculations.

- (a) The change is measured from 21 June 2011 to 21 June 2012.
 (b) The other countries included, in addition to those labelled on the chart, are Austria, France, Germany and the Netherlands.
 (c) Banking sector CDS are asset-weighted.
 (d) Five-year senior CDS premia.

Chart 5.3 UK banks' exposures to vulnerable euro-area countries

- Total exposures to sovereigns and banks in vulnerable euro-area countries
- Total exposures to sovereigns, banks and non-bank private sector borrowers (net of provisions) in vulnerable euro-area countries
- Core Tier 1 capital



Sources and footnotes: see Table 2.A.

Sections 1–3 of this *Report* outline developments in the global financial environment and short and medium-term risks to financial stability. Section 4 describes the activity of the Committee and the progress made in implementing its recommendations. This section records the decisions taken by the Committee at its June meeting in the light of its conclusions about the outlook for financial stability.

5.1 The outlook for financial stability

The outlook for financial stability has deteriorated, particularly in light of heightened uncertainty about how, and when, euro-area risks will be resolved.

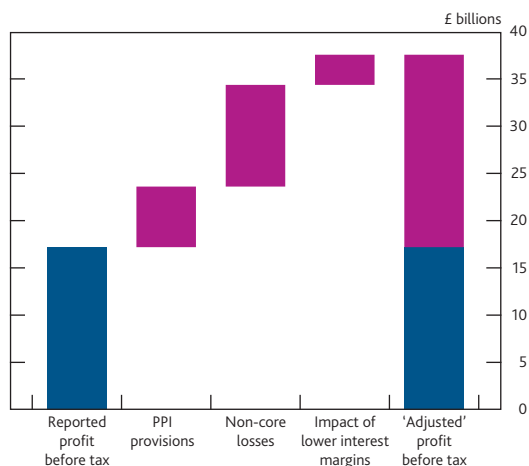
Risks to the financial system

Official policy measures, including the ECB's longer-term refinancing operations (LTROs), improved bank funding conditions and reduced market volatility during the first quarter of 2012. But underlying concerns about sovereign indebtedness, banking sector resilience and imbalances across the euro area persisted and the improvement in sentiment proved temporary. Spreads on Spanish debt relative to German bunds widened from already high levels and bond yields of several other euro-area governments remained elevated and volatile (**Chart 5.1**).

Market strains re-emerged due to rising financial distress and political tension in the euro area, particularly regarding Greece and concerns that the country might require further debt restructuring and/or leave the euro. One factor that reinforced perceptions of strong links between the creditworthiness of European sovereigns and euro-area banks (**Chart 5.2**) was the efforts of the Spanish authorities to recapitalise the Spanish banking sector, culminating in a request for financial assistance from the European Financial Stability Facility (EFSF)/European Stability Mechanism (ESM). Building sovereign concerns manifested themselves in a sustained redistribution of international capital, with growing evidence of capital flight from some euro-area banks and capital markets, and a reluctance by investors to hold some euro-area assets.

Major UK banks' exposures to the most vulnerable economies' sovereigns and banks are low, totalling 6% and 14% of core Tier 1 capital respectively. But UK banks have significantly larger exposures to private sector borrowers in many of these countries (**Chart 5.3**). And although some banks have made sizable provisions, the risk of further significant losses persists while the macroeconomic backdrop remains depressed. In addition, banks in other EU countries are also exposed to vulnerable euro-area countries, leading to the potential for indirect losses for UK banks. If contagion spread, there would likely be significant disruption through secondary channels, such as counterparty risk, correlated funding stresses and macroeconomic feedbacks.

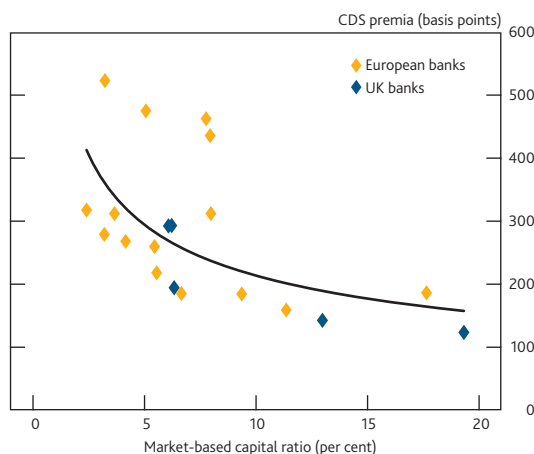
Chart 5.4 UK banks' reported and 'adjusted' profit before tax for 2011(a)(b)(c)(d)



Sources: Published accounts and Bank calculations.

- (a) Barclays, HSBC, LBG, Nationwide, RBS and Santander UK.
 (b) PPI provisions add back specific provisions made during 2011 for PPI redress.
 (c) Non-core losses add back reported losses before tax for non-core portfolios wherever disclosed (this includes HSBC's US run-off portfolio and LBG and RBS's non-core portfolios).
 (d) Lower interest margins add back net interest income that would have been earned if net interest margins had remained constant at 2010 levels.

Chart 5.5 Market-based capital ratios and funding costs(a)(b)(c)



Sources: Capital IQ, Markit Group Limited, published accounts and Bank calculations.

- (a) Market-based capital ratios are banks' market capitalisation as a percentage of published risk-weighted assets.
 (b) The sample shown is the largest 20 European banks by assets.
 (c) Funding costs are proxied by five-year senior CDS premia. The 'line of best fit' shown above illustrates their relationship with market-based capital ratios.

These concerns are against a backdrop of deteriorating global growth prospects and weaker economic data, not only at home but also from foreign countries.

Resilience of the financial system

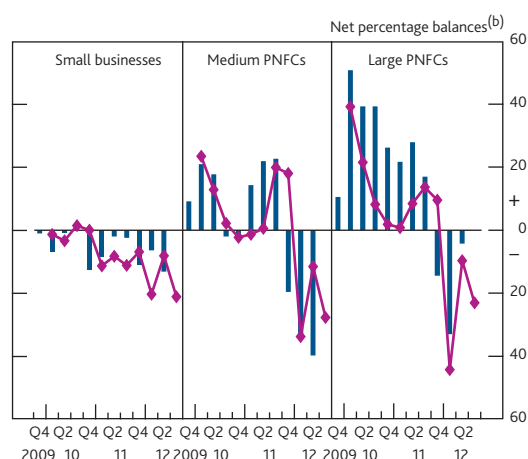
Efforts by UK banks to build resilience through higher capital levels and stronger funding structures have provided some insulation from strains in the euro area. In aggregate, the four largest UK banks have increased their nominal core Tier 1 capital levels by £90 billion over the past four years. But progress in building capital levels has slowed recently — since the start of 2011, increases in capital ratios have been largely driven by a reduction in risk-weighted assets, with capital levels remaining broadly flat. Earnings continued to be constrained by a number of factors, including structural balance sheet changes, redress for payment protection insurance (PPI) mis-selling and squeezed net interest margins due to elevated funding costs (Chart 5.4). These factors are likely to provide a drag on future earnings for some time. External issuance has had a limited impact on capital levels with no major UK bank issuing new equity, other than to pay dividends or staff.

UK banks have continued to improve their funding resilience. Structural funding vulnerabilities have been reduced as deposit growth and non-core asset disposals have limited banks' need to access wholesale funding markets. Banks also took advantage of the window of opportunity provided by the ECB's LTROs to accelerate their wholesale funding programmes for 2012. But recent reviews of the ratings of global banks added to uncertainty in the short term. Funding costs have remained high, partly due to investors' concerns about potential losses. The relationship between market-based capital ratios and funding costs suggests that perceptions of solvency and funding costs are related, and that higher capital ratios can help to reduce funding costs (Chart 5.5).

UK banks' holdings of highly liquid assets have tripled since the end of 2008, accounting for 15% of total funded assets in May 2012 and providing significant protection against potential future funding strains. And UK banks had pre-positioned over £265 billion of collateral for use in the Bank's Discount Window Facility (DWF) at end-March 2012. After applying appropriate haircuts, this means the Bank could lend around £160 billion through this facility, or around 10% of annual UK GDP.

Pre-positioned assets may also be used to obtain sterling liquidity in the Bank's Extended Collateral Term Repo (ECTR) Facility. The ECTR is a contingency liquidity facility for use in the event of actual or prospective system-wide stress. The announcement of its activation on 15 June 2012 was intended to mitigate risks to financial stability arising from a prospective market-wide shortage of sterling liquidity, by lending to the banking system against a wide range of collateral.

Chart 5.6 Spreads over reference rates on lending to corporates by firm size^(a)



Source: Bank of England.

- (a) Net percentage balances are calculated by weighting together the responses of those lenders who answered the question. The blue bars show the responses over the previous three months. The magenta diamonds show the expectations over the next three months. Expectations balances have been moved forward one quarter so that they can be compared with the actual outcomes in the following quarter.
- (b) A positive balance indicates that spreads have fallen such that, all else being equal, it is cheaper for companies to borrow.

Credit conditions

Credit growth has remained weak. Net lending to the UK corporate sector has fallen during the period since the *December Report*, having contracted since 2009. And growth in both secured and unsecured lending by banks to UK households remains sluggish. There are a number of indicators, including the Bank's *Credit Conditions Survey*, that point to a further weakening in the next few months (**Chart 5.6**). And two major UK banks have already announced their intention to slow UK mortgage lending this year.

As discussed in Box 3, the tightness of credit conditions over the past few years is likely to be due to a combination of supply and demand factors. More recently, the role of tight supply conditions in weak credit growth appears to have strengthened. Banks have been passing through higher funding costs to the interest rates on both corporate and secured household lending. Ongoing uncertainty around euro-area outcomes poses risks of a further round of tightening and falls in demand. One of the aims of the 'funding for lending' scheme announced earlier this month is to help to ease credit conditions to the UK real economy by reducing the cost of funding loans.

5.2 Mitigating risks to financial stability

This section summarises the policy steps which, in the Committee's view, are needed to support financial stability in the current environment.

Capital

At its previous meetings, the FPC recommended that banks build their capital levels in order to enhance resilience (see Section 4 for an update on the progress of previous recommendations). A strongly capitalised banking system should be better placed to absorb future shocks and so maintain future credit provision should those severe risks crystallise.

Risks from the euro area remain exceptionally threatening and highly uncertain. Although UK banks have considerable buffers of capital in comparison to their direct euro-area exposures, they remain vulnerable to difficult-to-calibrate stresses from second-round effects. Moreover, if a number of banks were to suffer significant losses simultaneously, the UK banking system as a whole might have insufficient capital to retain investor confidence and support lending. And for some firms, these risks are compounded by the nature of their business model and uncertainty about their asset valuations.

Credit conditions in the United Kingdom have also tightened further since the previous FPC policy meeting. This increases the potential for an adverse feedback loop — as banks reduce the supply of credit, macroeconomic conditions are likely to worsen, increasing losses on banks' balance sheets. Higher

levels of capital should provide more capacity for firms to extend credit, as well as lowering funding costs. The Committee supports the intention of the 'funding for lending' scheme to ease credit conditions by lowering the cost of funding lending.

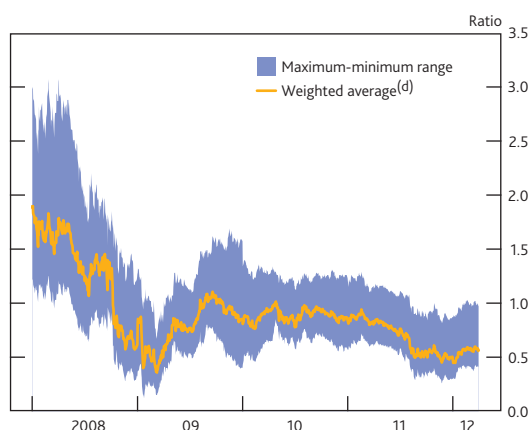
Recommendation 1

The Committee recommends that, taking into account each institution's risk profile, the FSA works with banks to ensure they build a sufficient cushion of loss-absorbing capital in order to help to protect against the currently heightened risk of losses. That cushion may temporarily be above that implied by the official transition path to Basel III standards and would support additional lending to the real economy, including via the planned 'funding for lending' scheme. Banks should continue to restrain cash dividends and compensation in order to maximise the ability to build equity through retained earnings.

In addition to restraint on distributions and compensation, banks could build loss-absorbing capacity through a variety of means including debt-for-equity swaps and the issuance of equity or contingent capital instruments that convert into equity on terms approved by the FSA.

The Committee's intention in making this recommendation is that banks build a cushion of capital temporarily to protect against current exceptional threats to their balance sheets. Some of the additional capital raised may be used to support lending, including that extended under the 'funding for lending' scheme, but the expectation is that this policy would lead to a temporary increase in capital ratios, so that if current risks crystallise, additional capital would be available to absorb losses. At that point, or if the current risks recede, banks' capital ratios could then fall back to the official transition path to the Basel III standards.

Chart 5.7 UK banks' price to book ratios^{(a)(b)(c)}



Sources: Capital IQ, Thomson Reuters Datastream and Bank calculations.

(a) Barclays, HSBC, LBG and RBS.

(b) Between 1 January 2008 and 21 June 2012.

(c) 2012 data uses total assets as at 2012 Q1 except Barclays which uses 2011 Q4.

(d) Asset-weighted.

Banks' balance sheet management

At its meetings in September and November 2011, the Committee made policy recommendations aimed at encouraging banks to improve the resilience of their balance sheets without exacerbating market fragility or reducing lending to the real economy. Progress has been made, as set out in Section 4. But banks could take further steps to reduce the riskiness of their balance sheets. Concerns about redenomination risks and banking book exposures in the euro area are contributing to a lack of investor confidence in banks and uncertainty about asset valuations. That, together with uncertainty about future earnings prospects, has depressed price to book ratios (Chart 5.7).

Recommendation 2

In addition, the Committee reiterates its recommendation to the FSA to encourage banks to improve the resilience of their balance sheets, including through prudent valuations,

without exacerbating market fragility or reducing lending to the real economy.

Recommendation 3

The Committee recommends that banks work to assess, manage and mitigate specific risks to their balance sheets stemming from current and future potential stress in the euro area.

Liquidity

The Committee discussed whether there were policy measures with respect to liquidity that it could take to bolster resilience. The FSA's introduction of quantitative microprudential liquidity standards in 2010, by encouraging banks to increase their own self-insurance, had played a major role in increasing resilience, underpinning a reduced reliance by banks on short-term funding.

The significant improvement in banks' liquidity positions has placed them in a strong position to respond to market stress by using their liquidity buffers. Further, the UK regime has provided a bridge to the evolving international requirements on liquidity, such as the Liquidity Coverage Ratio and Net Stable Funding Ratio. However, while supporting the long-term policy goal of agreeing international standards for liquidity regulation, the Committee judged that more consideration of how such standards interacted with, and were influenced by, central bank liquidity insurance facilities was needed.

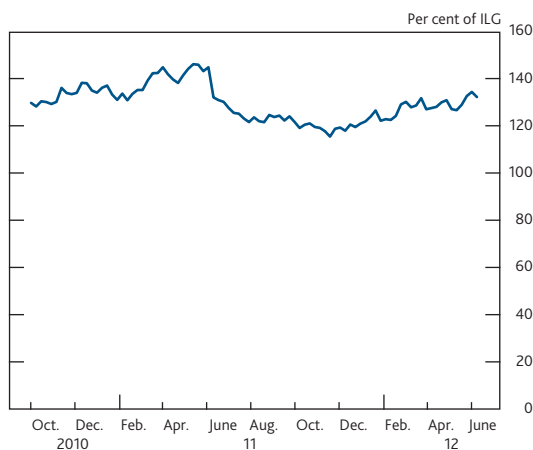
UK banks' current liquid asset holdings, at around £500 billion, are well in excess of current regulatory guidance (Chart 5.8). The Committee is concerned to ensure that the banks are willing to run down their liquidity buffers, as intended, during periods of stress. If banks were willing to use these buffers, without reversing progress made to date in reducing reliance on short-term funding sources, this could support additional lending to the real economy.

The activation of the ECTR Facility has resulted in additional liquidity being made available proactively at regular intervals. Further, the DWF would provide liquidity to any solvent and viable bank on demand. Together, these measures should imply that banks' need to self-insure is lower.

Recommendation 4

The Committee recommends that the FSA makes clearer to banks that they are free to use their regulatory liquid asset buffers in the event of a liquidity stress. The ability to do so is enhanced by additional contingent liquidity made available to banks by the Bank. The Committee also recommends that the FSA considers whether adjustments to microprudential liquidity guidance are appropriate, taking some account of this additional liquidity insurance.

Chart 5.8 Aggregate liquid asset holdings of UK banks as a percentage of FSA Individual Liquidity Guidance (ILG)^(a)



Sources: FSA and Bank calculations.

(a) UK 'defined liquidity groups' for Barclays, HSBC, LBG, Nationwide, RBS and Santander as designated by the FSA for liquidity regulation purposes.

The Committee noted that increased willingness of banks to use regulatory liquid asset buffers could potentially enhance the efforts of the Monetary Policy Committee (MPC) to stimulate the economy, to the extent that regulatory liquidity requirements might be operating to increase the demand for reserves, attenuating the effect on the economy of the Bank's increased supply of reserves as a result of the MPC's asset purchase programme.

Disclosure

The Committee has focused on the role of disclosure as a means of bolstering financial stability through greater market discipline. Box 7 outlines the FPC's approach to disclosure in more detail. An important aspect of effective disclosure is to ensure comparability across institutions and so enable the authorities and investors to compare and price risks across the financial system.

In its policy discussions, the FPC noted that uncertainty about risks and the capital that should be held to cushion unexpected losses could be reduced by improved Pillar 3 disclosures. These require banks to disclose key information on capital, risk exposures and risk assessment processes on at least an annual basis. They are intended to enable market participants to assess the risk profile and capital adequacy of an institution and provide information about regulatory capital which is not available in annual accounts. Such disclosure became mandatory for all European banks at the end of the 2008 financial year.

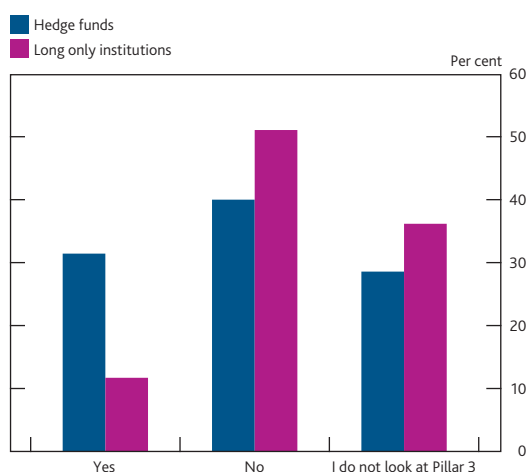
Market participants have indicated that the effectiveness of these Pillar 3 disclosures has been hampered by the lack of comparability across banks and by the difficulty in reconciling these disclosures to information in annual accounts (Chart 5.9). Inconsistencies in the definitions used by different banks and a lack of timeliness of publication have also been cited as key issues. This has resulted in Pillar 3 disclosures receiving less attention among market participants than expected and banks believing that they are not being given the focus they deserve, despite the effort and cost of producing the material.

Recommendation 5

The Committee recommends that UK banks work with the FSA and BBA to ensure greater consistency and comparability of their Pillar 3 disclosures, including reconciliation of accounting and regulatory measures of capital, beginning with the accounts for the current year.

The Committee recognises there are a number of other areas of disclosure that could be useful to support financial stability. It intends to work closely with those already working in this area, including regulators, the BBA and international bodies. Potential future areas of interest to the Committee include disclosure of system-wide stress tests, asset encumbrance disclosures, disclosure of intra-period metrics and the disclosures of institutions outside the regulatory perimeter.

Chart 5.9 Investor perceptions: do Pillar 3 disclosures give adequate information to compare risk-weighting calculations across the banks?^(a)



Source: Barclays.

(a) Based on survey responses of over 130 bank equity investors.

Box 7

The FPC's approach to disclosure

This box explores the role of disclosure in fostering financial stability, the motivation for macroprudential policy intervention and how the FPC might determine when such interventions are required.

The FPC is only one of a number of organisations interested in improving disclosure by financial institutions. At the national level, microprudential regulators, auditors and standard-setters are already working in this area. And many initiatives are under way internationally. These include the formation of the Enhanced Disclosure Task Force by the Financial Stability Board to develop principles and best practice for risk disclosures in a co-ordinated manner.

Public disclosure and financial stability

Public disclosure of information by financial institutions can contribute to the resilience of the UK financial system. Transparency enables market forces to act as a disciplining mechanism on individual institutions' behaviour and enables more accurate pricing of risk within the financial system.

It is possible that disclosure can also limit the amplification of stress in the financial system by reducing uncertainty about the size and location of certain exposures and system interlinkages. For example, studies suggest that the stress tests undertaken by US authorities in 2009 produced additional information about banks that was used by investors at the height of the financial crisis.⁽¹⁾

But greater disclosure and transparency might not always be in the best interests of financial stability. During periods of stress, disclosure of certain information could undermine stability and exacerbate investor panic. For example, an *ex-ante* commitment to disclose temporary use of central bank liquidity insurance facilities may undermine the ability of the central bank to provide liquidity insurance to individual creditworthy institutions and to the banking system as a whole. This might be the case if, collectively, investors react negatively to information about individual institutions' use of such facilities. Removal of previously disclosed metrics might increase uncertainty, particularly if investors and counterparties expect disclosure to be provided on an ongoing basis once it has been instigated.

Furthermore, disclosure of large amounts of data, which are not key to understanding the risks institutions are exposed to, may make it harder for investors and counterparties to extract information on key risks. Over the past five years, information disclosed by some publicly listed financial institutions has grown rapidly and has outstripped growth of disclosures by

companies outside the financial sector. Not only is that costly for institutions providing the information, but it also may have made it more costly for investors to understand the risks taken by UK financial institutions.

Market failures in disclosure

Financial institutions have incentives to disclose information publicly to build confidence among current and potential investors, counterparties and other stakeholders. They are also subject to a variety of binding accounting and regulatory disclosure standards, which are formulated on the basis of accounting principles or microprudential regulations.

The set of disclosures resulting from these incentives and adherence to standards might not always be optimal from the perspective of the financial system as a whole. That may be due to externalities from information disclosure and from potential co-ordination failures between institutions, which are outlined below. This motivates potential intervention, on a macroprudential basis, by the FPC.

i) *Spillovers/externalities*

Increased transparency may provide clear information about emerging systemic risks. In certain circumstances, disclosure could be a powerful tool to influence behaviour. The requirement to disclose publicly could guard against a build-up of systemic risk — for example, if disclosure of higher risk-taking results in a higher cost of borrowing.

But improvements in data systems are characterised by high short-run implementation costs, with potentially uncertain longer-run benefits. In the absence of intervention requiring it, managers may be unwilling to invest in the necessary infrastructure. Regulatory returns may provide incentives for institutions to improve data collection and risk monitoring systems, but public disclosure could increase these incentives further. Better data collection and risk monitoring could, in turn, result in better risk management across the financial network.

Institutions may gain little private benefit from increasing the comparability of the information they disclose with other institutions and may find it difficult to co-ordinate to make disclosures more comparable. But increasing comparability could result in benefits to the authorities and to investors who can then better compare and price risks across the financial system. They can benchmark institutions more easily, lowering the cost of monitoring.

ii) *Collective action problems*

Individual institutions may be reluctant to disclose potentially valuable information to the public if they are unsure whether other institutions will do the same for commercial reasons.

Where disclosure by all might reveal useful information about the system as a whole, the FPC might have a role in ensuring co-ordination between institutions to encourage disclosure.

Facilitating collective action to improve disclosure might also enable proper and orderly differentiation of institutions to take place. In the absence of co-ordination, some institutions may have an incentive to disclose information voluntarily to signal relative strength, resulting in destabilising problems for non-disclosing institutions as investors infer weakness and withdraw funds in a disorderly manner.

Communication of macroprudential policy

Improving disclosures might enable the FPC to communicate and implement macroprudential policy more effectively. For example, disclosure of comparable leverage ratios by major UK banks from 2013 will provide investors with a measure of solvency risk that will not depend on opaque risk-weight calculations. Disclosure of leverage ratios might also improve transparency and investor understanding of any future FPC intervention intended to tackle systemic risks stemming from unsustainable leverage. Disclosure of system-wide stress tests could enable the Committee to anchor expectations and communicate macroprudential policies which influence capitalisation in the financial system.

FPC policy interventions

The FPC will take into account two main criteria when considering whether intervention is required on specific disclosure and transparency issues.

- First, are improved disclosures likely to enhance materially the resilience of the UK financial system?
- Second, are required improvements likely to take place within an acceptable time frame without the intervention of the FPC?

i) Materiality

The most important criteria governing FPC intervention on disclosure issues is whether the suggested improvements in disclosure are likely to contribute to enhancing the resilience of the financial system. While there are a number of areas for potential improvements of disclosure practices from an accounting or microprudential perspective, those that are not likely to contribute materially to maintaining or enhancing financial stability do not require FPC action.

ii) Improvements under way elsewhere

Improvements that the FPC desire may already be under way at the international level, or in alternative fora. If so, there might be no need for the FPC to intervene and duplicate existing progress.

Dialogue with a number of regulatory and accounting standard-setters will ensure that FPC interventions do not cut across or replicate existing initiatives, or contravene binding legal requirements. This dialogue will also enable the FPC to contribute, with a macroprudential perspective, to the development of regulatory standards.

Timing

On occasions, when the Committee identifies specific disclosures that might help mitigate a present, or emerging, systemic risk, the Committee may want to act immediately. Immediate action might also be required for disclosures that relate to medium-term risks that require a longer time frame to enact. By contrast, where disclosures do not relate to a present systemic threat, or where the Committee requires more time to consider its view, the FPC may prefer to defer action.

The FPC's disclosure recommendations

The FPC had made three recommendations relating to disclosure prior to its June 2012 policy meeting. First, in June 2011, the Committee recommended that improved disclosure of sovereign and banking sector exposures by major UK banks became a permanent part of their reporting framework. Second, the FPC advised the FSA to publish an aggregated estimate of sovereign and banking sector exposures of UK banks not subject to the EBA stress tests. And third, the FPC recommended that the FSA encourages UK banks to disclose their leverage ratios, as defined in the Basel III agreement, as part of their regular reporting not later than the beginning of 2013.

Section 4 explains progress made in implementing these, and other, recommendations. And Section 5 outlines the Committee's discussion of issues relating to disclosure at its June policy meeting.

(1) Morgan, D P, Peristiani, S and Savino, V (2010), 'The information value of the stress test and bank opacity', *Federal Reserve Bank of New York Staff Report No. 460*.

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Glossary and other information

Glossary of selected data and instruments

ABS – asset-backed security.
CD – certificate of deposit.
CDS – credit default swap.
CP – commercial paper.
Euribor – euro interbank offered rate.
GDP – gross domestic product.
IRS – interest rate swap.
Libor – London interbank offered rate.
MTN – medium-term note.
OIS – overnight index swap.

Abbreviations

BBA – British Bankers' Association.
BIS – Bank for International Settlements.
CBI – Confederation of British Industry.
CCP – central counterparty.
CEIC – CEIC Data Company Ltd.
CEO – chief executive officer.
CGFS – Committee on the Global Financial System.
CHAPS – Clearing House Automated Payment System.
CLS – Continuous Linked Settlement.
CPSS – Committee on Payment and Settlement Systems.
CRD4/CRR – Capital Requirements Directive.
CRE – commercial real estate.
DWF – Discount Window Facility.
EBA – European Banking Authority.
ECB – European Central Bank.
ECTR – Extended Collateral Term Repo.
EFSS – European Financial Stability Facility.
EIOPA – European Insurance and Occupational Pensions Authority.
EME – emerging market economy.
EMIR – European Market Infrastructure Regulation.
ESM – European Stability Mechanism.
ESRB – European Systemic Risk Board.
ETF – exchange-traded fund.
EU – European Union.
FISIM – Financial Intermediation Services Indirectly Measured.
FMI – financial market infrastructure.
FPC – Financial Policy Committee.
FPS – Faster Payments Service.
FSA – Financial Services Authority.
FSB – Financial Stability Board.
FTSE – Financial Times Stock Exchange.
G20 – The Group of Twenty Finance Ministers and Central Bank Governors.
GAAP – generally accepted accounting principles.
HMT – Her Majesty's Treasury.
IFRS – International Financial Reporting Standard.
ILG – Individual Liquidity Guidance.
IMF – International Monetary Fund.

IOSCO – International Organization of Securities Commissions.
LBG – Lloyds Banking Group.
LCFI – large complex financial institution.
LME – liability management exercise.
LTIP – long-term incentive plan.
LTRO – longer-term refinancing operation.
LTV – loan to value.
MMF – money market fund.
MPC – Monetary Policy Committee.
NYSE – New York Stock Exchange.
OECD – Organisation for Economic Co-operation and Development.
ONS – Office for National Statistics.
OTC – over the counter.
PNFC – private non-financial corporation.
PPI – payment protection insurance.
RBS – Royal Bank of Scotland.
RWA – risk-weighted asset.
SLS – Special Liquidity Scheme.
SME – small and medium-sized enterprise.
S&P – Standard & Poor's.

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